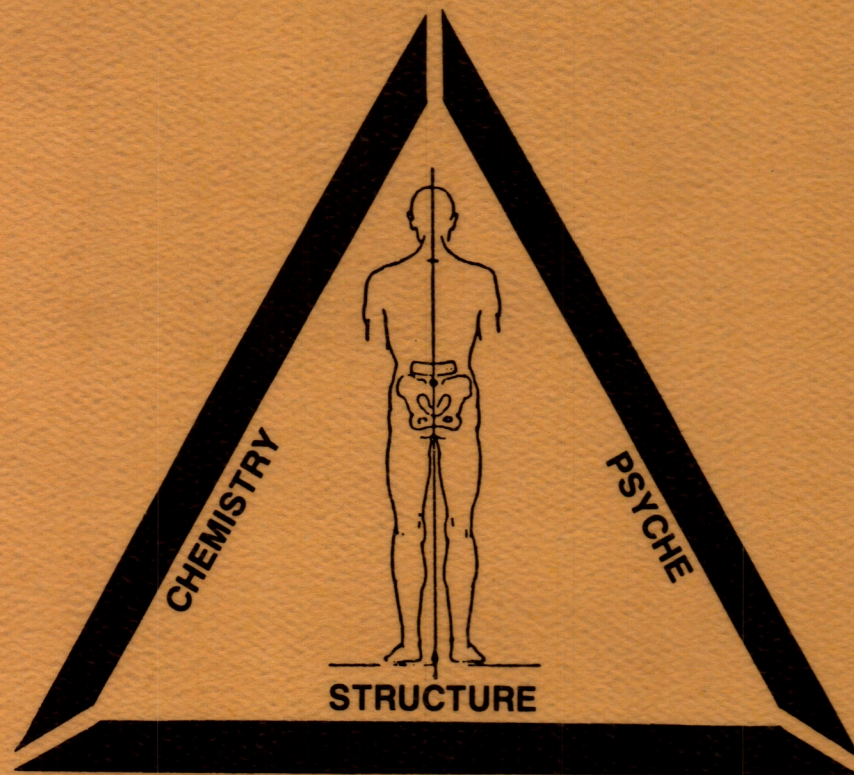


YOU'LL BE BETTER

The Story of Applied Kinesiology



by
George J. Goodheart, Jr., D.C.

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FOREWORD

Applied Kinesiology may turn out to be the most therapeutic advance of this century! It has already revolutionized many practices including my own. I would venture to say that in the next few years it is going to cause tremendous changes in all branches of the healing professions open to change and improvement.

Kinesiology's major advance is that it allows the body to "tell" us what needs to be done. The body becomes our chief diagnostic and therapeutic tool in this system where we ask the body the questions and the body gives us the answers. How obvious and natural this approach seems; yet, how far we have strayed. Let us recall that the basic premise of all healing is that the body's innate wisdom knows what is wrong and that we as nature's helpers need only ask the appropriate questions to find out the nature of the imbalance, and then by giving the appropriate treatment witness the body's response as if to say, "Yes, that's what is needed. Thank you."

Kinesiology is also a revolutionary approach to healing because it is showing us that we don't have to rely solely on the use of pharmaceutical chemicals to treat patients, nor on massive invasive techniques. The methodology opens up a more natural, simple, non-destructive, painless, pro-homeostatic treatment procedure. Here we have a system where the doctor works with the patient and with the patient's energies, and where the patient shares fully in the treatment and adopts a far greater attitude of responsibility towards his illness and recovery than is commonly witnessed in medical practice today.

With a kinesiology approach the day is perhaps gone where the patient submits to a doctor saying: "I, in my wisdom, know what is wrong with you and how to treat you," We are coming to appreciate that for those of us willing to ask, the patient can show us the therapeutic path to follow. Out of kinesiology flows a renewed reverence and respect for the person, for the human body and its mind and soul of the sort which is poorly sustained in the present-day orthodox medicine so geared to volume treatment using standardized drugs with but little concern for the patient's individuality. Applied Kinesiology promises to restore the "soul" and "heart" to what has become the cold and inhuman practice of much of today's orthodox medicine.

Dentistry

Applied Kinesiology offers dentistry the strongest holistic arguments for the practice of this medical speciality; for, it alone is able to show the wide-ranging effect on the total mind and body of minute changes within the oral cavity. Many dentists today use Applied Kinesiology in their practices accompanied by a complete reevaluation and reunderstanding of their role in the patient's overall health and well-being.

Psychiatry

Applied Kinesiology can do much to revolutionize the practice of psychiatry. No longer need the psychiatrist become burdened by the daily bombardment of the sorrows of his patients; for, he may now take a more active role employing the methodology of kinesiology. Having been a psychiatrist for some 15 years I speak from personal experience. No longer am I depressed or weighed down by the sufferings of my patients; for, I now treat them with hope as I work with them physically as well as psychologically in a way that has been proven much more effective, quicker and more gratifying than ever before.

Nutritional Therapeutics

Applied Kinesiology has at last made more sense of nutrition. It enables the body to communicate what nutritional supplements are required. We are no longer left guessing in the dark so much or referring to this authority or that authority in an age where so little is really known about nutritional science. When the body itself becomes the determiner of treatment the results are most gratifying!

Preventive Medicine

If one is not practicing kinesiology, then I feel one is not fully practicing preventive medicine, because only kinesiology enables us to diagnose and treat accurately and thoroughly before major biochemical and pathological changes have developed in the organism.

Other Fields

The range of divergent areas in which Applied Kinesiology has already been able to shed new light ranges from schizophrenia to acupuncture; from new light on psychosomatic medicine to a new appreciation of the effects of music, and so forth. It seems also to be an incredible research tool in addition to qualifying as a powerful therapeutic modality. This burgeoning new healing art is also opening up numerous other areas of knowledge, e.g., to do with language and the effects of speech and gesture and biological sounds on the body in ways that are begging for exploration. The field of research seems infinite to me at this time. It would seem that anything that has a mental or physical effect on the human body can now be explored through the responses of the human employing kinesiology. It has led to the evolution in my own research and practice of the new discipline known as "Behavioral Kinesiology", in which I have attempted to integrate kinesiology, psychiatry, and preventive medicine in order to achieve a higher synthesis.

Conclusion

In conclusion, there are a million discoveries still to be made on the human body, and I find that every day of kinesiology practice is full of excitement and challenge for me as new discoveries are made and as patients are helped in ways that we never thought possible even a month ago. I urge my readers to give this exciting and promising new healing art serious consideration.

John Diamond, M.D.

PREFACE

Throughout the history of the healing arts, physicians have searched for a safe, effective, non-invasive method of diagnosis that would give instant, usable information regarding physiological dysfunction.

Goodheart's discovery, that body function can be diagnosed through muscle testing, has supplied physicians with these capabilities of instant, effective diagnosis and proper retesting procedures, the latter of which precludes the necessity for long periods of observation to gauge therapeutic results.

This discovery by George J. Goodheart Jr., D.C., in 1964, is destined to change the entire approach to health and disease once it has been properly disseminated, analyzed, fought over, rebuked, and finally, as is true with all new ideas, grudgingly accepted. I would predict that sometime in the future, Dr. Goodheart will receive universal recognition for his discoveries, the tardiness of which will be due mainly to the fact that chiropractic, like all new and good ideas, is, as yet, not part of the mainstream of scientific thought.

The initial discovery of a method to change muscle strength by the simple origin-insertion technique, was very quickly followed by other factors which gave the doctor control over lymph flow, blood flow, cerebrospinal fluid flow, nutritional status, etc. Then came the "therapy localization" and "challenge" techniques which greatly eased the doctor's burden of locating and effectively correcting patient dysfunctions. At this point after the initial "snowballing" of information, I began to wonder if the well had run dry, when up popped split brain activity and several other momentous discoveries which, up to the time of this printing, continue to aid in the perfection of the chiropractic approach to health and disease and lend support to those chiropractic physicians who refuse to be limited to musculoskeletal problems and were interested in treating "sick" patients.

Throughout the years of development of AK techniques, Dr. Goodheart has enjoyed continuous support from an ever expanding group of supporters, some of whom have been a source of inspiration for new ideas, such as his erstwhile neighbor, friend, and fellow lecturer, Walter Schmitt, D.C., who along with men such as Sheldon Deal, D.C., Gerald Deutsch, D.C., and many others, have taken the time to put their thoughts on paper and have provided the feeding ground for this intellectually hungry investigator. On the managerial side we are all greatly indebted to men such as David Walther, D.C. who collected and organized the Goodheart work into several hardbacked volumes, John Stoutenburg, D.C. for his unsung and tireless efforts in organizing and maintaining the first examination and certification board, David Leaf, D.C. for his valuable assistance in computerized documentation of AK procedures, C. Lance West, D.C. for his many hours spent videotaping Goodheart seminars, and all the others engaged in the perpetuation of the body of knowledge now known as "AK".

Of all the great strides taken by man in the twentieth century, none will be found to equal the effort of Applied Kinesiology, for what more precious commodity exists on this earth but our own bodies?? History has taken place in the last twenty-two years. I am grateful for having been there.

Daniel H. Duffy, D.C.

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YOU'LL BE BETTER

WHY YOU'LL BE BETTER — THE STORY OF APPLIED KINESIOLOGY

Chapter 1

THE BEGINNING

I graduated from the National College of Chiropractic in Chicago, Illinois in 1939, and previously attended pre-chiropractic at the University of Detroit. I began practice in association with my father late in 1939. However, the advent of World War II didn't give me much time to practice. I went through the Air Corps Cadet Program in 1941, during the early war years, but through a happy series of fortunate events became involved in innovative air operations research, so my active practice really began in 1946 following my release as a Major from the United States Air Force. Having left the Air Force in 1946, I resumed active practice in association with my father until his death in the early '60s.

Because of my father's background in general practice, ours was a general practice, and we saw many patients with many problems. As is usually the case, the further along I got in practice the more intelligent my father seemed to become—the obvious fact being that I became more aware of my inadequacies and his excellent qualities; and I grew in stature and development because of my association with his very, very practical and superb diagnostic and clinical work.

My time in the Air Force had given me a taste for innovative opportunities, and also had taught me a practical method of dealing with problems, and this was to stand me in good stead later on.

Not long after my father's passing, a young man presented himself at the office complaining of a relatively common problem, although at a very early age. He was losing his hair. He had a rapidly receding widow's peak, and at the age of 24 seemed quite concerned. He was a stocky young man who was quite well built, and had recently been discharged from the paratroopers, but despite apparent good health he was suffering from a rapid hair loss.

Examination revealed a hyperthyroid problem, and at that time we were measuring the thyroid function as we still do, by measuring the speed of the achilles tendon reflex. The achilles tendon is put on a stretch and tapped with a testing hammer; then the speed of the achilles as it moves, just as your knee would jerk under the knee jerk test, is measured by its path through a photo-electric beam. This impulse is transferred electrically to an EKG, which then gives a printout of the degree of functional capacity of the achilles tendon to respond to the tap.

The normal time is 330 milliseconds, and his was abnormally fast, approximately 220 ms. 220 milliseconds was quite fast, and nutritionally I had learned that natural amounts of Vitamin A and a source of Thymus, a small gland around the windpipe which is associated with auto immunity, were practically specific for hyperthyroid problems, along with regular chiropractic care. Upon administering this nutritional support and the proper treatment mechanically, he showed a tremendous response in about two weeks. His hairline stopped receding, for which he was very grateful and pleased, and he asked me advice about another problem.

He mentioned that he couldn't get a job in any of the factories in our town because he was unable to pass the physical—and the reason he was unable to pass the physical was his inability to press in a forward direction with one of his arms. One of his shoulder blades stuck out in a rather unusual fashion, protruding from the chest wall. He asked me if I could do anything about it. I said, "Well, probably it's some type of anomaly, a variation in a probably normal function." We did some x-rays to prove this potential which revealed no abnormality, and I could offer him no further advice as to why this particular condition was present.

Either fortunately or unfortunately, depending upon your point of view, I was able to procure a job for him with one of the companies in the building where we had our offices, a nutritional company with whom we did a lot of business. He would come into our office, and quite often in a crowded waiting room would ask me in a loud voice, "When are you going to fix my shoulder?" This embarrassed me somewhat, and I motioned him to come into the inner office quickly, away from the sight and scene of my embarrassment, and I would tell him that there wasn't much I could do about it.

Having been embarrassed for the last time by his frequent inquiry, I resurrected a book that had been given me by a colleague of mine, Dr. Raymond Koshay, a very fine chiropractor in Port Huron, Michigan whom I had been able to help with a knee problem; and for Christmas he had given me a copy of the book. I remembered that there was a muscle that pulled the shoulder blade forward so that it would lie flat on the chest wall, but something like the old adage—what you don't use you lose—I knew the muscle existed but I wasn't sure of its actual origin and insertion. When I applied myself to the book he had given me, "*MUSCLE TESTING*" by Kendall & Kendall, I soon found the muscle that pulled the shoulder blade forward on the chest wall was the anterior serratus. There was a method for testing it which involved placing the patient's hand on the wall, and then pressing on the spine in a forward direction, and the shoulder blade immediately stuck out.

In an effort to identify the cause of the problem I palpated the muscle. He said he had the condition as long as he could remember—15 or 20 years—yet when I palpated the muscle left and right, on the side of involvement, I found no atrophy of disuse—the usual pattern of inactivity that occurs, for example, if you keep your arm in a cast and the muscles wither from lack of activity.

Upon palpating the muscle I felt an unusual nodulation at the attachment of the muscle to the anterior and lateral aspects of the rib cage, which I didn't feel on the other side. The small nodulations were quite apparent to the palpating finger, and in an effort to identify their nature I pressed on them. They were not painful other than minimally so, and they seemed to disappear as I pressed on them with my palpating pressing finger.

Encouraged by the apparent disappearance of the first one or two, I continued to press on all of the small areas which we later learned to be avulsive in character, a tearing away of the muscle from the periosteum. The attachment of the muscle to the covering of the bone, the periosteum, was producing a nodulation which is characteristic in these cases of micro avulsion. They are small tearings away of muscles from their attachment.

Having palpated and pressed on all the small nodulations which coincided with the attachments of the muscle to the rib cage, I then surveyed the muscle. It felt the same, but this time I noticed his scapula (shoulder blade) was lying in a normal position on the posterior chest wall.

Surprised but pleased, I repeated the test, having him place his hands in front of him against a plywood

panel that separated one section of the office from another, and I pressed hard on his spine. The shoulder blade did not pop out, and he looked at me with an inquiring glance and said, "Why did you not do that before?" I looked back at him, serious of face and direct of eye, and said, "Well, you have to build up to a thing like this. You didn't get sick over night." It was an automatic response, but all I could think of at the time.

He was pleased, I was delighted. It was an unusual thing to see this quick a response.

In an effort to identify this unusual reaction, yet not reveal my surprise, I requested him to return to the office the next day so I could check his hair loss. He advised, surprised, that he hadn't lost any hair in six months. I mentioned that he could never be too sure, so he showed up the next day. I looked at his hair and said it looked fine. Then I said "By the way, let's test that muscle." I tested the muscle, and it remained strong—and it has remained strong ever since! I have seen this patient from time to time since that first incident, which occurred in 1964.

Emboldened by this unusual success, I began to test muscles by the method of Kendall & Kendall, a method which is used by military, civil and government agencies to rate disability and is a standard method of diagnosis. I found many patients showed muscle weakness. Many patients also denied a history of trauma, but many patients responded to the hard heavy pressure at the origin insertion, although many did not.

Fundamentally, my rate of success with patients was rising and I had communicated this method of testing along with the rather primitive method of treatment to my colleagues. One of those colleagues, Dr. Pat Finucan, sent me a patient who had an unusual type of sciatic neuritis, a painful problem involving the lower limb that would cause severe pain if he were to stand, sit or lie down, but would disappear when he would walk. Dr. Finucan had found a weakness of the fascia lata, the muscle covering the lateral portion of the thigh associated with movement outward of the leg.

Despite efforts to correct it mechanically at the spine and locally, using the origin insertion technic, he had been unsuccessful in relieving the patient's pain or changing the disability which was diagnosed by the pattern of muscle testing. The muscle would test consistently weak on the side of involvement: tested by requesting the patient to abduct, moving the leg sideways, and then requesting the patient to resist the pressure to take it medially. This was accomplished while the patient was in the supine, back lying position.

Because of the unusual history, I felt that this was an involvement of the lymphatic system, which is the sewer or drainage system of the body. It is drained by a variety of modes, but fundamentally it is drained by the squeezing action of the muscles on the lymph system. Because walking relieved it, indicating this possibility, I palpated the lymph glands on the lateral aspect of the thigh and felt nothing unusual in comparison to the uninvolved left side.

I palpated also for the potential of any sacroiliac disturbance, because occasionally we get lymph nodulation in the region of the sacroiliac joint if there is a sacroiliac disturbance. I found none of these, and the patient was in a great deal of distress while lying on his back. After palpating for diagnostic information, which I did not find, the patient looked up at me and said, "That's the first relief I've ever gotten." I looked at him and said, very bravely, "That's what you came here for," indicating that it was not the surprise to me that it was.

Astonished by this rather quick success and yet not understanding the basis, I continued to initiate the palpation which I had accidentally used to relieve his pain. He remarked that the pain which he had experienced for many, many months was now completely absent, and subsequent investigation and diagnosis revealed a complete disappearance of the long-standing and chronic irritation of the sciatic nerve.

My secretary, who had been with me for many years and who was a very fine German woman, had quite a bit of sinus trouble and would consistently show a head tilt when she would have a sinus disturbance; and despite the fact that I could find a weakened muscle which I associated with the head tilt, the original technic that had been used on the young man with the hair loss did not produce any muscle strengthening, nor did it affect the sinus involvement.

Thinking that one had to simply palpate and treat the muscle, such as had been done to the sciatic patient earlier that afternoon, I tested her neck flexors by having her raise her head and turn it slightly to one side, and they showed immediate weakening on testing. I attempted to repeat the procedure that had helped the sciatic patient, running my hand along the lateral aspect of the muscle, the sternocleidomastoid muscle that runs from the back of the head bone to the collarbone. I felt nothing different on palpating and testing the muscle, using the technic that I had palpated and tested earlier on the gentleman with the sciatic neuritis.

I tried triumphantly to test her neck muscles again, and to my chagrin her neck muscles were possibly even weaker than before, and I almost injured her head by the sudden collapse of her neck to the testing direction of my hand. I said rather despairingly, "It sure seemed to work on that fellow this morning. I can't understand why it doesn't work on you now."

Then I thought, perhaps what I pressed on was something unassociated with the muscle itself, but associated with, possibly, some lymphatic circuit breakers which had been postulated by an osteopath named Chapman. This had later on been discussed in a text, "*AN ENDOCRINE INTERPRETATION OF CHAPMAN'S REFLEXES*," the second edition, which had been reprinted by the Academy of Applied Osteopathy, copyrighted May 6, 1946. It had originally been copyrighted in 1937 by Charles Owens, D.O., and was a book on the diagnostic and therapeutic application of neurological reflexes that had been the work of Frank Chapman. Both Dr. Chapman and Dr. Owens had postulated the existence of a reflex called the neurolymphatic reflex—a cutaneous visceral reflex that had been under investigation at the Kirksville College of Osteopathy and Surgery.

"The surface changes that are present in a Chapman's reflex are palpable." Dr. Owens spoke of the changes found in the deep fascia as well as the superficial tissues located at specific points (loci) and consistently associated with the same viscera. These little tissue changes, which began in the form of contractions, are located anteriorly in the intercostal spaces between the ribs near the sternum. They may vary in size from a half of a BB shot to that of a small shot gun pellet, and are generally multiple. This type of tissue change is apparent in some of the reflexes found in the pelvis; but the ones found in the lower extremity, associated with the colon, broad ligament and prostate, vary in character.

By trial and error, testing muscles and then comparing areas that Chapman had originally talked about, we found which circuits affected which muscles. Then, by trial and error and also by examination of a particular patient who had Hodgkin's Disease, and who exhibited nodulations and lymphatic gland characteristics inherent as characteristic of Hodgkin's Disease, we found that many of the nodulations corresponded precisely to the areas that Chapman had originally postulated; and by trial and error,

and also by the discovery of nodulations in areas that Chapman had not discussed, we were able to find the neurolymphatic reflexes for most muscles.

By now I was becoming convinced that there was a relationship between muscles and particular viscera or organs. A moderately weak muscle on testing appeared to be associated with a weak viscera or organ, but every time I could see evidence of a weak pancreas, or a weak stomach, or a weak liver or a weak kidney dysfunction—of those organs which would be measured by x-ray or by biochemistry or by some other accepted biological test—I would find a corresponding weakened muscle. This relationship, although rather tenuous at first, became more and more evident as time went on.

This began to explain, at least somehow, the visceral response that occurred from muscular skeletal corrections and made a little more sense out of the observations that patients used to make following treatment for a muscular skeletal problem, and with the spontaneous resolution of the visceral or organ problem. I found a strong relationship to exist between the spinal level of neurolymphatic activity and structural aberrations of the spine, but this was not always the case.

It was just as if there might have been an original subluxation or lesion of the spine, a functional disturbance of the spine, that somehow was either self corrected spontaneously or corrected by manipulation; but the long term effects of that disturbance continued to remain. For example: if you have a home washer-dryer and perhaps place a heavy object such as a rug in it, as it starts to spin it dry, the rug's eccentric position in the spinning washer causes a vibration, then the vibration sensor in the washer turns the washer off to prevent damage from the eccentric rotation. This usually sets an alarm going as well as turning the washer off, and the housewife then attends to the problem by opening the panel on the washer, and seeing the rug in an eccentric position rearranges the rug. Then she closes the panel on the washer and many times must then reset a circuit breaker if closing the panel did not already do so. In other words, she would have to do two things: rearrange the rug structure, so to speak, and then also set a circuit breaker.

We postulated that the lymphatic centers were circuit breakers in this sort of analagous context. This proved to be a valuable system of analysis and the response rate continued to rise in patients, and we started to see more and more patients upon whom we did more and more muscle testing.

An Italian woman came to see me and complained of a headache for 30 of her 49 years, and on testing the muscles I observed some muscles to be weakened on both the right and left sides of her body. I noticed that in an effort to maintain a response to testing of certain muscles, if she took a deep breath some muscles, for example on her right side, strengthened; but the same deep breath seemed to weaken the muscles on her left side. But instead of taking a deep breath and producing strengthening on her left side, letting the air OUT seemed to strengthen the muscles on her left side.

She also exhibited a rather unusual configuration in terms of analysis of the level of her head. Looking at the position of her ears in relationship to her head, her ear was lower on the right than it was on the left, as was her occiput, the bones of her skull. Looking at her from the rear confirmed this position, lower on the right, but looking at her on a face view, head on, an anterior look showed her eyebrow and eye to be higher on the right and lower on the left, just the opposite of what I had observed looking at her from the posterior view.

Thinking perhaps that her ears were in an altered position, I compared her ear position by measuring down from the vertex and I found that the ears were equally spaced on her head measuring from the top

down, yet there was an obvious discrepancy between the level of her ears and the level of her eyes, instead of making a parallel pattern they made a wedge pattern, which was very confusing.

I had been aware of the work of William Garner Sutherland, an osteopath who had postulated the concept that the bones of the skull move as you breathe like the gills of a fish. He developed the concept that there was a vestigial gill mechanism in the skull, and by long experimentation with himself, using many ingenious devices, had attempted to limit the motion. He observed his own response, and published an original text based on his observations entitled, "*THE CRANIAL BOWL*," by William Garner Sutherland. His work had later been documented and revised by Harold Magoun, D.O., entitled "*OSTEOPATHY IN THE CRANIAL FIELD*." Both the first and second editions of Dr. Magoun's books are available.

The concept that the bones of the skull had motion seemed contrary to my anatomical and osteological training, yet in an effort to understand the problems produced by the patient I was examining, I attempted to move the mastoid process on one side of her head in a forward direction while she took deep inspirations, and at the same time moved the mastoid process in a backward direction while she took a deep expiration—in other words, using a counter-torque motion with the fleshy part of my thumbs, the thenar portion of the palm of the hand—and the forward motion and the backward motion were accomplished simultaneously on this 49-year-old Italian woman.

After 4 or 5 deep inspirations and expirations, despite the fact that she had attempted these before, but not with the concomitant skull pressure, she looked at me and her eyes widened, and she said, "That's the first relief I've ever gotten." I looked at her, again serious of face, and with true sincerity said, "Well, that's what you come here for," to again disguise my surprise at her rapid response.

We then began to test muscles against phases of respiration, and we found many muscles responded to inspiration, some responded to expiration, and interestingly enough some responded to half a breath taken out, some responded only to a breath taken only at the nostrils and some responded to a breath taken only at the mouth. Some responded to breathing through one nostril as opposed to the other, and some responded in an opposite fashion.

We soon found fourteen basic cranial faults which will be discussed later, but the primary investigation method was to find a weakened muscle.

We had the patient take a deep breath in or out. If the muscle was found to be weak and responded to inspiration, the mastoid process on the side of the skull that the muscle weakened was located and pressed forward at the temporal bone mastoid process with the thenar eminence of the hand, with about 4 or 5 pounds of pressure coincident with 4 or 5 deep inspirations.

If the muscles found weak responded to expiration, the thenar eminence of the hand was placed anterior to the mastoid process of the temporal bone and the mastoid process of the temporal bone was pressed backward towards the occiput coincident with 4 or 5 deep expirations using 4 or 5 pounds of pressure.

This resulted in many, many cases improving from many, many conditions, and they postulated a concept of a cerebral spinal fluid flow rate something like a dual irrigation ditch—with someone turning the rheostat down on the pump, and the tomato vines withering somewhat, and then when someone turned the rheostat up on one side or the other, the tomato vines thriving due to an increased flow of the irrigation fluid.

Investigation revealed that not only did the bones of the skull move in a predetermined fashion, but so also did the vertebral segments in which vertebrae went through a rocking type of motion—the tip of the spinous process of a vertebra involved moving in an inferior direction towards the feet with inspiration and a superior direction with expiration. The spinous process moves inferior, footward, with inspiration and headward with expiration.

We soon found there was also a sacral motion, the tip of the sacrum at the coccyx moving forward with inspiration, toward the front of the body, and moving backward, toward the back of the body, with expiration. We found a reverse movement to exist in the coccyx, a counter movement between the sacrum and the coccyx. We also found a counter movement between the total pelvis, the pelvis moving backward as the sacrum moved forward and the pelvis moving forward as the sacrum moved backward, coincident each time with phases of respiration.

This new cranial finding coincident with a method of diagnosis aided greatly in the application of the cranial concept. The original Sutherland concept, as well as those that followed, used topographical, anatomical changes for cranial corrections; but the addition of respiration added a measure of diagnostic certainty and also safety to this relatively new science.

Time has shown that a respiratory relationship exists in the spinal fluid flow rates, and a critical factor in the production of routine cranial correction was to correlate muscle weakness to strengthen with respiration. More of this will be discussed later on in chapters on cranial technic.

By now we had the original methods of muscle testing with the concept of micro avulsion origin insertion technic; we now had the possibility of lymphatic blockage—in other words, the muscle couldn't flush its own lymphatic toilet; we now had the concept of cranial technic, respiratory systems; and we also had, prior to the development of cranial technic, the system which we call neurovascular response.

I was lecturing in Rochester, New York discussing the original method of hard, heavy pressure at the origin insertion of the muscle in case of weakness caused by micro avulsion, and also demonstrating the lymphatic technic for finding the source of blockage in the lymphatic range of muscles. I was asked to treat a young boy with asthma who was having an acute attack and who did not respond to the usual medications. He was having some response to chiropractic technic by a young chiropractor attending the lecture, but he was suffering an acute asthmatic episode at the time of the lecture, during the lunch period.

By now we had found that the adrenal glands were responsible to a great extent for failure to produce adequate adrenalin, agreeing with the medical approach—the crisis care type of approach to asthma seemed time honored, at least pharmaceutically. We would find a weak sartorius gracilis muscle which time had shown to be related to potential failure of the lymphatics of the adrenal gland to flush its own toilet, so to speak—its lymphatic toilet. But investigation of the neurolymphatic reflexes and treatment for them did not change the weakness that we found on testing of the sartorius muscles.

The young boy was lying on this back, one foot pointing straight up and the other foot lying loosely to one side. In an effort to correct the problem I had already used the neurolymphatic reflex and had attempted an origin insertion technic without any success. I knew that occasionally the lymph system was sluggish because of failure of the lymph system itself to drain, and I was using what was called a lymphatic pump. The operator's fist first was placed on the sternum of the individual and moderate pressure was exerted spineward while the patient attempted to take a deep breath. At the middle of

the attempt to take a deep breath the fist was suddenly removed, causing the succussion of the chest, changing the pressures within the chest, and literally succussing or shaking the thoracic duct, allowing better lymphatic drainage potential.

This too was unsuccessful, but at that time I was aware of a primitive cranial technic of simply spreading the cranial sutures as advocated by Dr. James Alberts, Sr., a very fine chiropractor in the southwest.

In attempting to spread the cranial sutures in a very simplified fashion, I did not see any change, and in an effort to evaluate the problem I sat down and re-attempted to spread the sagittal sutures. From experience I had learned that this was of some value occasionally in lymphatic blocks. My index fingers were resting on the posterior fontanel area with the rest of my fingers spreading the sagittal suture which runs vertically along the top of the skull, separating the two halves of the skull and joining the parietal bones of the skull together. I felt that insistent pulsation, very faint at first, at the posterior fontanel; and despite the fact that his carotid arteries were beating at the rate of about 120 and his respirations were at least 40, I noticed that the pulsations that I experienced with my fingertips were at the rate of 72 beats per minute.

Thinking the beating was perhaps in my own fingers, I removed my fingers and placed them on a wall to identify if the 72 rate beating was in my own fingers. I noticed no change. I reapplied my fingers to the posterior fontanel and felt the continued pulsation, which became more insistent and more persistent and more evident in strength, until finally the young man gradually stopped his labored breathing, took a deep breath, began to breathe easily, and simultaneously his foot rotated up into a parallel position with its opposite member.

The doctor attending the youngster, who had asked me to see the patient, looked at me and said, "Good gracious, Doctor, that's marvelous." And I looked at the doctor, very serious of face, and said, "That's what you come here for."

We now had developed another method, called the neurovascular technic, for the correction of muscle weakness.

In the embryo there is no heart, and for the first three or four months the mother's placental circulation is augmented by a network of vascular circuits which, as the tissues grow, exert slight traction on the blood vessel which then causes the blood vessel's muscles themselves to pulsate in an augmented fashion, aiding the mother's placental circulation.

At about the fourth month the heart is formed, and many times the mother is delighted to hear the heart beat that her obstetrician allows her to listen to. At the advent of the heart beat, the heart takes over part of the burden of supplying circulation to the growing embryo, and the neurovascular circuit of supply and demand circuitry goes on a standby basis—something like a generator behind a hospital in case of power failure, which can be turned on for emergency use.

These neurovascular receptors were first discovered by a chiropractor in California named Terence Bennet, who developed a foundation for teaching his material and who wrote extensively in the early '30s and '40s of their use. Upon his departure from active practice, and upon his death, Dr. Floyd Slocum, one of the early pioneers in the American Chiropractic Association, took over his activity and the Neurological Research Foundation continues to be active under the auspices of Dr. Martin King from California.

When a light tugging touch was applied to the vascular circuits a pulsation was felt beneath the finger. The light tugging touch is maintained for 20 or 30 seconds minimum time, the muscle is tested before and after, and many times this coincides with the need for cranial fault correction. But in any event, the light tugging touch is maintained for a variable period of time, a minimum of 20 or 30 seconds, and the muscle tested before and after to ascertain the return of strength.

It is just as if the neurovascular receptor acts as a thermostat. If the thermostat is set too low the muscle doesn't get its proper circulation and the muscle's lactic acid and other products of mechanical contraction of the muscle are not flushed or washed out, and the muscle therefore is clogged with its own waste products and shows weakness.

Roger Bannister, who ran the first four minute mile, became a vegetarian - not through embracing of the vegetarian concept, but because the vegetarianism put less of a load on his liver and he was able to oxidize excess lactic acid produced by the increased effort to run the four minute mile. Lactic acid, as it is produced by the muscle in function, causes the capillaries to dilate, and finally there is a status quo reached by the lactic acid level producing the greatest amount of capillary dilation. When the lactic acid reaches higher level, there is no further capillary dilation until the liver goes into "overdrive" and attempts to oxidize off the excess lactic acid; and here, then, the muscle can resume a normal function.

We find that many muscles lack a "thermostatic" configuration which allows them to function when under stress, and attention to the neurovascular receptors by a light tugging touch allows much better circulation to the muscle.

We continue to observe the muscle-organ relationship and we were becoming increasingly convinced of the reasonably frequent relationship between weak organ-weak muscle, although we were not convinced of the contrary relationship of the weak muscle-weak organ.

We now had four options for strengthening weak muscles. We had the hard heavy pressure described earlier, the activation of the lymphatic reflexes, the application of cranial technic, and the use of neurovascular receptors.

The subject of acupuncture has long been a point of interest, but not much was known of this concept until the early work of Bennett Cerf, who published in Random House publications the book, "*ACUPUNCTURE, ANCIENT CHINESE ART OF HEALING*," by Felix Mann, an English physician. Some of the early Jesuits who had been missionaries in China had spoken of the unusual responses that were obtained in many instances from the practice of acupuncture, the insertion of tiny needles of metal or bamboo into prescribed areas on the skin of the sick patient.

To quote Felix Mann in his acknowledgements at the beginning of his book, "*ACUPUNCTURE, ANCIENT CHINESE ART OF HEALING*" now published by James Heineman Company, Medical Books Ltd., London, "All European acupuncturists owe Soulie de Morant a debt for his original translations of Chinese treatises. He developed much understanding of the subject and its practical application during the time he associated with Dr. Ferey Rolles. Those who read Chinese are few, but many may be greatly benefited by the French and German books on acupuncture mentioned in the bibliography."

Acupuncture is an ancient Chinese system of medicine in the practice of which a fine needle pierces the skin to a depth of a few millimeters and is then withdrawn. The only thing of real importance in the study of acupuncture is to know at what point to pierce the skin in relationship to which disease.

The notion that a pin prick, often in a part of the body far removed from the seat of the disease, can cure ills is alien to conventional thinking. It is unfortunately the case that many doctors, even when faced with several former patients who have been cured by acupuncture where other efforts have proved fruitless, have refused to believe the evidence.

Acupuncture is not the exclusive possession of the Chinese. The papyrus ebers of 1150 B.C., one of the most important of the ancient Egyptian medical treatises, refers to a book on the subject of muscles which would correspond to the 12 meridians of acupuncture.

The Bantu sometimes scratched certain parts of the body to cure disease. In the treatment of sciatica some Arabs cauterize with a hot metal probe a part of the ear. Some Eskimos practice simple acupuncture with sharp stones. An isolated cannibalistic tribe in Brazil shoots tiny arrows with a blow pipe at certain parts of the body.

A patient, and a good friend, had returned from Hawaii and brought me one of the first copies published by Random House of Felix Mann's book. By now we have become pretty well convinced of the relationship between viscera and muscle. In the chapter of Felix Mann's book entitled "*The Five Elements*" on page 92, he spoke about an organ relationship which included many of the aspects of acupuncture, giving four points to tonify or stimulate the area and four points to sedate if the organ was overactive.

In an effort to relate these points to kinesiological parameters, we attempted stimulating the points for tonification and found occasional responses in muscles. We attempted to sedate other points and found occasional responses in muscles. Insertion of a needle at the so-called "first point" invariably would produce a strengthening of a muscle if found weak on testing, and insertion of a needle at the first point of sedation would invariably cause weakness of the muscle if the muscle was strong. We soon found that touching the first two points for tonification would result in strengthening of a weak muscle. The converse was also true. Touching the first two points for sedation and simultaneously the second two points for sedation would weaken the muscle

We wrote the first book on acupuncture in 1966, showing its relationship kinesiologically, and this was the only research manual that did not go through a second reprinting, because the concept was too new at the time. However, since that time it has grown to be a standard portion of Applied Kinesiology and forms a basis of much of the information we have been able to identify about acupuncture.

We now have five arrows, so to speak, in our quiver. We could shoot the arrow along the origin insertion, the neurolymphatic, the neurovascular, the cranial, and now the acupuncture path. Each of these develop their own special set of rules and special set of circumstances.

How The Body Heals Itself

Applied Kinesiology is based upon the fact that body language never lies. The opportunity of understanding the body language is enhanced by the ability to use the muscles as indicators for body language. The original method for testing muscles and determining function, by the methods of muscle testing first advocated by Kendall and Kendall, is a prime diagnostic device. Once muscle weakness has been ascertained, a variety of therapeutic actions are available which are too numerous to enumerate here. The opportunity to use the body as an instrument of laboratory analysis is unparalleled in modern therapeutics because the response of the body is unerring. If one approaches the problem correctly, makes the proper and accurate diagnosis and treatment, the response is adequate and satisfactory both to the doctor

and the patient. The name of the game, to coin a phrase, is to get people better. The body heals itself in a sure, sensible, practical, reasonable, observable, predictable manner. "The healer within can be approached from without." Man possesses a potential for recovery through innate intelligence or the physiological homeostasis of the human structure.

This recovery potential with which he is endowed needs the hand, the heart, and the mind of a trained individual to bring it to potential being, and allow the recovery to take place which is man's natural heritage. This benefits man. It benefits him both individually and collectively, but it also benefits the doctor who has rendered the service and allows the force that created the structure of the body to operate unimpeded. This benefit to man can be compounded by knowledge with physiological facts and with predictable certainty.



Chapter 2

NUTRITION AND BODY LANGUAGE

Why nutrition is a hit and miss sort of thing

By now my practice was growing at a rate I found it difficult to maintain, together with attempting to teach this new material, and I was fortunate to have as my first associate Dr. Terry Franks, who was able to "watch the store" while I was gone. It was also during these initial lecture periods that my next door neighbor's son, now Dr. Walter Schmitt, came to hear me lecture and observe me treating a rather apprehensive female physician, and my making the particular corrections aided in stimulating him to enter chiropractic college.

By careful comparison of the facts—what I now could observe in the patients of Dr. Franks and myself, as well as the assistance of the student doctor, Walter Schmitt—we were able to investigate many different features of problems that involved muscle testing and treatment, and we were well into the production of research manuals and research with an ever-increasing amount of knowledge.

I had a patient and a good friend who was attempting to go through Wayne University at the age of 45, having raised a family. She was hypothyroid and hypoadrenic, and her hypoadrenia I was able to help. While taking 3 grains of thyroid a day, she continued to show symptoms of hypothyroidism; i.e., increased weight, easy fatigueability, loss of the outer third of the eyebrow, greasy sort of skin, and poor memory—which was not conducive to being a good student at a relatively late period in life. Because of the three grains of thyroid a day and failure to respond, I thought perhaps it would be interesting to observe what happened if she took thyroid in a different fashion.

Many years before I had observed a young boy who had swallowed the contents of an orange crush bottle thinking it contained the beverage, but instead it contained lye and it chemically perforated his esophagus. His esophagus was being reconstructed by a series of maneuvers designed to use a portion of his small intestine, and there was a stoma, an opening in his stomach, where properly vitamized and calorized food was placed. This young man was losing weight despite an adequate caloric intake, developing kidney signs, and also arthritis, at the age of seven. I thought I knew my father's wisdom, but did not understand it totally when my father told me to tell the young boy to chew the food he could not swallow, and then insert it into the artificial stoma.

On following this request I observed a decrease in the arthritis, the disappearance of the kidney stones, and an increase in weight. This greatly impressed me—that somehow our salivary digestion and mastication was a factor in the production of proper food assimilation.

With my own children growing I had observed that if they were crying because of being hungry and if I gave them a piece of cheese they stopped crying immediately, when I knew how long it took to digest the cheese. If I were the child involved I wouldn't stop crying until some stage of digestion had developed. I found it difficult to understand how they could stop crying in anticipation of digestion.

I also had been doing a test for Vitamin B on the saliva of patients involving the combination of starch and iodine which produces a blue color on the level of ptyalin. Ptyalin in the saliva is an indicator of the amount of Vitamin B; the more ptyalin the more Vitamin B, and the faster the starch-iodine blue

color disappeared the greater the amount of Vitamin B. Therefore, judgement could be made as to the need or lack of need for Vitamin B supplementation in a particular patient.

In addition, I was aware of the fact that the parotid glands deiodinated the food we ate. So, with this background material regarding salivary digestion and absorption, I asked this particular patient to chew on the thyroid tablets—she had already taken one that morning—she took three grains of thyroid a day. She chewed one of the grains of thyroid and promptly went into a deep syncope. By this time I was not dismayed by this sudden turn of events and I checked her vital signs, found them all to be normal, and sat there with crossed hands waiting for her recovery. After four or five minutes she fluttered her eyes, looked at me, and asked, "What happened?" I said, "You fainted," and she asked, "From chewing the thyroid?" and I said "Yes." She said, "I never did that before," and I said, "Well, you never chewed it before."

The teres minor muscle, the muscle at the back of the shoulder, can be tested easily with the arm flexed 90° and the wrist pushed toward the umbilicus, while the patient attempts to externally rotate the arm, pressing against the doctor's thrust. This muscle I found associated with thyroid, and I had always found it consistently weak in her case, despite efforts to treat it by the previous methods we have discussed. This muscle now tested very strong, and she looked at me and said, "Could I possibly have felt better from that, that you gave me?" I looked at her, serious of face and sincere of purpose and said, "That's what you come here for." This was the first patient we attempted to have chew on the nutrient without swallowing it down.

That afternoon our next door neighbor's father had been to a Mexican party at one of our local hunt clubs and had been tipping a tequila bottle with some frequency and was suffering quite a headache. Emboldened by the experience I had earlier that morning I had him chew some bile salt tablet material. I had tested his pectoralis major sternal division, the muscle associated with liver, and found it to be weak. I then had him chew the bile salt material combined with some Vitamin A. There was an immediate increase in strength of the tested muscle and he looked at me with a question in his eyes and asked, "Could that have helped my headache that quick?" I said, "That's what you come here for," and proceeded to explain what had happened that morning. We then, by trial and error, started testing muscles against nutrients, and have developed the rationale and the pattern of activity which we will discuss later on in this particular text.

We found that certain food could be tested and they would either strengthen or weaken certain muscles. We found certain contaminants in our environment could be tested by inhalation or by contact. We found ration and reason and sense to the rather nebulous concepts of allergy and sensitivity.

Nutrition is a hit or miss sort of a thing because people take nutritional products for symptoms, and depending on which issue of which magazine you have read, people will be taking the currently fad-interest nutritional product, many times with good results.

The body has a unique system of identifying its needs both in terms of food and nutritional supplementation, as well as medication, and the nutrient in question can be tested against any of the patient's muscles upon ingestion of the material on the patient's lingual receptors on the tongue; a muscle is tested, and if the food is good or neutral the muscle will not weaken. If the food, although very appetizing and well liked, is detrimental to the patient the muscle will weaken. The same is true of a nutrient or any medication. This makes sense out of a hit-or-miss sort of nutritional thing, and rather than listening to symptoms alone, we depend on body reaction, a much more effective technic.

It is possible also to test the combinations of foods. For instance, occasionally beef by itself and rye bread by itself may test in a positive fashion, but if you combine them they will test poorly indicating that certain foods should not be combined with others

The point is that one can test any food, any medication and get a body response if the lingual receptors are allowed to be activated by the substance in question. This does not require skill and training. The husband can do it for the wife or vice versa, or any member of the household can be readily trained to do this. It readily improved the management of allergy and food sensitivities, as well as finding foods which are quite compatible with the individual, the biological makeup of the person, as well as increasing their energy balance.

Nutrition as a science is in a sort of chaos because people keep finding out small bits of information about large and major problems. It's like pieces of a jigsaw—when you happen to get the right piece for the right jigsaw puzzle it completes it, but that's not the piece we needed in another person's jigsaw, even though they may have the same desire to accomplish the same problem, and perhaps have similar problems.

Nutrition requires some type of evaluation, both in a positive and minus situation, and the ability to make valid clinical observation of a nutritional requirement requires standardized testing of muscles. Here lies the key to proper nutrition.

If a patient needs a certain nutrient, it should at least not weaken any muscle. If the muscle is weak on testing in the "clear," that is no testing without any further action on the part of the patient's body (simply testing the muscle), then the appropriate nutrient should produce quick strength when placed on the lingual receptors of the tongue, and this produces safe, effective and proper use of the science of nutrition on a lingual receptor basis. This same lingual receptor activation may be used to test the food the individual consumes, and many times foods themselves should be tested as well as the nutrients.

I can recall a very famous person in show business who was taking 60 different nutrients and who required only 12 of the 60 she was taking, and 48 were doing her harm. She had a severe allergy and because of her unique voice had no understudy. She did very well following this procedure.

The failure of the science of nutrition to properly evaluate the need or lack of need for a person's nutritional support can only be based on the usual technic of symptom stopping or a "pill for every ill," whether it be a nutrient or pharmacological product. There is a better way, and the better way is to evaluate the patient kinesiologically and test the nutrient singly against the patient's response

A recent book entitled "*THE FOOD CONNECTION*," by Schecter and Scheinken, speaks of Applied Kinesiology technic in brain sensitivity.

There is a new theory of biology as advocated by James Isaacs in his "*COMPLEMENTARY IN BIOLOGY*," published by the John Hopkins Press, and this will also be discussed in further pages.



Chapter 3

FURTHER DEVELOPMENTS IN BODY LANGUAGE

How the left and right brain function affect the body when trouble has taken place in the body

Our practice had grown to such an extent by this time that I found it necessary to have another associate, and we were fortunate to have Dr. Walter Schmitt join our group following his graduation from the National College of Chiropractic. He had always been of much assistance in developing new concepts. While a champion swimmer at Duke University, North Carolina, from which he had graduated, he would often enter long distance swim meets looking and feeling quite well, and come out of the pool quite distorted and naturally quite exhausted. We found, again by trial and error, that his method of swimming, turning his head to one side while doing the Australian Crawl or its equivalent, was producing a certain pattern activity of unbalance, repeated function which we felt was compromising the natural balance between the right and left sides of his brain.

By taking the work of Doman and DeLacato, who had developed the brain dominance concept, we found that we could exert what we called a cross crawl or homolateral crawl—a pattern of activity using rhythmic muscular activity combined with alternating arm and leg position—to effect consistent and long term structural correction.

It was just as if by using repetitive contralateral movements with proper hip position we could put a final coat of varnish on twenty coats of “decoupage” that our efforts in correcting the patient’s problem could produce. This could readily be abolished by using a homolateral crawl and this will be discussed in the section on Brain Damage and Cross Crawling.

We then developed the concept that there was a “tape recording” of the patient’s problems within the body’s nervous system, and proper exercise could produce the facilitation of correction and improper exercise could produce a deterioration. This allowed a penetration of the body’s nervous system in a manner never before experienced.

The ability to cause a return of 4 or 5 or 10 or 20 different functional problems by simply changing the action of certain muscles and their rhythmic function was phenomenal. We walk with a contralateral motion, moving one arm and opposite leg, alternating contralaterally, and by identifying residual areas of our remaining areas of muscle contraction and simply turning the head away from that side of residual contraction or remaining muscle contraction and then performing contralateral motions such as walking, we were able to eliminate many areas of difficulty that had a tendency to recur.

By the same token, we could briefly revive the old concept of a “sick” tape pattern in the body, and by doing a homolateral crawl pattern we could cause a return of highly specialized and definite patterns of activity associated with illness that had previously been documented in that particular patient. The section on Cross Crawl and Brain Damage will further develop these concepts.

About this particular time I was treating a young patient approximately five years of age who had been brain damaged at birth. We also found he had repeated convulsions and many, many problems with his development, especially with his teeth, digestion, elimination—all the patterns of activity of normal

function were disturbed. He had been referred to me by another doctor and we were able to help the youngster with the frame of reference that we had open to us.

After the child had progressed quite well, we had a long conference with the mother discussing prognosis limitations, and she asked me if I could help her with a shoulder problem. I said, "Well, if you don't have an appointment I can't do it, but I can check something indicated quite quickly. Accordingly, I tested the teres minor muscle and found it to be quite strong. I went on to treat the child and had several absences from the treatment area with phone calls, and when I returned to finish treating the child, she asked me again about her shoulder, and I said, "Well, I can test a couple of things and if it's something simple I might be able to help you, even though you don't have an appointment."

I tested the teres minor muscle again and because of the numerous interruptions I questioned the mother and asked, "Hadn't I been in here and tested that just a few minutes ago?" because this time in testing I found the muscle weakened. She was holding her child. She said "Yes," and I then had her place the child flat on the table and tested the muscle again and it was quite strong. I then asked her to pick the child up again, and the muscle was weak.

This perplexed me, and I said, "Well, it's probably how you're holding the child. Simply let the child rest on the treatment table and simply touch him." On touching him with one hand the muscle weakened. I thought I was taking leave of my senses and called in my young assistant, Dr. Franks, and had him repeat the same pattern. He found it to be true, and looked at me questioningly, and asked, "Why is that?"

I said, "Well, Terry, I don't know, but it seems to be sort of a transference of muscle weakness." This is what we call surrogate testing, and in most cases where the patient is unconscious or unable to cooperate, contacting one patient with another person who is otherwise normal will reproduce temporarily the muscle weakness that cannot be found easily in the first individual.

The methodism of this mode of investigation is not known at this particular time other than the fact that it is an effective technic under the rather narrow conditions that we set forth above. In other words, if the patient cannot cooperate, or if the patient is unable to cooperate, if she is comatose or unable to respond, this is an effective technic. The use in this regard, and with a very narrow parameter of action, is a useful technic and allows for much therapy in an otherwise difficult situation.

Because of the complexity of man's nervous system, we found a variety of situations, all of which had a time date in that they developed over a period of time. Those studying Applied Kinesiology then sort of grew up with the technic and the technic sort of grew up with them.

We soon found that touching an affected joint or area by the patient would produce an immediate muscle weakening of any tested muscle. We called this Therapy Localization. Therapy Localization did not say "what the trouble was," but simply indicated "where it was." The ALL OR NONE nervous system rule here seemed to be the factor—Therapy Localization would make a strong muscle weak, or conversely a weak muscle strong. This is extraordinarily useful in holistic healing.

We then found that Therapy Localization with palms against the body had a counterpart. If the back of the hands were placed at a critical area, we would also get positive responses. We found Therapy Localization of the thyroid, for example, would be negative, and Therapy Localization of the spleen would be negative, but testing the spleen against the thyroid would be positive. We found a whole host and variety of factors that involved the use of Therapy Localization.

The advent of the Malzack Wall spinal gate theory, which was described in SCIENCE for November, 1968, followed a new dimension to Therapy Localization in that, by using a scratch or a pinch we would evoke the touch fiber response and would change Therapy Localization from negative to positive or positive to negative, showing that we were using a spinal gate pattern for Therapy Localization.

This also led to the combination of acupuncture circuits with Melzack Wall for the relief from pain, especially post traumatic pain, which has become a very dramatic part of Applied Kinesiology.

As experience developed throughout this entire area of Therapy Localization, one of the prime values in its use has been the identification of structural subluxations, no matter how minimal in character. This had made the muscular skeletal portion of the practice very practical and has stood the test of time.

We have found, as mentioned, that in Therapy Localization we make strong muscles weak and weak muscles strong. Sometimes a muscle which should show a potential weakness on postural observation, such as a high shoulder on one side which is usually a weak latissimus dorsi, would not show this weakness until the patient Therapy Localized the neurolymphatic reflex for the pancreas.

Therapy Localization has allowed us not to tell WHAT something was, but to tell us WHERE it was. Therapy Localization does not tell what something is but where it is, and as a result you can use other methods of examination to identify what the problem is.

The concept of vertebral challenging, 4 or 5 pounds of pressure exerted on a vertebra or some other portion of the skeleton, would cause a rebound phenomenon to occur and muscles would weaken when skeletal areas that were in lesion were pressed upon. This would allow a much better conceptualization of the body's response to structural abnormalities and has proven to be a very practical and very useful technic for changing the osseous relationships that exist in the body. In other words, in finding various segments that are out of position both in static weight bearing positions and in motion, the vertebral challenging has proven to be of great value.



Chapter 4

THE FIXATION CONCEPT

*How spinal vertebrae not out of place but "stuck"
in place cause trouble*

We also found, early on in testing, we would occasionally find groups of muscles weak bilaterally, and we found these were indicative of simple bilateral weakness, but in terms of frequency and repetition of bilateral muscle weakness, we found them to indicate something which is called a "fixation," which is a segment of the spine that is usually not out of place but "stuck in place," and therefore does not move when it should.

The vertebral segments are supposed to touch the nerve just as a husband is supposed to touch his wife, or vice versa, or a mother her son, or a son his mother, or the dog the master or the master the dog. Only, in some conditions the nerve is not touched, and often this produces almost the same situation as when there is a vertebral segment out of position, producing impingement of the nerve that one finds in the theories of osteopathy and chiropractic.

Early on, many who became very interested were enthusiastic boosters and they attempted to promulgate and teach the principles of Applied Kinesiology as they were evolving. Eventually the formation of I.C.A.K., the International College of Applied Kinesiology, took place, mainly due to the efforts of my good friend Dr. John Thie. The organization publishes two editions of the collected research papers of the diplomates of I.C.A.K. and these are prized materials because they represent the working facts and observations of the best type of men in the healing arts. We have accumulated, since the early beginning of I.C.A.K., a formidable collection of scientific papers which are now in the chiropractic college's libraries and are much in demand by students everywhere.

Cross Crawl Technic

Earlier, in 1970, as mentioned, we made the observation that was called "CROSS CRAWL." It is fairly evident that man is a biped and he has all the evidence of bilaterality, but very few of this biped breed are ambidextrous. There is an overwhelming average of right-handed individuals as opposed to left-handed individuals. Evidence of this observation can be found in all civilized areas and this observation of right-handed dominance is easily observed even among the few remaining aborigines.

As you know, the hemispheric dominance, or a right-handed individual, can be identified not only by the right-handedness but also by the dominance of the right ear, right eye and right foot. If you ask an individual to point their finger at a fixed object, 10 to 20 feet away, he will point his finger usually the right hand, at the object. If he closes one eye, he will find that his finger will either remain sighted to the object or will appear to have apparently moved. If he is right-eyed, even though he used both eyes, he will actually point with his right eye. Naturally, there are exceptions to this and these will be discussed later. If you hand an individual a watch and ask him to listen, he will listen with the dominant ear. He will write with the dominant hand. If you ask children who have had no training other than early grades to attempt to write with their feet, they will write much better with the dominant foot, even though naturally they have never been taught so.

So there is adequate evidence of the dominance of the average individual and this dominance results

in the right-handed individual having a left hemisphere dominance while a left-handed individual has a right hemisphere dominance. Authorities vary but approximately 85% of the population is considered right-handed, the remainder considered left-handed, and a very small fraction being identified as ambidextrous.

Have you not observed that many patients do exactly the opposite of what they are asked to do by the examining doctor? If you ask them to lie face down, they frequently lie supine. If you ask them to lie supine, they will frequently assume a prone position. This apparent lack of understanding of a simple direction has rather deep and far-reaching significance when it is applied to an analysis of exactly why patients fail to comply with simple directions.

Normally, hemispheric dominance is achieved at a certain age and, for example, the child of one year to 18 months operated at a very poor level of neurological organization. This stage soon advanced to where the child can walk bilaterally in a cross pattern, swinging the opposite arm toward the forward leg and vice versa. He develops a stereo type of existence using both eyes, both ears and both hands to allow him to penetrate his active world. But in a few years he must leave this bilateral world and more on to laterality, which is unique only to man—and he must also learn to read, write and spell once he has achieved the rudiments of a spoken language expression.

The step that must be taken by the individual now is to develop a cortical hemispheric dominance. The two hemispheres begin to develop different functions. One becomes a dominant hemisphere and the other takes on a subdominant position. This is dictated genetically—on the average right-handed parents have right-handed children, and interestingly enough right-handed parents who have a history of twins in the family are more apt to have left-handed children than if they do not have the twinning pattern. You are referred to the text entitled "*THE DIAGNOSIS AND TREATMENT OF SPEECH AND READING PROBLEMS*," by Carl H. DeLacato, Ed.D., for further information on the significance of cortical hemispheric dominance in the educational development and growth of children.

This cortical hemispheric dominance takes place in its final stage between the 5th and 8th year. There are many interesting facts regarding cortical dominance and handedness. For example, it is well known that a large number of stutterers are left-handed, and mirror writing is 15 times more common among left-handed children than among right-handed children. An analysis of the available material shows evidence of a neurological clinical organization and the electroencephalographic tracings of an individual from birth until the age of 8 shows a gradual change from a tangled mass at birth to a normal organization and rhythm at the age of 8, when cortical hemisphere dominance is completely established.

DeLacato has been concerned with the neurological organization and brain injury of children who have difficulty in learning to speak, read, write and spell. He has developed a concept of allowing these children to crawl about in an effort to regress them backwards in neurological and cortical activity, and then bring them forward again by having them walk once again. This is a brief and inadequate description of what DeLacato has attempted to do.

But how does this relate to what a patient exhibits when he cannot follow the simple directions—such as to lie face down or face up, or to raise the right arm or raise the left arm? The obvious fact is that these patients must be "switched" either at the cortical level or at the spinal cord level, in single or multiple neurological patterns, and they are simply acting in an organized but mixed fashion when they perform as they do.

A patient was referred who suffered from the extreme disabling and demoralizing syndrome of clonic chronic tonic intermittent torticollis. This painful (only occasionally) condition usually has a severe demoralizing effect because of the inability of the patient to maintain normal head position with the attendant difficulty in vision and even in feeding. Analysis by the standard methods of muscle testing, which is the backbone of the principles of Applied Kinesiology, revealed the usual patterns of muscle weakness of the anterior flexors and posterior neck extensors, as well as the trapezius in its upper section. This weakness pattern was, as usually found in this condition, on one side. There was the usual compensating hypertonus of the opposite muscle, which is so frequently confused as the primary source of a problem such as this.

The patient was a young man who had been examined by competent neurological authorities in the military service and the electro-myographic evidence showed that the hypertonic muscles were firing twice to the hypotonic muscles firing only once when examined electromyographically. Suggested therapy of nerve section or muscle section was refused by this 28-year-old biological scientist and other measures were attempted.

The patient made the remark that if he attempted to activate the deltoid group opposite to the side of rotation of the head, there was an immediate but temporary cessation in the severe torsion pattern that this clonic tonic intermittent torticollis syndrome presented. An attempt was made to balance the structure by treating the muscle weakness with considerable success, but the evidence of temporary cessation by activation of an opposite and unrelated muscle group was an interesting but unexplained situation.

Another patient was referred because of an inability to continue to perform in long distance collegiate swimming competition without the onset of severe pain and disability in the chest and back muscles. Correction was easy, but did not maintain itself, and further swimming activity would constantly cause a recurrence of postural thorax patterns and subluxation Patterns which would respond but, as mentioned, would recur following long continued swimming competition or practice. The young patient was faced with either withdrawing from competition, since treatment was not always convenient or available, or unavoidable travel to maintain regular treatment.

Visualization of his swimming pattern showed a definite one-sided pattern in breathing despite the bilateral swimming activity. When questioned as to why the breathing was only unilateral as opposed to the bilateral muscular action of the arms and legs, he remarked that turning the head in the opposite direction changed his stroke, rhythm, speed and endurance.

An attempt was made to correlate these two patients with seemingly different problems, and to arrive at a reasonable conclusion from the evidence presented. It was obvious that there was a one-sided pattern involved, and an attempt was made to determine if muscle testing would provide a clue.

It was evident that there was muscle weakness by standard methods of testing on one side of the upper portion of the body, and evidence of hypertonus of certain postural muscles, such as the psoas, sacrospinalis on the opposite side of the body. The psoas, for example, in the young swimmer was weak on the left and hypertonic and contracted on the right. This would disappear with treatment, and contrary to the usual pattern of nonrecurrence, would recur following a 4000-5000 yard swimming competition.

This exception to the rule of immediate and lasting correction of muscle weakness with its equal and opposite hypertonus was only brought on by the severe strain of competition swimming—of long distance

activity. There was an associated weakness of the pectoralis major clavicular division on the same side of the psoas weakness, and naturally on the opposite side of the psoas hypertonus. Evidence of the psoas hypertonus could be obtained in many ways, but a simple method was a forced extended leg turn-in with the patient supine. The hypertonic psoas, since it is an external rotator of the femur, resisted the turn-in; the opposite leg did not.

As mentioned, the left pectoralis major clavicular was weak. The thought occurred that perhaps the impulse that should have gone to the left pectoralis major clavicular division somehow was switched to the right psoas by a confused hemispheric dominance, and literally caused the psoas on the right to be hypertonic since it was receiving two impulses compared to the opposite psoas receiving only one.

The patient was asked to crawl, following the method of DeLacato, with no observable effect. He was then asked to contralateral crawl, turning his head from left to right as he did so. There was no observable effect. Since the mode of crawling on the floor was cumbersome and unwieldy, the patient was placed supine on a treatment table and asked to go through the motions of crawling, bending the arm and leg, but in this instance was asked to turn the head only in one direction—namely, away from the side of hypertonus. There was an immediate, startling and spectacular recovery in all the muscles tested in terms of muscle weakness, and all the muscles that exhibited hypertonus and spasm which could be measured were brought back to normal.

In view of this unusual clinical response, the patient was then asked to homolateral crawl, namely the right arm and leg moving in unison as opposed to the previous cross pattern, with again the admonition of carrying the head away from the side of muscle spasm. This was done approximately 10 times, with an immediate reappearance of all muscle weakness previously noted and an immediate reappearance of all muscle spasm. Since the condition could be reversed and cleared at will, a method had been found for clearing the faulty hemispheric control of the muscular system.

The dominant hemisphere control can be likened to the command pilot of a modern aircraft with his usual co-pilot and other flight crew. If there is a period of difficulty with some portion of the aircraft that requires the command pilot's presence—for example, at the rear of the aircraft—he gives control of the aircraft to the co-pilot, who is a competent performer but paid less than the first pilot because of his relative lack of experience by airline standards, competent though he may be.

The same thing will occur when the dominant hemisphere is faced by a problem of infection, injury, accident, trauma, etc.—it will attempt to deal with the problem as it presents itself. It gives the house-keeping tasks of the body—such as posture, digestion, respiration, elimination, oxidization—to the less dominant hemisphere for temporary control. This control, though competent in the main, is many times lacking in the fine details needed for modern living and modern environment. There is a breakdown more readily of many body systems, which fail to remedy themselves because the innate intelligence of the body is literally preoccupied with something else of greater attention-direction potential.

Once the command pilot has solved the problem at the rear of the aircraft, he then resumes his command pilot's position and the co-pilot relinquishes control to the more experienced performer. The same should occur in temporary hemispheric dominance alteration, but many times, as is becoming more evident by these newer methods of analysis investigation, there is definite evidence of a failure to switch back this finely organized control of body function and structure.

The method of muscle testing will validate the presence of muscle weakness. This observation has been made and demonstrated so many times in so many different areas to so many different organizations, all composed of highly critical and competent members.

Muscle testing is a fact, muscle weakness is also a fact that can be easily demonstrated by anyone, to anyone, for anyone—anywhere, any time, anyway. This is a scientific criterium of physiological fact. Such facts should be readily and repeatedly demonstrated in the same way, in the same manner, by anyone trained to perform the function. Muscle testing and presence of muscle weakness causing muscle hypertonus are simply facts. They are to be viewed as part of the pattern of muscle contraction, and the response to the weakened muscle to either lymphatic, vascular, cranial, sacral or nutritional technic is quick, effective, immediate and long lasting. Yet the compensatory hypertonus of the opposite muscle causes an actual shortening of this muscle which is, as mentioned, opposite to the weakened muscle; and since the response of the weakened muscle is so quick and effective, it has always been the author's contention that an equally quick and effective method should be available for the relief of shortened, hypertonic, or muscles in spasm.

These muscles in spasm are more often the result of the opposite muscle being weak, but many times the long continued weakness has produced a pattern of actual muscle shortening. The cross crawl pattern quickly relieves this muscle shortening, as measured by any postural standard or method of measurement. It is not a substitute for adequate treatment or adequate and satisfactory standards of muscle testing and muscle treatment. By itself it has the tendency to maintain any mechanical correction that can be achieved by intelligent chiropractic management. It will not correct a subluxated ilium or sacrum. It will not move a lesioned temporal bone. It will not alter an anterior thoracic subluxation, but it will maintain this correction when the patient is instructed to perform this exercise for a period of 2 or 3 minutes a day.

The neurological organization of the human body is a triumph of biological computerization which exceeds, in its programming of both input and output, the most modern equipment available. The cross crawl pattern programs into the hypothalamus the right information and the innate intelligence of the body unerringly programs out the most precise muscle balancing that one can conceive. The dramatic and spectacular shift of muscle balance can be altered at will by changing the cross crawl from its contralateral pattern to a homolateral pattern, and then reversed again back to optimum normal by the cross crawl pattern.

This should revive our interest, our belief in the innate intelligence of the body. Everything we have ever learned or believed about chiropractic philosophy is precisely and exactly true. Unfortunately, we have been led down the garden path by many who misjudge the ability of the average DC to see beyond his own limitations, and who are unaware that the average man in practice can achieve great things given the opportunity.

Innate intelligence, a phrase almost in disuse, is the exact description of the fantastic computerization that the human body possesses. We have been given an IBM machine and we have treated it like an automatic pencil. Regard the body with the true respect it deserves, because it is the pinnacle of God's creation and represents truly his handiwork. The release of nervous energy by the intelligent application of modern Chiropractic will afford a source of power and energy to your practice that will exceed your expectations. See the whole body in its relationship to itself. Read the language the body structure tries to say, act on this information and your work will be a credit not only to you and your profession but to your creator.

We found the cross crawl technic to be especially useful in treating long distance swimmers and other athletes who sometimes go into the pool or game quite well balanced and come out very distorted muscularly. In some cases, crawl type swimming technics were literally turning the head the wrong way. In the case of our next door neighbor's son, who is now Dr. Walter Schmitt, it was a unique observation following some championship long distance swimming he had done that allowed us to use the cross crawl. It is an effective technic for balancing muscles when other structural corrections have been made.

We continued to test patients, treat patients—and new observations came, one following the other, and it was most difficult to keep up with the new information as it developed. We always seemed to be like the short order cook in the restaurant who was perhaps two pieces of toast ahead of the crowd.

We many times had patients with problems, that were referred to us by doctors, that seemed a little difficult to solve. We soon found all varieties of indications for treatment based on the pulmonary pattern of muscle testing, and there is a very simple technic which we will call "Hydration." Muscles sometimes are weak because of a simple dehydration pattern. Simply imbibing a glass of pure water is effective in this special case.

The lymphatic system is a sewer system, as we all know, and as a sewer system it requires proper fluids for its function. We have all experienced a patient with an overall poor reaction, or perhaps a patient who have a selectively poor reaction with some muscles responding and some failing to respond. Despite proper activation of all reflex receptors, there is occasional failure in some patients. The patient who fails to respond to the gamut of all the technics of Applied Kinesiology is rare indeed. These patients who respond poorly, especially to the nutritional correction though given on a muscle test chewed supplement basis, generally suffer from a selective dehydration.

These patients respond poorly, if at all, to nutritional correction though properly given, and their symptoms persist if they do not aggravate. These selectively dehydrated patients require a very simple supplementation, namely water. The patient simply does not drink enough water for his metabolic activity. Since the lymphatic system is a sewer system, and since there is a relative absence of water, there is a simple failure of drainage. You can determine this condition in these patients by finding a muscle weakness in a patient you have already treated. Simply ask him to drink four ounces of fresh water quickly and then retest the muscle you found weak. If this patient is a selectively dehydrated individual, there will be an immediate and remarkable restoration of strength on testing the muscle.

Just as in the cranial contact, where the patient takes a deep breath or lets it out to place the cranial bones in a better temporary position, so also does taking a glass of water temporarily restore or alter the fluid balance in the selective dehydration patient. Just as in the cranial problem the remedy is not to take a deep breath in or out all day, so also is it not simply to take a glass of water but to increase the total intake of water, not simply fluids. Water alone is sufficient to change this pattern. Other fluids, such as coffee or tea, fruit or vegetable juices, are regarded by the body as either stimulants or food and are processed differently. Water alone is the key to the selective dehydration patient.

This selective dehydration problem may occur among certain segments of our patient population in as high as 10% of the total of the difficult or problem cases. Failure always has a reason. The reason is usually simple. The simplicity of the water method may impress the patient as being too simple, but the body is intricately simple and simply intricate. If you produce the right measure for the right condition, you get the right response.

Everything you ever learned about Chiropractic philosophy is precisely and exactly true, but the implementation and the supplementation of that information about Chiropractic treatment is sometimes difficult and tedious to achieve. Once achieved the patient continues to respond, your reputation is enhanced, and our profession is advanced.



Chapter 5

AN EXPLANATION OF ALLERGY

Why is one man's food another man's poison and how to find which foods agree and which do not by practical quick means.

The chiropractic approach to allergy is to discover why the body is incapable of fighting off adverse environmental factors. By using applied kinesiology testing we are capable of determining exactly which factor is at fault in the body's protective mechanism, and can direct treatment to that causative factor.

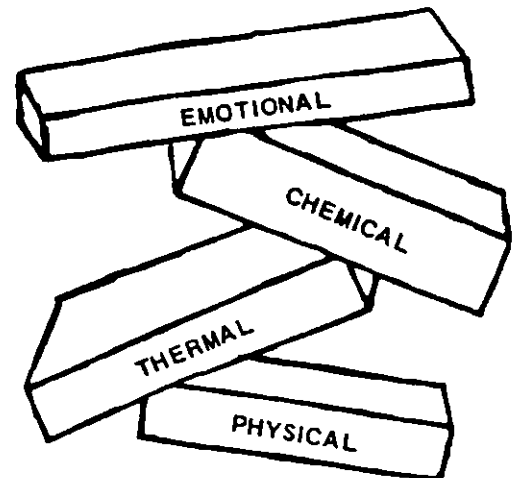
Adrenal Insufficiency

The adrenal gland secretes hormones that are anti-inflammatory and pro-inflammatory in nature. These hormones give the body the ability to keep inflammation in check, and an allergic response is excessive inflammatory reaction to a stimulus. House dust, specific foods, pollens, etc., in the normally-functioning body don't cause inflammation, but if the individual has an adrenal insufficiency the body is fighting a war with inflammation when there is no force invading it.

The adrenal glands help to protect the body from stress. If it has been determined that you have an adrenal insufficiency, it becomes very necessary for you to eliminate all possible forms of stress to your body. This is similar to putting an injured arm in a sling while it repairs. When you reduce stress you give your adrenal glands time to repair and help them react normally to your allergens. It may not be possible to eliminate all forms of stress, but since stress is cumulative, the more phases you can eliminate the better off you will be.

Stress can be separated into four categories:

1. **Physical**—comes from overworking, lack of sleep, injury, fighting infection, etc. Most physical forms are controllable.
2. **Chemical**—caused by any poison. There are, however, many insidious types of chemical stress, some of which are food additives, foods so highly refined that they are out of balance with nature (white flour, white sugar), and stimulants like alcohol, caffeine products, chocolate, etc.
3. **Thermal**—caused by becoming chilled or overheated, making it hard for the adrenal gland to fight. This is more common in the fall and spring, when people don't realize how chilly it is outside. There is a tendency to quickly run outside to hang a few things on the line, or for a child playing ball to become sweaty and take off his sweater, and then chill as he walks home.
4. **Emotional**—The adrenal gland always reacts to emotional turmoil. An individual cannot always eliminate all emotional stresses, but anyone with allergies should try to come to an emotional balance within himself.



STRESS IS CUMULATIVE.

The most important thing about these four factors of stress is that they are all cumulative; therefore, you should control EACH factor as well as you can. An individual may be able to handle one stress factor without any problem, and a second factor with only a minor problem, but when a third factor is introduced, the adrenal is in a state of complete insufficiency and cannot function.

For instance, the individual who slips off his diet and eats a piece of cake ordinarily causes no problem by his dietary indiscretion. The next morning, while still in a state of mild adrenal insufficiency, he becomes chilled, and chilling causes the adrenal to become a little more insufficient. Now the combined effects of the chilling and dietary indiscretion prevent the lymphatic system from fighting off a cold effectively. The individual now has a cold which could probably have been thrown off by his body with the help of the adrenals if they had not been somewhat depleted by the cake the day before. Then the person takes some "over-the-counter" medications such as aspirin, decongestant, etc., for relief of the cold symptoms and these medications act as a chemical stress to the body, further depleting the adrenal glands, and they are now ready to be triggered into complete adrenal insufficiency. In this continued state of stress, if the individual has a moderate argument with his boss the next day, the adrenal is forced into acute exhaustion and the individual is placed in an acute stage of allergy—although the argument was not strong enough to have caused problems three days prior, before the cake was eaten.

Continual stress to the adrenal glands gives them no chance to repair and rebuild.

Acid-Alkaline Imbalance

Acid-alkaline imbalance is a common contributing factor to allergies, especially those associated with food. The use of applied kinesiology methods will test your nerve system through different muscles to determine if you have an acid-alkaline imbalance. You may be given nutritional supplements to help bring this balance back.

Nerve Control

Nerves are closely associated with the adrenal glandular function and acid-alkaline control, since they control the entire body. The muscles of your body can be used to determine nerve function and return your body to proper control of the glands, systems and structures.

This is the most effective known method for the long-term cure of allergies, but you must remember that the cure comes from within your own body. In most instances your doctor can return your body to normal control, but the outlook is not as favorable when there has been long-term use of certain drugs. You must follow all procedures prescribed by your doctor—especially the elimination of as much stress as possible—since the cure comes from within your own body.

Why Are Most Allergies Not Cured:

An allergy can be considered as a condition in which the body has a susceptibility to a substance which is harmless in similar amounts to the majority of people. It is estimated that 10% of the population of the United States suffers from some form of allergy.

An allergy can be so severe it is life-threatening or mild enough to be merely irritating.

An allergy can manifest itself as colitis or other digestive disturbance, commonly considered food allergy. The allergy can be manifested in the eyes and nose as hay fever, in the bronchii as asthma, or anywhere on the skin as a type of skin allergy. A person can suffer from severe, debilitating headaches or rapid heartbeat as the result of allergy

The major problem in allergy treatment today is that most treatment is symptomatic in nature, designed to gain relief of symptoms. The real answer to an allergic reaction is to find the basic underlying cause which makes the body over-react to normal substances.

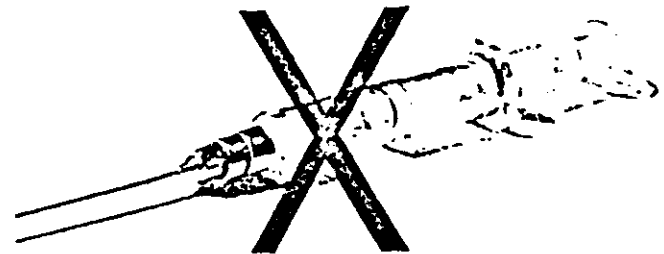
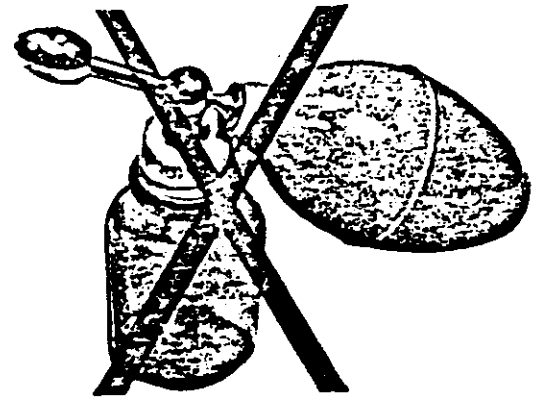
The simplistic approach—determining what an individual is allergic to by various testing methods, then eliminating that item from the individual's diet and environment is similar to deciding to live in a cave as a hermit because you don't get along with people.

Many treatments for symptomatic relief actually make the basic underlying cause of the problem more severe

Nasal sprays, which are used for decongesting the mucous membranes, work temporarily; however, they themselves irritate the mucous membranes. When the effect wears off it leaves the mucous membranes more irritated, to swell worse the next time. The use of the spray causes an increased need for future medication.

Steroid medications, which are used to supplement the inactive adrenal gland, simply cause a further depletion of the adrenal gland. Long time use of this therapy makes a patient very resistant or non-responsive to natural health care.

If allergies develop, it is important to seek a natural correction of the problem before permanent damage is done by medication.



Asthma and Emphysema

Many patients have problems related to the respiratory functions of the body. These problems, though respiratory in character, such as asthma or emphysema, have their roots and cause in non-respiratory structure and function of the body. Non-respiratory in the usual sense but in a functional relationship the skull sutures and the adrenal glands relate more to asthma and emphysema than does the lung parenchyma itself. There is a respiratory function of the skull. This has been ably documented in the past and recently updated by modern electronic proof of a high degree of sophistication. The occiput moves minutely but definitely, the base moving forward and upward on inspiration, while the sphenoid does just the reverse. The opposite action taking place with both occiput and sphenoid with expiration. This movement though minute can be compared to the movement that exists between two sections of sidewalk. The separation between the two sections allowing a definite movement during contraction and

expansion with changes in the environment. Disturbances in the respiratory function of the skull affect respiration since suture jamming and separation affect the movement potential of the skull. This movement is necessary to pump the cerebral spinal fluid, the life blood of the nervous system.

The relative diameter of the capillary exchange network of the lungs is most directly influenced by the action of the adrenal glands. Adrenalin, which ordinarily maintains vasomotor tone in all parts of the body produces a paradoxical effect on lung capillary function. The usual vaso-constrictor effect is reversed in the lung capillary network, vaso constriction being replaced by vaso-dilation. So, in a relative hypoadrenia, a depressed adrenal function produces a vaso-constriction with an interference in the capillary alveolar O₂-CO₂ exchange by the lungs.

Therefore, in any disturbance of respiratory function there is a relative feedback inter-relationship between cerebral spinal fluid flow and adrenal function. Just as two railroad tracks run parallel and independent but inter-related. Examination of skull level with special attention to mastoid process level with a deparal-
lelization of the occiput to the orbits (orbit level), is essential diagnostic information. The widened orbit, the narrow orbit, relate to altered temporal bone rotation position. The work of DeJarnette and Alberts is of great value in understanding the respiratory function of the skull. The author's material previously described in this publication is also advised to understand this relatively new but ancient relationship. Asthma is not a disease entity. It is rather a combination of symptoms which is a manifestation of a complex system of neuro-endocrine changes which alters the ability of the organism to react to stress. The stress may be allergic, neurologic or psychologic, or a combination of all of them.

All attempts to treat asthma by desensitization to agents to which the individual is "allergic" or the use of antihistaminic agents have been disappointing, offering only temporary relief at best.

Emotional factors can precipitate an attack of asthma. Anxiety will perpetuate it, even exaggerate it, but it is recognized also that the emotional stress is founded, in fact, upon the nervous system; therefore upon the entire body. The so-called fight or flee mechanism is a good example of this type of response. No matter what the type of exciting factor, the response is in a definite pattern resulting in a constriction of the bronchial tree by result of facilitation of spinal segments from which its innervation and blood supply is derived. This response is felt throughout the autonomic nerve system and it isn't always localized to the pulmonary system, although the pulmonary response is most severe and most apparent.

Anatomy of the bronchial tree is well described in any standard text of anatomy. The nerve supply on the lungs and other structures is quite important. Bronchi are supplied para-sympathetically by branches of the vagus directly and by the inferior laryngeal nerve. The sympathetic supply is from the thoracic lumbar trunk. Innervation of the muscles of respiration, phrenic, intercostal, and so forth are well known and do not need to be mentioned at this time.

The glands most involved apparently are the adrenals and pancreas. But it is good to keep in mind that all the internal organs and glands are innervated by the para-sympathetic and sympathetic system and they are in a finely adjusted balance.

The flow of air into and out of the lungs depends upon changes in the capacity of the thoracic cavity. The lungs and pulmonary passages play a passive role since we live at the bottom of a sea of air. The movements of the thoracic boundary are governed by the respiratory center of the medulla which give rise to impulses passing through the vagus and phrenic nerve. These, in turn, regulate the muscles of respiration which bring about an expansion of the thoracic cage. It is important to recognize that

the inspiration contraction occurs not only in the diaphragm and thoracic musculature but also in the abdominal musculature and the muscles forming the pelvic diaphragm. As the lung tissue is expanded influence is passed to the respiratory center via the afferent branches of the vagi which inhibit inspiration and expiration begins. This is the so-called "Hering-Breuer" reflex.

This frequency of repetitive charges and impulses from the respiratory center is under the influence of several factors—carbon dioxide, oxygen tensions, hydrogen ion concentrations and the nature and frequency of the afferent impulses reaching the nerve cells. Chemo receptors of carotid and aortic bodies by the oxygen-reduction of arterial blood to relatively low levels, below 92% oxygen saturation, increase the rate and depth of breathing. Bronchiolar movements are not entirely dependent upon the autonomic nerves but are also under the influence of an intrinsic mechanism.

There is also an importance in the alteration of the potassium concentration in the blood which causes a more forceful contraction of the musculature by altering the action of so-called ATP or adenosine triphosphate in the carbohydrate exchange mechanism which occurs during the release of energies from muscle contraction and by changes of myosin levels of the muscle tissue.

The pathological changes that occur are essentially spasm of the bronchial musculature and edema of the membrane and as the attack continues thick, tenacious mucus fills the tubes, further obstructing the passage of air. In the chronic state, the musculature and mucus glands of the bronchi are hypertrophied and infiltrated by eosinophils. As the condition progresses, persistent emphysema develops with a decreased ability to expel the inspired air. The dome of the diaphragm is depressed and the ribs are maintained in the position of inspiration. Eosinophilia is a noteworthy change in the blood picture and it is interesting to note that with eosinophilia the so-called "Thorn" test is a basis for testing adrenal function and that is the ability of the adrenal glands to respond to stimulation of ACTH. When ACTH is given, the number of eosinophils go down, which indicates the action of the adrenals in this condition.

During an "attack," so-called of asthma, the alveoli are poorly ventilated, which results in a high percentage of CO₂, this relative acidosis is met by the excretion of a very acid urine and a rise in the alkali reserve similar to that you find in upper respiratory infection and post-nasal drip or sudden, due to trauma or rib damage or severe pulmonary disease, as in pneumonia. This facilitation or ease of exchange of impulses, "extraordinary ease," "over ease," over activity is a facilitation and the facilitation then proceeds to produce the classic asthmatic attack. The individual comes in contact with the exciting factor, contact with some substance, so-called "allergic" substance or overingestion of carbohydrate or even constipation, and the nervous system immediately is thrown out of balance. The normal reaction to stress, the fight or flee mechanism, occurs, and in order for this to operate the glucose must be mobilized. And, in order to cover this added glucose, the insulin production is increased. Now, normally the adrenal glands inhibit the excess insulin, but since they are already under stress, the added stimulation results in a suppression of their function. So there is little stimulation of the adrenal-cortex by adrenalin, with the result that the sodium retention factor is lost and sodium is lost through the kidneys, with the subsequent acidosis. Since the available adrenalin in the body is reduced, the para-sympathetic nerve system becomes dominant and the dilation of bronchial arteries occurs and congestion of the bronchial vascular bed results in edema, which then diminishes the bronchiolar openings and wheezing with labored respiration begins. Then the accessory muscles of respiration are brought into play and has always indicated in asthmatics that they follow the category of hypo-glycemia or relative hyper-insulinism. Many of them have symptoms of hyper-insulinism when they are free of asthmatic attacks. Further evaluation revealed that these asthmatic patients have sub-clinical hypofunctioning of the adrenal

glands. This can be evidenced by the loss in blood pressure which occurs on standing instead of the usual rise of 8 millimeters or so, on standing the blood pressure drops or fails to rise and by a persistent dilation of the pupils to light, (high K, low Na neuro-chemical disturbance), when a light is shone on the pupils, and left shining on the pupil for more than approximately 30 seconds. These two tests demonstrate hypo-adrenia.

The so-called facilitation of second and fourth thoracic segments can come from many causes—chronic in kidney disease Increase in the alkali reserve is evident by the increase in the serum potassium.

Water and electrolyte metabolism are disturbed and there is the increased loss of sodium by way of the kidneys. In every instance, that this office has ever seen, the glucose tolerance test the additional glucose needed for their contraction again increases the production of insulin, and as a result of the loss of gas exchange and the increased sodium loss in the urine, an acidosis develops with an increase in serum potassium, which then alters the adenosine triphosphate in carbohydrate exchange at the muscle fibers, so that the muscle fiber contraction increases and spasm of all the muscles of respiration occurs and this is a vicious cycle which is self-perpetuated. The primary key is a sub-clinical hypo-adrenalism. This is why so many children frequently cease having their asthma after puberty when their neuro-endocrine system changes. Many later develop the attacks when they are under stress, if they live long enough to develop an adrenal dysfunction when they go through climateric changes later in life.

The acute episodes of asthma must be controlled. The effect of drugs is quite temporary and an acute bout can best be stopped by manipulative measures which give long-lasting relief. The best thing is to break into the cycle of events perpetuating an attack.

In an acute attack of asthma, lesions will always be found in the second, third and fourth thoracic, most often the fourth. The fourth rib will always be elevated on the right. Quite frequently the third cervical is in rotation to the left. Correction of the fourth dorsal and the fourth rib lesion are essential in the management. The diaphragm should be domed, the clavical should be released, the pelvic diaphragm should be released by deep pressure through the ischio-rectal fossa, while the patient takes two or three deep inspirations, rectal dilation at this point is quite important. A lymphatic pump is useful to the point where the patient begins to breathe easier, then stop; otherwise, the attack will become more severe. Deep pressure for a minute or two may be used to inhibit the vagus and the phrenic nerves. The vagus can be reached just posterior to the angle of the mandible, where the nerve crosses the transverse process of the atlas. In the same manner the phrenic nerve can be inhibited as it passes beneath the sterno-clavicular joint. Naturally, specific atlas and occiput lesions which invariably complicate these lung disorders must be corrected.

Between attacks, the thoracic cage, the diaphragm and the pelvic diaphragm should be relaxed as often as necessary, including rectal dilation. Attention to the pancreas and adrenal glands should be given. Traction upward with pressure to each inter-costal space is useful in maintaining freedom from asthma. The patient should be placed on a strict low-carbohydrate diet—in other words, a hyper-insulin type diet—and the common sense removal of exciting factors from his environment should take place. Under no circumstances though, particularly a child, should they be treated as an invalid

Upper respiratory focus of infection should be treated. The foot of the bed should be placed on blocks to minimize post nasal drainage at night. Some asthmatics are taking some of the cortical steroids and they should be used only as an emergency measure. To use them in any other manner is to whip a tired horse and further depression of the adrenal glands will occur.

Bronchial asthma has been examined from an anatomical, physiological, pathological point of view and attempt has been made to demonstrate that it is the symptom of sub-clinical hypo-adrenalism rather than a disease entity. Particular measures have been described which give great relief. Direct attention to the support of the adrenal gland mechanism is quite important. Several products are available from suppliers to our profession. This, coupled with the correction of the relative hyperinsulinism, with a low-carbohydrate diet and proper manipulative measures, should increase your results in asthma and give further evidence of the ability of chiropractic to produce a response in this often acute and quite often chronic condition.

Man is a whole animal, structurally oriented, physiologically inter-related and neurologically automated. He is a creature of vast complexity but with the innate wisdom of his creator he unerringly heals himself, given an opportunity for innate correction. This correction though simply stated by our earlier philosophy and philosophers in Chiropractic is complex in its application. Just as in the application of the principles of the Ten Commandments in modern life there are complex problems, so are there problems in the application of our still true innate guided philosophy. The ability to see through the disguise the body sometimes has to assume requires a knowledge of normal function. This knowledge we have, or we should have, the ability to heal is not automatic but automated, the response is not immediate but mediated. Mediated by your knowledge and your ability to allow the creative life force to flow once again. Treating lung disorders successfully is just one more way to advance yourself and your profession.

Low Blood Sugar and Hyperinsulinism

Many individuals have symptoms of low blood sugar. Many times both the patient and his doctor do not realize that sometimes these symptoms of low blood sugar are caused by a condition of hyperinsulinism which literally is an overactivity of the islands of Langerhans. The patient who complains of fatigue and who has a normal blood count and otherwise normal findings frequently will show a low blood sugar. The patient who has chronic allergy as manifested by sinusitis, eczema, asthma, is almost invariably found to have a low blood sugar as part and parcel of the problem. The patient who arises with a backache or who feels light-headed in mid-afternoon or who suffers an overwhelming sense of fatigue about three o'clock in the afternoon or who has lapses of mental acuity at definite intervals during the day, often is running a low blood sugar. Insomnia unrelated to emotional tensions and disturbances in the calcium and Vitamin B levels is often caused by a low blood sugar secondary to a hyperinsulinism. These patients who get tired and have slight headaches or sensations of light-headedness and who become moody, stubborn or irritable quite often comment that their stomach or intestines becomes unusually noisy at this particular time, they are hungry and want something sweet to serve as a pick-up. And so they will usually partake of the following: a cup of coffee, tea, chocolate, pie or pastry, cookies, candy bar, ice cream, soft drinks or the like. These sweet foods and beverages cause a rapid rise in the blood sugar level and temporarily relieve their symptoms to be followed by a repetition the next day. The low blood sugar is abnormal and should be prevented. However slight it is abnormal and is caused by eating sugar and starch at meals. Cigarette smoking can also serve as a temporary lifter of the level of the blood sugar by stimulating the adrenal-sympathetic system the rise occurring at the expense of liver glycogen. The pick-up which follows eating something sweet is accompanied by an elevation in the blood sugar level for about 30 or 60 minutes and is soon followed by another fall in the blood sugar in a perpetual vicious circle. People who smoke a great deal, drink much coffee, and who have poor appetites, have chronic malnutrition because they deplete the liver glycogen stores and fail to replenish the stores with proper food. Many people are irritable in the morning before breakfast because of low blood sugar. Many people are so irritable or depressed that they or anyone else need not attempt to say anything until they have had a cup of coffee, then they become more agreeable.

The blood sugar reaches its lower level in the morning before breakfast. Less sugar and starch at dinner the night before prevents low blood sugar in the morning. Mothers know that an irritable, cranky and crying infant is usually a hungry infant. The same is true of adults to a less degree and it is of great advantage for the doctor to know that the blood sugar level is fundamentally related to the behavior of all members of the human race. Errors in judgment are often due to making a decision when the blood sugar level is down. Brain function improves by improving the glucose-oxygen consumption. Dr. S. B. Wortis found that weight for weight the nervous tissue of the young in any species consumes and needs more oxygen than that of the adult. Generally speaking, nervous tissues consume oxygen in proportion as they utilize glucose, therefore in the presence of a low blood sugar, tissues consume less oxygen and suffer an oxygen lack and during periods of reduced oxygen consumption there is increased susceptibility to infection. The rate and range of fluctuation of a blood sugar is controlled by several factors, especially diet and physical activity

Levels of blood sugar are important in the detection of physical abnormality. Previously, calculation of the blood sugar level by the Folin-Wu method or other standards was time consuming and required the patient to have a painful venipuncture. Measurement of the blood sugar level especially measurements of the low sugar levels previously talked about has now become very simple and requires simply finger blood, the use of dextrostix produced by the Ames Company. This is a simple but standardized and now well recognized method of evaluating the level of the blood sugar and requires only one minute's time to read and can be readily performed in the office when the patient is examined and specimens taken for a general diagnostic workup. In my opinion, any level below 80 mg. is a low blood sugar level and requires remedial treatment.

The dextrostix reagent strips are made by the Ames Company, their catalog No. 2888 and come packaged in units of 25 and generally sell at a very reasonable price. They can be obtained from your local source or thru the college of your choice. They give blood glucose concentration starting at 40 mg., 65 mg., 90 mg., 130 mg., 150. mg., 200 mg. and 250 mg., thus allowing a judgment to be made in only a minute's time without any additional equipment as to the level of the blood sugar. This is a color comparison test and has been well standardized and well accepted

Not one symptom or symptom complex is indicative of hypoglycemia but it is best to be alert when there are negative signs yet the patient complains of utter exhaustion and nervousness. They frequently come in with a diagnosis of an anxiety neurosis or chronic nervous exhaustion. They are frequently so hungry all the time that they may be obese and this combination of obesity and the weakness caused by an overgenerous production of insulin which in turn causes hypoglycemia, produces in this obese patient a pattern sometimes called by the patient "rubber legs " Many patients find that candy or any form of sugar offer temporary relief but what does not seem to be understood or practiced is that sugar and all carbohydrates CAUSE this disfunction and that sugar and high carbohydrates MUST BE RESTRICTED. The hypothalamus center for carbohydrate metabolism is the control center for many important body functions. It directs by the autonomic nervous system all cardio-vascular rhythms. It also regulates osmotic pressures and many other functions. Any insulin sugar imbalance can so affect the physiology of the hypothalamus that controls various body functions that it may in turn trigger a vascular headache, an asthma or any number of conditions. There is a particular kind of headache known as a histamine cephalgia that comes with excruciating pain when the blood sugar drops to a low level at night and the patient is generally awakened by this pain. With the new method of diagnosing blood sugar levels, it is now possible to pinpoint the diagnosis of many unusual conditions that have failed to respond in the past and it can be done simply and quickly without extensive laboratory equipment. Many cases of low blood sugar are produced by smoking. Many cases of optic nerve dysfunction associated with

a blood sugar level that is low respond to a hyperinsulinism diet and cessation of smoking. The exhaustion syndrome is quickly improved when a hyperinsulinism diet is followed, so also are the other symptom complexes improved when a hyperinsulinism diet along with careful structural adjusting is followed. Since generally speaking hypocalcemia coexists with hypoglycemia, the therapeutic use of calcium is of prime importance and in many patients attention to the hydrochloric acid level of the stomach is quite important. The object of the nutritional regime is to keep a trickle of usable sugars constantly going into the blood stream. Since the diet requires the patient eat more frequently the juice feeding is important to temper the appetite. Abrahamson, who with Pezet wrote "*Body, Mind and Sugar*" says, "The weakest most vulnerable cells suffer first. These will differ from person to person and from time to time in the same individual thus producing the almost infinite variety of hyperinsulinism manifestations in different persons at different times of their lives. It is often these widely dissimilar manifestations of sugar starvation which explain why hyperinsulinism has remained unknown so long and why now that we know it, it is so often unrecognized. For it is like that fictional detective so adept at disguises that no one knew what the real man looked like."

Stimulation of the adrenal sympathetic response by vigorous lower dorsal adjusting along with adrenal, liver and occasionally pancreatic cytotropic extracts and the addition of vitamin A, F and Betaine products measurably aid in the recovery of these blood sugar problems. Normally, spontaneous recovery from low blood sugar occurs in the healthy adult from the release of glycogen from the liver by adrenal response but when the liver or the adrenal function is poor a chronic state of hyperinsulinism exists, since poor nutrition quickly lowers liver glycogen stores, the importance of good nutrition is obvious. On experiments in rats it was found that only 3% of dietary glucose was converted to glycogen and since the average American who latest statistics show eats about 16.5 lbs. of candy annually in the belief that he is deriving an energy source or reserve, it is obvious that he is depleting and not adding to his energy reserve and disturbing his metabolic mechanism.

The weight loss that occurs in worry and anxiety states comes from the exhaustion of liver glycogen and the turning to muscle and fat for split products to be synthesized to glycogen by the liver and then used to bolster the falling glucose level. The nervous system which we as DC's use must depend, regardless of school philosophy, upon an adequate supply of oxygen and this is inexorably tied to the level of sugar in the blood and this sugar level is adversely and paradoxically affected by sugar in the diet. Herein lies the cause and the treatment of hyperinsulinism.

Treatment consists of strict compliance with the hyperinsulinism diet and regular adjusting, using A.K. analysis. It has been my experience that many times there is an anterior dorsal subluxation at the level of the 6th or 8th dorsal which should be adjusted. I am indebted for this information to Dr. DeJarnette and his method of adjustment is highly recommended here. Attention to the occipital and spinal nerve fibers following same DeJarnette approach is very valuable. Careful attention to details in treatment of the hyperinsulinism pattern produces a steady and gratifying response in this the most common cause of the two most common symptoms that cause patients to consult their doctor, namely exhaustion and anxiety. A single fasting blood sugar is of little value since it is always deceptive. Challenging the patient's insulin response by a high carbohydrate high sugar meal and checking the blood sugar level 4 hours afterwards invariably will show the low blood sugar so characteristic of hyperinsulinism. Correction of this condition by first detection, second treatment, is just another way that the chiropractic physician can be of service to his patient and to chiropractic.

Allergies in Chiropractic Practice

Many patients suffer from patterns of irritability of various organs and systems that are grouped under the generic heading of "allergy." Many doctors themselves also exhibit a symptom pattern of allergy since the basic clinical manifestations are no respecter of person or profession. The symptoms may be present in the digestive system as in colitis or in the respiratory system as in hay fever and asthma, or in the skin with eczema or other forms of pruritic nature which can mean any form of the innumerable itching, whealing, hives syndromes or the mucocutaneous rectal itch which is so common. The recurring sinus that appears when the weather becomes moist or rainy, the seasonal allergy called "Rose, Grass" or most usually hay fever, the recurring headache associated with stress, paroxysmal tachycardia, sudden and prolonged diarrhea, the various and sundry so-called auto-immune diseases so common today, as caused by excessive tissue breakdown and the subsequent antibody formation which is in reality antibody against one's own tissues; these are all allergies of one form or another.

Yet there is a common denominator to all these various fractions of allergy and to nitpick the differences between one form and another is to strain at the gnat and to swallow a camel. The common factor in every allergic pattern is a relative lack of HCL systemically and not necessarily locally in the gastric mucosa, although this is more often the case as not. Associated with this HCL pattern is a relative or absolute adrenal deficiency. There are classic structural faults that invariably accompany these previously mentioned HCL and adrenal dysfunctions. On testing the pectoralis major in these allergic cases we find invariably a weak bilateral pectoralis major clavicular division muscle. There is an associated cranial fault that manifests itself by a bulged parietal on one side with a flattened parietal on the other.

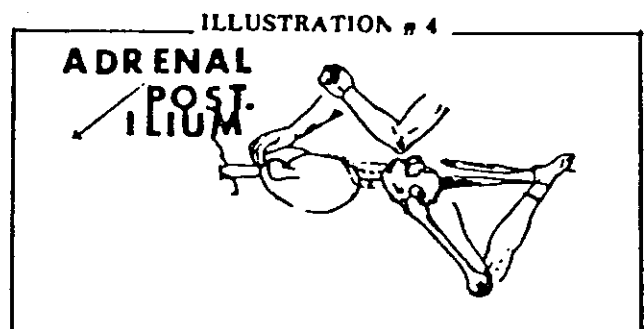
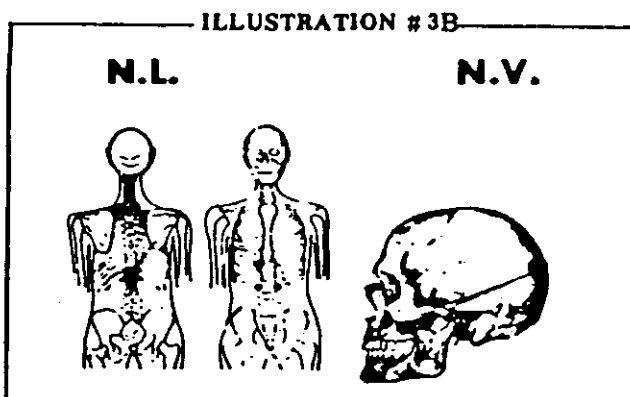
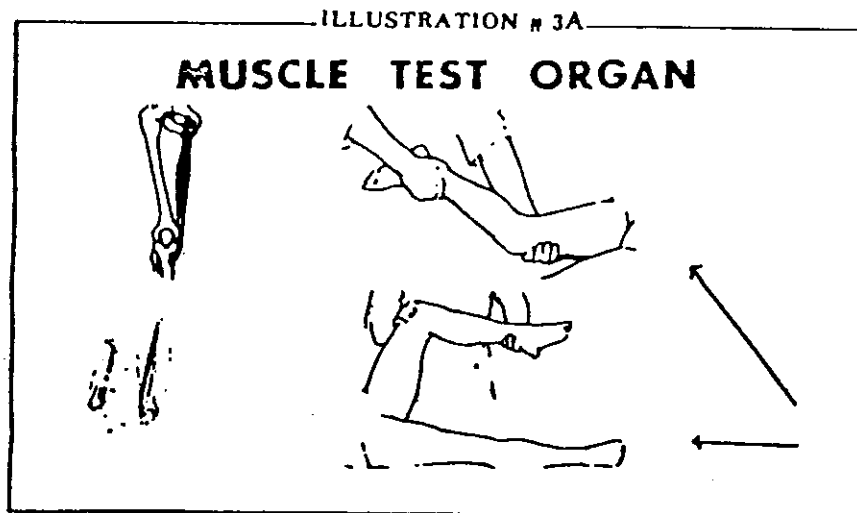
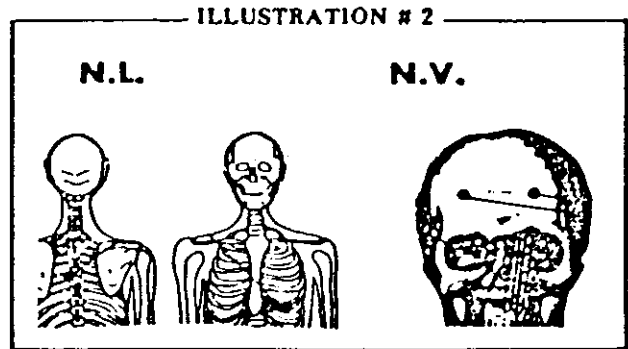
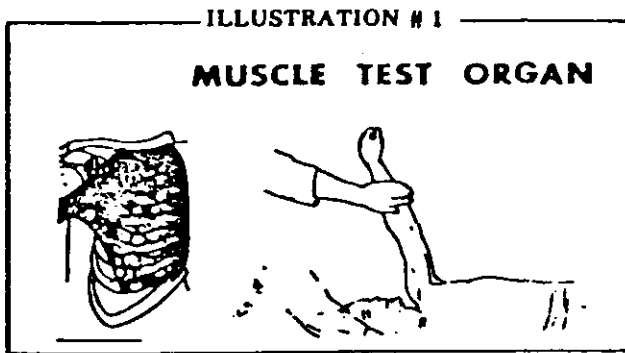
This bilateral weakness of the pectoralis major clavicular division muscle has been a constant factor in every allergy case. It has been associated with the bulged cranial pattern and in many cases there is the classic sign of adrenal deficiency, namely the Ragland effect and a positive Rogoff sign with the usual pupil dilation to light. The constancy of these physical signs with the protean manifestations of the allergy complex reduces the guess and conjecture factor to a minimum and substitutes logic and physiological reason for a hopeless touch-tag game with the poor patient's symptoms

Normal physiological variations in blood or saliva pH are of a very small range and order. The buffer salts prevent wide and dangerous swings of pH. These buffers as you know are sodium and calcium bicarbonate, phosphates and glutamines. Glutamine is a powerful buffer that quickly releases ammonia to prevent any acidosis production. Glutamine is not synthesized in the body. It is found in celery root and fresh rare meat and releases ammonia at the slightest provocation, which is an ideal buffer but like many good things, hard to get. The incidence of acidosis is relatively rare in comparison to the prevailing alkalosis, and the balance factor is weighted toward preventing an acidosis so the occurrence of an acidosis from even ill advised HCL supplementation is not liable to occur easily

A high pH tends to throw calcium out of solution. As you know, bursitis, neuritis, arthritis and allergies become acute under these conditions. The calcium deficiency observation in allergy has often been made but supplementation with calcium has been therapeutically disappointing. The use of an acid calcium has been slightly more rewarding but the underlying factor has been a relative lack of HCL as the primary cause correcting this primary cause, the lack of HCL, is not a simple matter of supplementing with HCL. This of itself will fail just as the early efforts to supply the obvious lack of calcium failed. The mechanics of the situation must be corrected first so that the master balancer of body chemistry can act in its own innately intelligent way.

Temporary balancing of the nutrition helps this process along but the primary structural correction to the skull and lymphatic centers of the pectoralis clavicular must most imperatively take place first. The effect of edema on the spinal nerves at their point of exit thru the I.V.F. is well known. Why should we disregard the parallel effect at the jugular foramen of the skull through which 95% of the venous blood leaves the cranium along with the 9th, 10th and 11th cranial nerves. This foramen is located between the occiput and the temporal bone which have a definite cartilagenous union at the jugular process up until the age of 25. The same is true of many other foramina of the ventral surface of the skull. The effect on the vagus from cranial faults parallel the effects we all observe with occipito-atlantal-axial lesions.

The weakness found bilaterally of the pectoralis major clavicular division is a constant factor in the allergy patients who have had this test made. The testing method is that of Kendall and Kendall as in drawing #1. The neurolymphatic and neuro-vascular reflex areas are diagrammed in drawing #2. The classic cranial fault is that of the so-called "banana head," a description of the increased parietal bulge along



with the relatively flattened area on the opposite parietal area. Following the activation of the neuro-vascular areas, efforts are made to exaggerate the bulge as well as to exaggerate sphenoidal and occipital positions. This allows the tentorium to react and the innate intelligence factor is activated by this exaggeration procedure so there is a "comeback or recoil response" effect.

The blood pressure of these allergy patients who have the superimposed low adrenal pattern as well, will show a drop in the systolic level when the patient rises from the prone or supine position where the original systolic reading was made. This is the "Ragland" effect. The Rogoff sign is positive in adrenal depletion of any grade and is a very definite tenderness at the lower rib junction with the erector spinae muscles. Here also there will be manifestations of hyperinsulinism, and for the lab-oriented practitioner, the 17 ketosteroid levels will be below the normal 12 to 15 for men and 8 to 10 for women. There is usually some swelling of the extremities in these allergic patients who also have the adrenal syndrome and this is usually due to the sodium-potassium relationship with the potassium running high and the sodium running low so that in this patient you should increase, not decrease the salt intake. This swelling frequently is associated with changes in environmental temperature and atmospheric pressure.

The adrenal deficiency will also present the usual signs of a posterior ilium, namely pain over the area of attachment of the sartorius, and gracilis origin and insertion. This pain, on palpation, naturally being on the short leg side and responding to the neuro-lymphatic reflex as in the #3 diagram. If activation of the N.L. reflexes do not completely abolish the signs of the posterior ilium, adjust as in diagram #4. In the past, efforts have been made to attach unwarranted significance to abnormal pH variations. This is attempting too simply to classify urine or saliva pH evidence as diagnostic of the actual body condition. In other words, a high pH in the saliva is merely an indication of some abnormality of the acid alkaline balance.

It, of itself is NOT diagnostic per se of an alkalosis as previously thought. Frequently, an alkaline pH IS diagnostic of an alkalosis but a careful evaluation of all factors plus structural correction should dictate the supplementation nutritional changes. The pH of the blood or the saliva which is the more accessible factor, is a product of all the forces acting upon it. The regulation of the blood CO₂ "or saliva CO₂" is controlled by the respiratory control center in the brain, so here we are back at the skull and its contents

The usual lack of HCL as mentioned in the average allergy case is accompanied by the adrenal depletion factor which then sets up the site, character and periodicity of the allergy. As you know the adrenal has three groups of steroids, the glucosteroids that assist in the control of carbohydrate metabolism, the mineralo-steroids that control water balance primarily, and the sexosteroids or as mentioned earlier, the 17 ketosteroids which include the estrogens, progesterones and the androgens. The variations of these factors produce the variability of the allergy symptoms, hence the futility of "Chasing Symptoms." The real key is to treat causes structurally, nutritionally, and if needs be psychologically by explaining WHY they have the allergy they do.

Low HCL can be determined by the Diagnex test discussed in earlier articles, but this is specific only for gastric HCL not systemic, therefore saliva pH and a symptom survey from the history plus a trial of an acid ash diet or HCL supplementation is wise. Granted the structural correction is accomplished first. Further adrenal depletion evidence other than already stated, is the marked inversion or marked lowering of the "T" wave of the E.K.G. if you have and use one. The ready availability and relatively

good patient acceptance of a hyperinsulinism diet is another easy control that is powerful in providing real therapeutic help.

The increasing desperation use of corticosteroids as therapeutic agents in emergency use may transform the acute allergic patient to a depleted nonresponsive chronic allergy victim who responds slowly if at all. This is due to the suppression of the adrenals by the injudicious use of emergency therapy in the long term.

The full circle physiological pattern in many respiratory allergies such as asthma, involves a locked in flexion or extension cranial bone pattern with a resulting lack of sphenobasilar flexion and extension with a resulting pituitary dysfunction with the consequent disastrous effect on the adrenal. By the cranial fault the HCL factor is also disturbed. The key is to treat what is wrong with the patient, rather than to treat the patient wrongly.

The Coca theory of food allergy postulates an increase in the pulse rate when an offending food is eaten. The increase is moderate, perhaps in the range of an increase of ten beats but this simple observation is difficult to accurately apply because of the many normal variables. It is useful at times to pinpoint one offending food while you make the overall corrective therapy which should allow normal latitude in food choice

Protein as you know is split into amino acids so they can diffuse through the intestinal membrane. HCL is essential for protein splitting and for pancreatic activation for further proteolytic enzymatic amino-acid conversion. When half split proteins get into the circulation they cause, as you know, inflammation and antigen activity. It is the antigen that makes some people react so violently to such small amounts of an offending food. Reason would dictate neutralization of the antigen if possible but reason also dictates temporary common sense avoidance of offending food. The well known and well documented progressive decrease in HCL levels with age explains the remarkable incidence of the signs previously mentioned. The body language tells a story of innate, intelligence flying the distress signal of the bilateral weakness of the pectoralis clavicular and the other signs mentioned earlier.

The glutamine mentioned earlier is as you realize an amino-acid that has a certain two-way action. It is a buffer that can release ammonia and glutamic acid as the pH drops even slightly. It protects against acid, as you can see, but it also protects in an innate intelligent way against ammonia as well because much tissue contains glutaminase which miraculously synthesizes the free ammonia back to glutamine. This beautiful balance allows ammonia transfer from the kidney to the liver where it breaks down to urea in the liver. The resulting urea helps protect against any undenatured protein. This rather complicated interfaced spinoff biochemical whirlpool bath is intricate. So is a television set, but you need not know the intimate workings of the color set you own, for example, to enjoy the Green Bay Packers, but you do first have to possess a working set, turn it on and have a paid up electric bill to enjoy the superbowl at home. Attention to primary causes produces far reaching end effects.

The use of betaine combined HCL is wise as temporary priming of the HCL pump to "Wet The Washer" so to speak so the pump can siphon the water out of the well. The addition of the betaine which is technically trimethylglycine has been considered for some time to be merely a convenient chemical combination. It has far reaching possibilities in a natural way of neutralizing antibodies. That betaine can neutralize tetanus toxin is a curious well buried but accepted fact. Probably betaine is the balance wheel that maintains normal antibody equilibrium. Betaine comes naturally from our food and from our natural digestion of natural sources of rare protein so here we are again, back to the structure which should

be corrected to allow us to take advantage of our hoped for natural diet. All the rest of the amino acids have fascinating spin-off activities. For example, glutathione, a derivative of betaine, does even a better job on antibodies than betaine itself.

The hand of the Master creator is never so evident as in the real study of the peak of HIS creation, the human body. A well rounded knowledge of physiology allows a well rounded therapeutic effort to release the marvelous potential of the innate intelligence of the body once it has been freed of the structural chains that bind it. Those same chains functioning properly, allow normal function to take place.

A "hodge podge" throw in the bag of nutritional components is just as futile as a "hodge podge" "pop and pray" adjustment. The body is the pinnacle of God's creation, treat it with the respect it deserves and you will in the words of a fine doctor up in Vermont recently, "take good care of your patients and they will take good care of you."

Note: A light tugging touch will activate the neurovascular reflex areas. Hold and wait for 20 seconds after pulsation begins. The neuro-lymphatic area requires a firm rotary pressure on appropriate areas for at least 30 to 40 seconds.

Postural Hypotension and Functional Hypoadrenia

The clinical significance of postural changes in blood pressure often escapes the attention of the doctor who feels if the blood pressure is within normal limits no further investigation is needed in this area. A simple screening test for hypoadrenia which measures the body's ability to compensate for the hydrostatic effects of gravity takes very little time, perhaps a minute or two; yet this simple test affords the clue to many problems we face every day. The patient who is dizzy on change of position, especially on rising, the patient who can't get going in the morning, the patient who feels best as the day goes on then suddenly seems to collapse around 7:00 or 8:00 p.m. is an example of the hypoadrenia patient and this patient will have perhaps a normal blood pressure sitting or lying but when on assuming the upright position there is a DROP in the SYSTOLIC pressure of as much as 40 mm. The usual amount of abnormal drop is about 10 to 15 mm but any DROP is ABNORMAL. The Splanchnic veins have no valves and as a result are dependent on the autonomics of the nervous system for their function and the tone of the splanchnic nerve is under the control of the adrenal system. The tone of the blood vessels of the abdomen therefore is under the control of the splanchnic nerves and when the patient stands up from a lying or a sitting position there should be a rise in the systolic blood pressure of 4-10 mm from the recumbent to the erect position

Generally speaking there should also be a rise of at least 6 mm from the sitting to the standing position. The patient who dates his trouble of tiredness and loss of interest following an attack of "flu" and who must force himself or herself to do everything, very often will have a systolic recumbent B.P. of 124, with an erect B.P. of 100

In the normal person the systolic blood pressure is 4 to 10 mm. higher in the standing erect position than it is in lying position. This rise is due to so-called "G" effect. When we stand all the blood rushes to our feet due to the effects of gravity but the receptors in the aorta and other blood vessels communicate this new position to the nervous system and just as a fighter pilot wears a "G" suit or "leg squeezer" to counter the effects of gravity on a fast pullout from a vertical dive so also do we have our own "G" suit which causes a redistribution of blood from the splanchnic area to heart and muscles when we assume the erect position. This "G" suit mechanism is controlled by the splanchnic nerves. These splan-

chnic nerves are controlled by the adrenal system since the weak adrenals which should provide the actual chemical substance which allows this redistribution or compensation, hampers this mechanism by not providing enough "sympathin" to influence the valveless splanchnic vein's compensatory mechanism. The same "SYMPATHIN" chemical substance causes the contraction of the iris to light and when it is in short supply, as in hypoadrenia the usual contraction of the pupil to light is not sustained. If the examining light is shone on the eye for 30 to 40 seconds there will occur a paradoxical DILATION of the pupil to light or as it is often seen, an alternating contraction and dilation with the pupil getting larger following each alternation, while the examining light is kept on the eye for a 40 second interval This also is a sign of weak adrenals as well as the postural hypotension and explains why some patients can't stand bright lights or have accommodation defects which defy the usual optometric or ophthalmological efforts. These two signs, a dropping blood pressure on standing and a paradoxical dilation of the pupil to light are two easy, quick, simple, but valid indicators of weak functioning adrenals

People who suffer from headache and/or dizziness in the erect position or who complain of weakness which is unrelated to blood count, blood pressure or blood sugar levels many times have this adrenal dysfunction as the basis for their complaints. This condition of hypoadrenia often accompanies a low blood sugar with the associated hyperinsulinism. In this regard it is interesting to note that just as low blood sugar symptoms can occur in a diabetic because sometimes it is not the actual LEVEL of the blood sugar but the RATE of drop that causes the symptoms; so also can there be falling blood pressure in a person that has high blood pressure as well when he also assumes the erect position, so it is best to be alert for this condition in all varieties of patients

Following severe illness associated with fever, also following anesthesia, alcoholism, prolonged worry, focal infections, toxic conditions, fractures, to name a few that in my own practice set the stage for a run of the reserves of the adrenal bank account along with the usual patterns of modern life with all its tensions, quickly "overdraw" this adrenal reserve and produce the characteristic pattern of fatigue. Since the adrenals have been closely associated with STRESS it is only natural that stress when excessive can deplete them. Because we cannot avoid stress it is best to prevent the effects of stress on the body or failing that, to recognize the condition and take appropriate treatment measures to balance the system. One primary effect of adrenal stimulation is the release of glycogen from the liver and possibly the musculature. When the blood sugar becomes lowered as was discussed in the article on "Hyperinsulinism" this mechanism of "fight or flee" activity may be continually forced into action to vainly try to keep converting glycogen into usable blood sugar levels when low blood sugar levels occur due to hyperinsulinism or even perhaps the newly discovered reaction to the protein factor Leucine, which also triggers off a low blood sugar pattern. But often these two conditions are found together, namely hyperinsulinism and hypoadrenia, so the hyperinsulinism diet is needed along with support to the flagging adrenals

The same "fight or flee" mechanism that enabled primitive man to escape the saber-toothed tiger causes him to react to stress But the stress now is often illness or toxemia or severe trauma and instead of perching safely though exhausted, on a branch of a tree higher than the tiger could leap, breathing hard and pumping much blood, brought on by the sudden effort through the recently activated adrenal system thereby allowing them to return to normal, man now uses this adrenal system just as if he were being chased by the tiger, but he has no feed-back mechanism to revive the overworked adrenal system, so they go down to a depleted state with the previously mentioned diagnostic findings.

Since the adrenals are concerned with body chemistry, water metabolism, and electrolyte levels, it is reasonable to expect a correlation between blood pressure and body chemistry. The clinical basis for

a low sodium diet has been pretty well established in a high blood pressure condition but the mineral management of the hypotensive especially the postural hypotensive has been pretty well neglected as have other measures designed to normal, man now uses this adrenal system just as if he were being chased by the tiger, but he has no feed-back mechanism to revive the overworked adrenal system, so they go down to a depleted state with the previously mentioned diagnostic findings.

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A high pH tends to throw calcium out of solution as you know bursitis, neuritis, arthritis and allergies become acute under these conditions. The calcium deficiency observation in allergy has often been made but supplementation with calcium has been therapeutically disappointing. The use of an acid calcium has been slightly more rewarding but the underlying factor has been a relative lack of HCL as the primary cause and correcting this primary cause, the lack of HCL, is not a simple matter of supplementing with HCL. This of itself will fail just as the early efforts to supply the obvious lack of calcium failed. The mechanics of the situation must be corrected first so that the master balancer of body chemistry can act in its own innately intelligent way.

Temporary balancing of the nutrition helps this process along but the primary structural correction to the skull and lymphatic centers of the pectoralis clavicular must most imperatively take place first. The effect of edema on the spinal nerves at their point of exit thru the I.V.F. is well known. Why should we disregard the parallel effect at the jugular foramen of the skull through which 95% of the venous blood leaves the cranium along with the 9th, 10th and 11th cranial nerves. This foramen is located between the occiput and the temporal bone which have a definite cartilagenous union at the jugular process up until the age of 25. The same is true of many other foramina of the ventral surface of the skull. The effect on the vagus from cranial faults parallel the effects we all observe with occipito-atlanteal-axial lesions.

The weakness found bilaterally of the pectoralis major clavicular division is a constant factor in the allergy patients who have had this test made. The classic cranial fault is that of the so-called "banana head," a description of the increased parietal bulge along with the relatively flattened area on the opposite parietal area. Following the activation of the neuro-vascular areas, efforts are made to exaggerate the bulge as well as to exaggerate sphenoidal and occipital positions. This allows the tentorium to react and the innate intelligence factor is activated by this exaggeration procedure so there is a "comeback or recoil response" effect.

The blood pressure of these allergy patients who have the superimposed low adrenal pattern as well, will show a drop in the systolic level when the patient rises from the prone or supine position where the original systolic reading was made. This is the "Ragland" effect. The Rogoff sign is positive in adrenal depletion of any grade and is a very definite tenderness at the lower rib junction with the erector spinae muscles. Here also there will be manifestations of hyperinsulinism, and for the lab-oriented practitioner, the 17 ketosteroid levels will be below the normal 12 to 15 for men and 8 to 10 for women. There is usually some swelling of the extremities in these allergic patients who also have the adrenal syndrome and this is usually due to the sodium-potassium relationship with the potassium running high and the sodium running low so that in this patient you should increase, not decrease the salt intake.

This swelling frequently is associated with changes in environmental temperature and atmosphere pressure.

The adrenal deficiency will also present the usual signs of a posterior ilium, namely pain over the area of attachment of the sartorius, and gracilis origin and insertion. This pain, on palpation, naturally being on the short leg side and responding to the neurolymphatic reflex as in the #3 diagram. If activation of the N.L. reflexes do not completely abolish the signs of the posterior ilium, adjust as in diagram #4. In the past, efforts have been made to attach unwarranted significance to abnormal pH variations. This is attempting too simply to classify urine or saliva pH evidence as diagnostic of the actual body condition. In other words, a high pH in the saliva is merely an indication of some abnormality of the acid alkaline balance.

The usual lack of HCL as mentioned in the average allergy case is accompanied by the adrenal depletion factor which then sets up the site, character and periodicity of the allergy. As you know, the adrenal has three groups of steroids, the glucosteroids that assist in the control of carbohydrate metabolism, the mineralo-steroids that control water balance primarily, and the sexosteroids or as mentioned earlier, the 17 ketosteroids which include the estrogens, progesterones and the androgens. The variations of these factors produce the variability of the allergy symptoms, hence the futility of "Chasing symptoms." The real key is to treat causes structurally, nutritionally, and if needs be psychologically by explaining WHY they have the allergy they do.

Low HCL can be determined by the Diagnex test discussed in earlier articles, but this is specific only for gastric HCL not systemic, therefore saliva pH and a symptom survey from the history plus a trial of an acid ash diet or HCL supplementation is wise. Granted the structural correction is accomplished first. Further adrenal depletion evidence other than already stated, is the marked inversion or marked lowering of the "T" wave of the E.K.G. if you have and use one. The ready availability and relatively good patient acceptance of a hyperinsulinism diet is another easy control that is powerful in providing real therapeutic help.

Protein as you know is split into amino acids so they can diffuse through the intestinal membrane. HC1 is essential for protein splitting and for pancreatic activation for further proteolytic enzymatic amino-acid conversion. When half split proteins get into the circulation they cause, as you know, inflammation and antigen activity. It is the antigen that makes some people react so violently to such small amounts of an offending food. Reason would dictate neutralization of the antigen if possible but reason also dictates temporary common sense avoidance of offending food. The well-known and well-documented progressive decrease in HCL levels with age explains the remarkable incidence of the signs previously mentioned. The body language tells a story of innate intelligence flying the distress signal of the bilateral weakness of the pectoralis clavicular and the other signs mentioned earlier.

The use of betaine combined HCL is wise as temporary priming of the HCL pump to "Wet the Washer" so to speak so the pump can siphon the water out of the well. The addition of the betaine which is technically trimethylglycine has been considered for some time to be merely a convenient chemical combination. It has far-reaching possibilities in a natural way of neutralizing antibodies. That betaine can neutralize tetanus toxin is a curious well buried but accepted fact. Probably betaine is the balance wheel that maintains normal antibody equilibrium. Betaine comes naturally from our food and from our natural digestion of natural sources of rare protein so here we are again, back to the structure which should be corrected to allow us to take advantage of our hoped for natural diet.

An Explanation of Allergy

We have also found that some patients who have been injured by excessive heat or excessive cold have basically heat or cold agglutinins; and we found that testing a muscle found related, when subjecting the patient to skin contact with an ice cube it would cause immediate weakness. We soon found that this could be neutralized by a natural antihistamine manufactured by Standard Process Company called Antronex, and here again we found another way of helping people by very simple technics, using muscle testing as the diagnostic parameter.

Since we have discovered the nutritional response for the lingual receptors on the tongue, we found that in the case of intoxications with heavy metals and other toxins, the patients were sensitive to their own blood. We would prick the finger of the patient and then simply placed the blood into a plastic pipette and then dropped it on the tongue. Muscles were then tested and response noted. We soon found that simply having the patient touch the drop of blood to the tongue and then testing the muscle was an effective technic for this form of identification. If there was a high level of lead or some other toxic metal, invariably the muscle would weaken, and this would then be corroborated by other methods of testing such as blood levels or the somewhat variable and controversial system of hair analysis.

Chapter 6

THE RELATIONSHIP OF MUSCLES AND ORGANS

How muscles are pumps for their own waste product, and also act as visceral or organ auxiliary pump to maintain organ function.

On my first trip to Paris to teach Applied Kinesiology to the European chiropractors, I was fortunate to come across the research paper presented as part of the requirement for graduation from the England European College of Chiropractic, by Drs. Mendell, Hoffman and Carpenter, in which they described an experiment where they used a non-operator strain gauge measurement of muscles before and after contact with a variety of substances.

For example, the subjects ingested a measured amount of ice water, a liter of ice water, and in a measured amount of time the pectoralis major clavicular muscle associated with the stomach was tested. Immediately afterward other muscles were tested to see the relationship and the experimental evidence indicated that the pectoralis major muscle weakened considerably on the ingestion of ice water; other muscles weakened a little. This type of experiment was also repeated with the deltoid, which is associated with the lymphatic drainage of the lung, and when the ingestion of a measured amount of cigarette smoke in a measured amount of time was accomplished, the muscles tested before and after, and there was a definite decrease in the tensile strain gauge strength of the deltoid involved.

There was also noxious sound, the so-called "white" sound, the audio analgesia of dentistry. A measured amount of sound for a measured amount of time was fed into the ears, and the upper trapezius measured before and after. The audio sound caused a definite decrease in the testing strength of the upper trapezius which is associated with the lymph drainage of the ear.

The same is true of a measured amount of chlorinated water in the eye. The upper trapezius was measured again before and after the contact with chlorinated water and there was a definite decrease in strength. This corroborated to a great extent the empirical observations we had been able to make. They also found specific derangements to occur at the spine in the areas we had also found to relate to those particular neuro-lymphatic visceral relationships.

These observations, along with subsequent observations, enabled us to answer a lot of interesting questions.

The Principle of Muscle Balancing

Many patients have problems which involve apparent muscle spasm. Many doctors also have problems which relate to the all too common presence of muscle spasm producing some dysfunction in their bodies. Muscles do contract, there is no question of this, as witnessed by the usual muscle spasm of the psoas or the trapezius or some other commonly involved muscle group. Yet it is our experience that rarely do we ever find actual primary muscle spasm in most patients that come in for our attention.

Generally, there is great and overwhelming evidence of muscle spasm, both by posture or by symptom recital, but when these patients are examined by the simple expedient of muscle testing it is found that

an overwhelming majority do not have primary muscle spasms but have muscle weakness which then CAUSES the opposing muscle or the antagonistic muscle or the contralateral muscle to contract. In other words, there is no question that muscles do contract but in the main they usually and most generally contract only in the presence of predictably identifiable prima facie evidence of muscle weakness.

Testing the muscle or muscles involved by the methods of Kendall & Kendall or by the methods devised by the author invariably reveal the presence of actual, and many times profound muscle weakness of the opposing muscle to the muscle which is in apparent spasm. The hypertonus of the muscle only exists because of the hypotonus of the opposing muscle, and an example can be cited to typify this relationship.

The mast of a sailboat has equal tension on the two lateral stays; loosen the stays on one side and the mast tilts toward the side of the intact and untampered stay. The tilt of the mast is obviously due to the weakness of the loosened stay, the apparent hypertonus of the opposite stay is only apparent and not actual because the first stay that was loosened ALLOWS this apparent increased tension or hypertonus. The remedy therefore is not to loosen the normal tension of the normal stay but to tighten the loosened stay. In the process it may be necessary to slightly loosen the normal stay while adjustments are made but the prime purpose of restoration to normal in this example is to tighten the loosened stay.

So also in the obvious but only apparent muscle spasm do we find by muscle testing, the evidence of a muscular weakness with the apparent—again, emphasize apparent—hypertonus. Therefore, the remedy is obvious. Tighten the loosened muscle rather than attempt to loosen the muscle, which is only apparently hypertonic but which is in reality quite normal.

Have you not had the experience of applying some type of heat by infra-red or diathermy to a patient who walked into your office with a low back problem and who once he became recumbent upon a treatment table with the soothing heat in full therapeutic evidence, found that he could not rise from the table which he was able to put himself down upon just minutes before?

Heat further weakens an already weakened muscle and since most muscle spasm is only apparent and not actual, the use of cold is much more rational when applied to the actual weakened muscle. This has been our experience time and time again in every variety of muscular disability which involves the ready-made and obvious diagnosis of muscle spasm but which by clinical testing proved to be muscle weakness. This evidence is overwhelming in its frequency when the standards of muscle testing are applied to these patients.

Occasionally the degree of pain does not permit muscle testing and therefore a postural or X-ray analysis is as valid as the primary but temporarily inapplicable method of muscle testing. The variable factors so beautifully shown on a full spine 14 x 36 X-ray are the most graphic evidences of identifiable, predictable and actual muscle weakness that can be found.

A high shoulder when accompanied by a level pelvis and level occiput is not evidence of a contracted latissimus dorsi on the low side but is evidence of a muscle weakness on the high side. This is simply a fact and can be readily proven by anyone, for anyone, to anyone, anywhere, anyhow, anytime.

The presence of a tilted occiput when accompanied by a level shoulder and a level pelvis is absolute evidence of a weakness of the anterior neck flexors and the posterior neck extensors on the high side rather than contracture of these flexors and extensors on the low side. The high hip, the high shoulder,

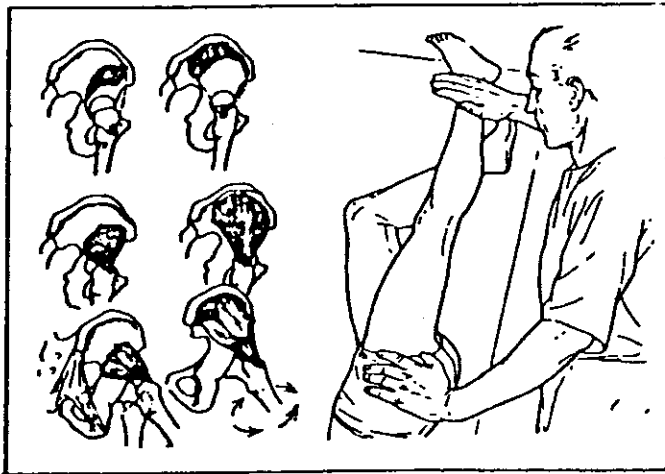


Figure #1

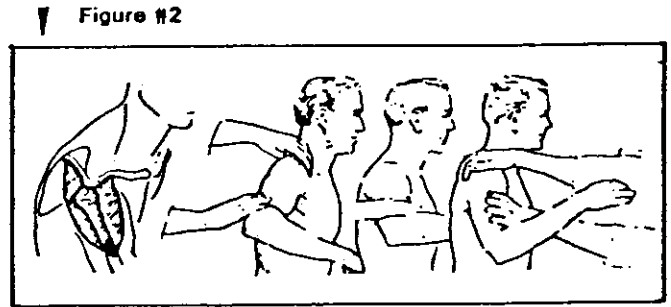


Figure #2

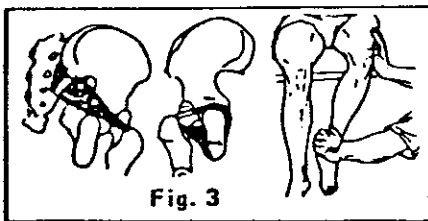


Fig. 3

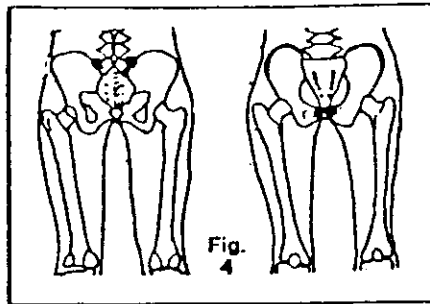


Fig. 4

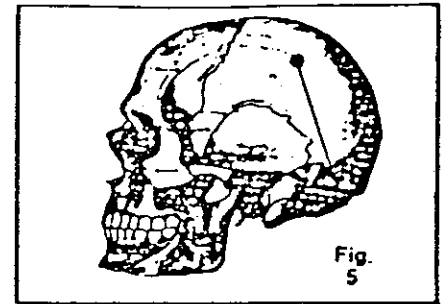


Fig. 5

the high occiput, all on the same side is indisputable evidence of a weak gluteus medius on the high side, and when the patient is put in a side lying position with the inferior leg slightly bent at the knee and the superior leg extended and elevated ceilingward, pressure downward at the ankle will easily be resisted by the intact side and will readily cause yielding on the high or weakened side each time, every time, all the time, by anyone, for anyone, to anyone, anywhere, anyhow, anytime.

Muscle testing and its attendant diagnostic information is a gold mine for the intelligent chiropractic physician and yields the most precise, accurate and predictable information as to why people look as they do, act as they do, walk as they do, and complain as they do. It is also the most useful means of gauging response to treatment since when therapy is applied to the weakened muscle the response is immediate, startling and overwhelming in the restoration of strength to the weakened musculature involved.

A pelvic tilt may be evidence of a weakened psoas, a weakened quadratus or a weakened gluteus medius. It takes but seconds to accurately test the muscles involved and then therapy becomes obvious, definitive and apparent, especially to the patient who sees with his own eyes and his own feeling the immediate recovery in the weakened muscle.

Muscles respond to definitive technics but diagnosis before treatment is both logical and imperative if one wishes to keep abreast of the ever swelling stream of sick patients who knock at our doors in desperation at the failure of previous treatment. Muscles become weakened and then cause apparent muscle spasm when they suffer a micro-avulsion from trauma. Sometimes this micro-avulsion is visible on X-ray as witnessed by the frequent avulsion of the insertion of the deltoid. In this case the patient cannot abduct the arm away from the side of the body and when the deltoid is tested it is found profoundly weak.

This is not the only cause of the inability to abduct the humerus, But when this IS the cause, X-ray evidence of the micro-avulsion at the deltoid insertion is visible and a hard, heavy rotary pressure applied for 20 or 30 seconds to the micro-avulsive area quickly restores the previously weakened deltoid to normal and literally reseats or reseals the periosteal micro-separation. The apparent speed of recovery is spectacular but an actual fact. When the deltoid becomes weakened many times other muscles such as the teres major or minor and the pectoralis clavicular and sternal division become contracted and go into spasm. This spasm is immediately relieved by correction of the weakened deltoid.

Every time a muscle contracts an opposing muscle relaxes. When the elbow is bent for whatever reason, the biceps contract and the triceps reciprocally relaxes. It is this reciprocal relationship in the normal which also operates to both the patient's benefit and detriment in the abnormal. Proof of this fact may be found on testing the piriformis muscle. Evidence in the external position of the leg, the femur being held in external rotation by the apparent piriformal muscle spasm. The patient is seated, the knee is flexed, your hand is placed at the lateral knee of the testing side and your other hand is placed at the internal malleoli. The malleoli hand exerts pressure directly lateral while you steady the patient's knee with your other hand and he resists the lateral movement of the malleoli hand. This is the method of testing the piriformis muscle. Weakness will be found on the side that yields most readily to the testing pressure while the patient resists with his greatest ability

This weakness will always be found opposite the side of the previously mentioned external rotation of the femur. Correction of the lymphatic drainage block which frequently is the cause of muscle weakness can be accomplished by stimulating the lateral margins of the symphysis pubis on the weakened side using a hard pressure for about 30 or 40 seconds, then stimulating the posterior neurolymphatic center at the junction of the fifth lumbar transverse with the crest of the ilium. This neurolymphatic receptor activation starts the sump pump circuit breaker and activates the lymphatic drainage which is one of the causes of muscle weakness. The increased drainage allows proper tissue respiration just as in the flushing of a toilet readies the unit for further function, the muscle returns to normal and you have accomplished your therapeutic task.

On retesting the apparent hypertonus on the external rotation side, the externally rotated femur will now readily rotate internally, which it did not before, and is now in the state of muscle balance. This lymphatic drainage interference is common to many muscular problems from the psoas to the pectoralis, from the gluteus medius to the trapezius, and was the basis for much of the early success that the methods of Applied Kinesiology enjoyed.

There is also a circulation to each muscle with the attendant "thermostatic" regulation of the blood supply. When the muscle contracts it produces lactic acid, this lactic acid accumulation causes further dilation in the blood vessels of the hard working muscle. Since this dilation must take place thru the nervous system any blockage of the neurovascular receptors does not allow normal lactic acid response to take place.

These neurovascular receptors were first discovered by Dr. Terence Bennett in the early 30's and have proven valuable through the years of empirical methods of treatment. Dr. Bennett, a California chiropractor, had no knowledge of the intricate and incredibly accurate correlation of these neurovascular areas to specific muscles, and just as Dr. Chapman was not aware of his lymphatic receptor correlation to muscles, neither was Dr. Bennett aware of this precise interrelationship. It remained for the application of the principles of Applied Kinesiology to show, verify and validate the unusual but highly predictable receptor connection to specific muscles.

The neurovascular receptor for the gluteus medius muscle is located at the parietal eminence. As previously mentioned the high hip, high shoulder, high occiput was an indication of a gluteus medius weakness. The previous method of testing the combination of the postural defect and the observable muscle weakness would indicate activation of the neurovascular reflex at the parietal eminence. A light, tugging touch is applied at the parietal eminence on the side of weakness until a definite pulsation is felt. Hold this contact for approximately 20 seconds of finger felt pulsation. Retest the muscle. There will be an immediate and overwhelming response with a return in strength and an observable postural correction.

Naturally when the gluteus medius is weak, the opposite gluteus medius becomes hypertonic. The patient is either laterally, flexed or presents a lateral hip on one side and a lateral shoulder on the other. In the latter distortion, the patient looks, in going through a doorway, as if he would touch one side of the door opening with the lateral hip on one side and touch the other side of the door opening with the lateral shoulder. Naturally in these gluteus medius problems, there will be vertebral rotations and vertebral inferiorities of lumbar vertebra especially with secondary involvement of THEIR balancing intrinsic spinal muscles. Pain will be present on palpation at the belly of the hypertonic gluteus medius muscle which is the result of the postural pattern of the weak gluteus medius muscle. Pain may also exist now in many and varied areas. Correction of primary problems produces primary results.

Chiropractic properly practiced is both diagnostic and therapeutic. One should balance the other. We work with innate intelligence, it knows these facts of muscle weakness. Treat these areas by intent rather than by accident. The methods are available, they have been published in a variety of journals. Seminars have been conducted, patients have been treated, the response has been noted by many in different parts of the country. Muscle testing is an integral part of chiropractic since it proves beyond a doubt that structure determines function.

The Liver—A Very Busy Organ!

The liver has over 500 known functions. Even so, science has not yet discovered all the functions that **MUST** be performed by this, the largest organ of the body. A person would die in a very short period of time without his liver. Fortunately, nature has seen fit to make the liver much larger than it needs to be to maintain life. Most authorities agree that the liver is approximately six times larger than necessary—in other words, you could function adequately with only $\frac{1}{6}$ of your liver. Your liver also has very good rebuilding capabilities. Its size and rebuilding capability are very fortunate indeed, because the liver is greatly overworked in most people in today's civilized environment.

Let's differentiate two types of liver involvements. The first, for which most doctors look first, is frank pathology of the liver. This includes conditions such as infectious hepatitis, cirrhosis of the liver, fatty degeneration, and other frank disease processes of the liver. The other type of liver involvement, which we are concerned with in this book, is functional overload conditions which one day may turn into the death-causing liver disease processes. Unfortunately, when frank disease processes are present it is usually too late to reverse the condition and bring the liver back to normal function.

A liver that is overladed and incapable of taking care of body needs can cause a wide variety of symptoms. This is because the liver has so many separate and distinct functions—therefore it can affect health in many ways.

The liver has a very important role in digestive functions, especially in fat metabolism. But abnormal liver function, or an overworked liver, can affect any type of digestion. The liver eliminates poisons in

the body by dumping them into the bowel via the bile. These toxic substances can interfere with normal digestive function in the bowel

The liver removes many excess hormones in the body, to help keep a hormone balance. As an example, the anti-diuretic hormone (water retention hormone) is eliminated by the liver when excessive. If the liver is not functioning adequately an individual may have swelling in his legs or abdomen due to water retention.

Some sex hormones are deactivated by the liver, and failure here can cause menstrual problems, changes in secondary sex characteristics, etc.

There may be a sugar handling disturbance as a result of liver dysfunction, because the liver is a major sugar storehouse and is responsible for many sugar conversion factors within the body.

Improper utilization of vitamins, particularly fat-soluble vitamins A, D, E and K, can be a result of improper liver function. Adequate absorption and storage of these vitamins is dependent on the liver

Some factors in blood coagulation are developed in the liver. This can be observed in a tendency to bleed or bruise due to the blood's poor clotting ability. These are just a few of the many, many functions of the liver. The symptomatic picture of liver involvement may be severe fatigue, digestive disturbances, swelling, poor appetite, and/or a constant chilled feeling. There may be an inability to tolerate medications due to improper breakdown and elimination of the drugs, and an increased number of side effects. Signs of many types of nutritional deficiencies may also be apparent.

The Liver is a Detoxifier: Removing poisons from your body is an extremely important function of your liver. This function is one of the main reasons the liver becomes overloaded in our modern civilization, since poisons can enter your body in so many ways. You may inhale the poisons that you spray on your lawn, insecticides used in the house, chemicals that you contact at work or use in a hobby such as photography. These are all known poisons, and we all try to avoid them as much as possible.

However, there are also many poisons that people do not realize are poisons to the body. Medications, even the non-prescription kind purchased at the grocery or drug store and used freely in our culture, are a significant extra load on the liver and can eventually be very harmful.

Chemicals used as preservatives, stabilizers, artificial flavorings, artificial colorings, used in the manufacturing of foods are all significant regarding liver function. A few of these chemicals would not be a problem to the liver, because of its tremendous ability to take poisons out of the system, but there is a very significant cumulative effect from these numerous chemicals taken into our bodies with our food supply.

When you add to this smog, aerosol sprays (perfumes, hair sprays, deodorants, room fresheners, insect repellents, dusting aids, etc.), alcohol, and many other and varied poisons in our environment, you can see how the "over-capacity" liver becomes overworked and is damaged eventually.

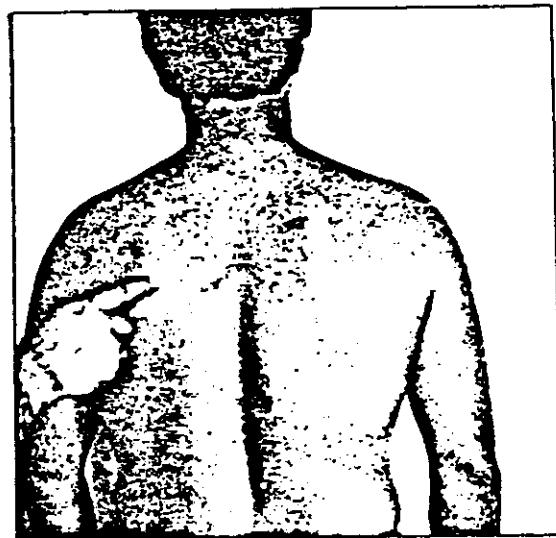
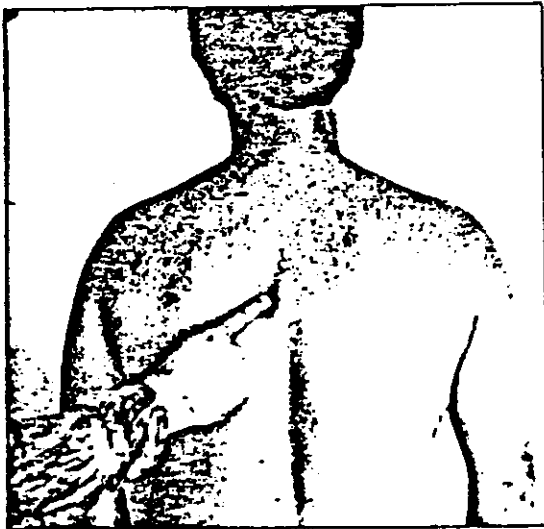
Among the most significant poisons in today's society are the heavy-metal poisons such as lead, cadmium, arsenic, etc. Unfortunately, these deposit in the body and accumulate because they are very difficult to remove, even when a specific detoxification program is prescribed. The federal government is working toward eliminating or reducing these heavy-metal poisons from our environment, for instance, using low-lead gasoline for automobiles and new pollution standards for the automobiles themselves.

However, we must avoid these items as much as possible to keep our bodies from becoming toxic from contact with them.

Fat in the Liver: The liver is a major storage area for carbohydrates and proteins. Ordinarily it stores very little fat and should normally contain 3% to 5%. There are several reasons that too much fat or fat-like substances accumulate in the liver. People with poor protein intake have more fat in the liver because certain substances in protein are essential in breaking down fat. Without these substances fat is deposited rather than used. However, too much protein in the diet causes a liver overload because the liver must eliminate the waste products from the protein breakdown. Consumption of too many refined carbohydrates and/or too much alcohol can cause an elevation of triglycerides, which are fat in nature and accumulate in the liver causing congestion and interference with normal liver function.

Testing for Liver Congestion or Overload: Most laboratory tests for liver function are for frank liver disease processes. Although it is important to be able to test for these disease processes, it is much better to be able to evaluate liver dysfunction in its early stages before irreversible disease processes develop.

When the liver is overloaded and congested, the venous blood that has circulated through the body and needs to be cleansed, cannot pass through the liver easily. Because of liver congestion a back pressure develops on some of the venous system. You can easily observe this by pressing solidly with your finger between your shoulder blades. When your finger is removed from the skin normal color should return quickly, and a white blanched area remaining after pressure is removed indicates poor circulatory flow that may correlate with liver congestion. Visible or distended veins on the chest and abdomen are other indications of possible liver involvement.



The doctor using applied kinesiology testing methods has an advantage in observing for possible detrimental environmental involvement to the liver and for adequate energy patterns. Applied kinesiological liver testing is accomplished by testing muscles on the same energy pattern as the liver. If the liver has a disturbed energy pattern this disturbance "overflows" into a muscle associated with that energy pattern, and the muscle will test either too strong or too weak. By using this muscle strength as an indicator the doctor can determine what nutritional complexes, dietary changes, or other treatment will be effective in improving liver function.

Your liver should be evaluated periodically to eliminate problems before they begin, because it is so important to so many different functions bearing on your total health.

Keep in mind that the liver is much larger than necessary for actual body needs, so by the time a problem shows, even on a minimal level, the liver is already very significantly overloaded. Always follow dietary, nutritional, and other treatment programs to keep this vitally important organ functioning normally for a happier, healthier, longer life.

The Colon's Effect on Your Health

The colon, or large intestine, is an organ commonly neglected until trouble begins. Trouble is usually first recognized by an individual as constipation or diarrhea. This symptomatic picture is often treated with frequently advertised over-the-counter preparations, but this approach does nothing to get at the basic underlying cause of the problem. More important, it allows the condition to progress and possibly cause extremely serious health problems that may take years and years to develop.

The two primary things that happen in the colon are: (1) colon stasis, which is lack of good movement of material through the bowel, and (2) putrefaction and abnormal bacteria in the bowel. Colon stasis develops as a result of too little roughage or fiber material in the diet, whereas putrefaction and abnormal bacteria are the result, primarily of too much refined carbohydrate (white sugar and white flour) in the diet.

The increased processing of foods in our modern civilization is the cause of both these dietary abnormalities. In uncivilized areas, such as the tribal areas of Africa that have maintained their native diet, these diseases are almost unheard of or completely absent. When the natives begin eating our processed foods they develop these same diseases, which are wide-spread and common in areas such as the United States, Great Britain, and other areas eating our westernized diet. Following are some of these diseases and how to avoid them:

Cancer of the Colon: There is ample evidence and epidemical information showing that cancer of the colon is primarily caused by the lack of fiber in our diet, and the use of excessive refined carbohydrates. One of the harmless chemicals of bile that is present in the intestines is converted to a strong and powerful cancer-producing chemical that is easily developed as the result of high concentrations of abnormal bacteria, which are present because of the high level of refined carbohydrates consumed in the common diet. This combination of constant chemical production with slow-moving waste material (which stays in the bowel for several days in most people) accounts for the continued attack by the cancer-producing chemical on the colon wall which eventually causes cancer.

Heart Attacks and Hardening of the Arteries: An improperly functioning bowel causes a diminished elimination of cholesterol from the body, and cholesterol is one of the factors responsible for hardening of the arteries and narrowing of the arteries. If the coronary artery, which feeds the heart, becomes clogged causing the heart to get inadequate circulation, the most common form of heart attack occurs, called ischemic heart disease.

There is a common misconception that a person's cholesterol level is the result of the amount of cholesterol eaten in the diet, but in reality the cholesterol eaten in the diet is the source of only about 20% of the body's cholesterol. Your body synthesizes cholesterol from other substances in the liver.

The colon affects cholesterol levels because the liver eliminates cholesterol from the body via the bile being dumped into the bowel, and when there are abnormal bacteria in the bowel, they convert bile salts into lithocholate which, when reabsorbed, reduces the liver's elimination of cholesterol from the body. The production of lithocholate together with colon stasis causing the material to remain in the bowel long enough for absorption, is one of the major causes of too much cholesterol in the blood stream, which eventually causes hardening of the arteries, heart attacks and strokes.

Diverticulitis/Diverticulosis:The colon works best when waste material is mushy and soft and the material moves rapidly through the bowel and is eliminated within a day and a half. Today's common diet takes approximately 3 to 4 days for elimination. When there is too little roughage in the diet the stool becomes small, compacted and hardened. Over a period of time the actual size of the large intestine becomes smaller, and to move this compacted waste material great efforts are required of the circular muscles of the colon. Then pressure develops, and small pockets, called diverticula, develop along the colon. If infection develops in these pockets, diverticulitis is present. This condition includes possible bleeding and tissue breakdown, which is very serious.

In the past a bland diet was considered proper for this condition, thought to be non-irritating to the bowel. Unfortunately this diet made the condition worse because it continued to promote the hard, compacted stool and abnormal colon function.

It is absolutely imperative that an individual with diverticulitis and/or diverticulosis is returned to a natural diet (under a doctor's control) and improved colon function is obtained.

Hemorrhoids, Varicosities, and Phlebitis: It is well known that constipation causes and makes worse hemorrhoids, commonly called piles. The mechanism for the hemorrhoid problem is the same as that for varicosities in most cases. A dry, hard, compacted stool causes considerable strain for evacuation, and this strain causes increased pressure in the veins. This causes a ballooning out and breakdown of the vein wall, which might be the hemorrhoid plexus or the veins of the legs.

There is an additional factor in varicosities of the legs, since the bowel lays across the veins going down to the legs. This causes a back pressure against the return of blood to the heart, which back-pressure causes a ballooning of the blood vessel wall, especially if the one-way valves in the veins have been damaged by straining at the stool with constipation. The abnormal vein function that develops is a potential beginning of phlebitis, or inflammation of the vein, and can be so serious as to cause death.

Infections: The high use of refined carbohydrates such as sugar and flour causes an imbalance of bacteria, and abnormal bacteria develops in the colon, which can be responsible for infections in the urinary tract, gall bladder, appendicitis, and diverticulitis. The answer to these infections, especially if recurrent, is to regain normal colon function.

Treatment: It is interesting to note that the origin of all these conditions, covering a wide variety of symptoms and disease complexes, can be a dysfunction in the colon. Prevention is the best treatment, and you should have a doctor evaluate you for colon function, examine the nerve and other energy control patterns of your colon, and possibly suggest dietary changes.

Danger signs indicating that you need to improve colon function are tendency toward diarrhea, constipation, and a foul-smelling stool or gas which may be passed. Normal stool has no odor which is offensive. Remember that correction now will add years to your life and life to your years!

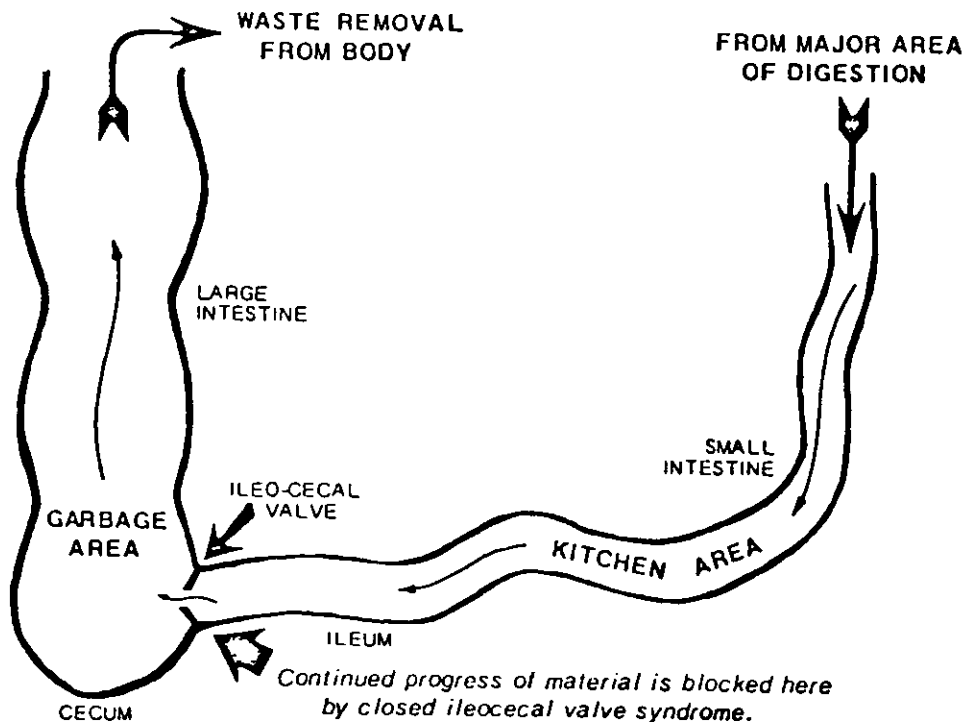
Closed Ileocecal Valve

The ileocecal valve is a valve between your small and large intestines, which is under nerve control, and which holds material in your small intestine until digestion is complete. The small intestine is equivalent to the kitchen area of your bowl, because it is where the major amount of food absorption takes place, and when the process is complete the material becomes waste material which must be removed from the kitchen area, so the ileocecal valve opens to allow the material to go into the large intestine or garbage area of your bowel.

If this ileocecal valve fails to open at times it causes the waste material to stay too long in the small intestine, and since the small intestine is where the major amount of food is absorbed, the body begins to absorb the toxic waste material. Your entire system then becomes toxic, and when your body is toxic the weakest parts in your system, organs and muscles become more susceptible to problems. This is why a closed ileocecal valve can cause so many varied symptoms.

Several steps are necessary to return your ileocecal valve to normal function. Since the valve is under nerve control, your doctor will look for the areas of nerve involvement and correct them, and your ileocecal valve will now function normally. The problem is that it is very possible that the condition may return during the next two weeks unless certain precautions are taken to avoid re-irritation of the valve. For these two weeks you should follow proper dietary recommendations, and possibly supplement your system with calcium and/or Vitamin D, and your doctor may advise you to stimulate certain nerve reflexes.

Schematic of normal movement of material in the bowel



The ileocecal valve syndrome is found quite frequently in the general population and is responsible for a myriad of symptoms. It is sometimes called "the great mimicker" because it can produce shoulder pain, sudden low back pain, pain around the heart, dizziness, flu symptoms, pseudo bursitis, pseudo sacroiliac strain, tinnitis, nausea, faintness, pseudosinus infection, pseudo hypochlorhydria, headache, sudden thirst, pallor, dark circles under the eyes, bowel involvement. These symptoms usually improve after getting out of bed and moving around, and usually intensify upon staying in bed.

You should eliminate from your diet all roughage foods (popcorn, potato chips, nuts, seeds, whole grains, etc.), RAW fruits and vegetables (celery, cabbage, lettuce, carrots, apples, oranges, salads, pickles, tomatoes, etc.), and spicy foods (chili, peppers, tacos, black pepper, paprika, cinnamon, etc.) You should also eliminate ALL liquors and alcoholic beverages, cocoa, chocolate or caffeine products.

Open Ileocecal Valve

As described under "Closed Ileocecal Valve" this valve's function is to see that the waste products proceed into the large intestine after the food material has been processed and absorbed in the small intestine. When the ileocecal valve is functioning properly, it prevents any backward movement of this material back to the small intestine. If the ileocecal valve remains open you might obtain relief by holding it closed, usually for several minutes before relief is obtained. A cold pack is of value in long-standing, difficult to treat "open ileocecal valve syndrome." The cold pack is made up of cold tap water (not ice) and placed over the valve and allowed to warm for approximately 20 minutes and replaced if necessary.

Cholesterol

In recent years there has been much written about cholesterol and its effect on the body, and anyone who has read much of this material has every right to be confused about the subject. The original thoughts about cholesterol were developed from research material indicating that plaque, or buildup in the blood vessels, is a result of elevated cholesterol levels in the blood stream. This buildup is very similar to the buildup that takes place in a water pipe which has been in service for a long time, which buildup is developed from minerals in the water attaching to the pipe, and takes a long time. Eventually it narrows the lumen, or opening, of the pipe enough to restrict water flow. When this same thing happens in the arteries it is called atherosclerosis and will eventually interfere with blood circulation throughout the body.

Circulation to the heart is also usually impaired. The coronary arteries are the small arteries which give nutrition and oxygen to the heart muscle. With atherosclerosis there is a narrowing of these arteries and a very great chance of shutting off the heart muscle's blood supply, which happens when a small clot develops somewhere in the body and floats up to the coronary arteries and blocks them, since they are already narrowed. This is the most common type of heart attack, a "coronary thrombosis" or "coronary occlusion." The heart muscle, having lost its nutrition and oxygen, dies.

The most popular approach to controlling cholesterol buildup in the arteries is to drastically reduce cholesterol intake from foods, which seems realistic on first consideration. The logical approach is to reduce the intake of any item when you have too much of it, but when all of cholesterol's factors are taken into consideration, this approach is unrealistic.

Cholesterol is not, as many people believe, a totally unwanted substance in the body; it is the raw material which makes up many hormones; it lubricates blood vessels to keep the friction of the blood from wearing

away artery walls unduly; it is the substance from which the basic male and female sex hormones are made; the brain itself contains a very high percentage of it; several hormones of the adrenal gland are made from it; in other words, normal levels of cholesterol are absolutely necessary for the life process.

Only about 20%, or one-fifth, of the body's cholesterol comes from the food we eat. The other 80% is manufactured in the body, primarily by the liver, and when we reduce cholesterol in our diet, the liver and other tissues manufacture increased amounts of it. This fact alone should make us question the wisdom of reducing cholesterol in our diets.

Cholesterol is Necessary: It is obvious that cholesterol is necessary for life and health. There have been some interesting transitions in cholesterol utilization just during this century. Not long ago it was the consensus of opinion that "normal" cholesterol levels were between 150 mg% and 250 mg%, but in more recent years the "healing arts" have revised these figures up to and above the 300 mg% level. Some authorities use different normal cholesterol levels for different age groups—older people having higher cholesterol levels. These figures were obtained by polling the general population, considered healthy.

It is very apparent that as the general population's cholesterol levels rise, so do the incidence of heart attacks, clogged arteries and hardening of the arteries. Heart attacks as we know them today were unheard of at the start of the 20th century.

We know that too high a cholesterol level is not good for health, nor is too low a level. The question is what has caused the change of cholesterol utilization within the body during the 20th century, and the answer is found in the changing of our foods by refining and preserving processes.

There is a primarily preservative process done to fats called "Hydrogenation," which adds hydrogen to the fat molecule and keeps the fat from becoming rancid by making a very stable fat which will not spoil. In doing this, the fat becomes much more difficult for the body to break down for utilization. There are many substances, called lipotropic factors, in natural food supplies. These are essentially fat breakdown factors, which work in your body much the same as detergent works on grease in your dishwasher. When foods are refined many of the lipotropic factors are removed leaving too few in our modern diet, and at the same time hydrogenated fats require far more lipotropic factors for breakdown, so we begin to see a dietary deficiency as a result of these refining processes.

In addition, when a person is placed on a so-called low cholesterol diet it creates a greater deficiency. In most instances, nature has provided a high amount of lipotropic factors in the foods that are high in cholesterol. A good example is an egg, which has a very high cholesterol content—but it also has a very high level of lecithin, choline, and inositol plus other factors which are all lipotropic in nature. We cannot tamper with nature without interfering with its delicate balance. Since refined foods are the primary reason for the increased incidence of elevated cholesterol, our approach to lowering cholesterol levels by eliminating cholesterol from the diet is very foolish because it just causes the liver to make more cholesterol. Besides, we remove the foods which have the very nutritional products necessary to control the problem.

What Should We Do?: We must return as much as possible to an unrefined diet. It is usually necessary to add some lipotropic factors to the diet in the form of nutritional supplements if the cholesterol level is already elevated. It may also be necessary to utilize certain treatments and nutritional supplements to decongest the liver when it becomes significantly involved with prolonged abnormal cholesterol levels.

After lipotropic factors in the diet have been returned to normal the blood vessel walls and tissues will be cleansed ultimately. This is much like putting a water softener on your water supply, which takes all the minerals out of the water. Running that demineralized water through the pipes will slowly but surely remove the minerals that have accumulated on the pipe walls and the pipes will be clean, but this will take many years—just as the buildup took many years. The best solution is to prevent the abnormal accumulation of cholesterol and its products on the artery walls and in the tissues, and this can be accomplished by periodic monitoring of the blood cholesterol level and following proper dietary principles.

One of the most important factors for dietary regulation or prevention of elevated cholesterol is to eliminate hydrogenated fats. Many, many foods fit into this “hydrogenated fats” category. Most peanut butters have been stabilized this way; shortenings, margarines, and most processed oils that are solid at room temperature are in this category. Palm oil and coconut oil should be avoided because they are highly saturated, even though naturally so. These food products will state “hydrogenated” fats or oils, or use such terms as “hardened for easier spreading,” “fats stabilized by hydrogenation,” etc.

Eggs, butter, and many other natural food products are good food items, although also high in cholesterol. As stated, these natural food products contain many lipotropic factors for the adequate utilization and control of cholesterol, as nature intended. You should not eliminate these excellent food products from your diet because of their high cholesterol levels, because your liver and other tissues will just make more cholesterol and you will have a bigger problem because of reduced lipotropic factors.

In summary, the cholesterol problem is “civilization disease”—caused by refined foods. Without adequate lipotropic factors, cholesterol builds up along the blood vessels and in other tissues, especially the liver. This condition is similar to the way grease builds up in a kitchen sink—if you washed dishes day after day without detergent, and never washed the sink, the buildup would eventually be so thick it would break off.

Blood Pressure Level—A Two-Sided Story

Abnormal blood pressure levels are called “hypertension” for high blood pressure, or “hypotension” for low blood pressure. Many people erroneously think that the term hypertension reflects overanxiety or general tenseness.

When blood pressure is not within normal range, a very common treatment is to prescribe a drug which controls blood pressure by working either directly on the nerve system, or in reference to kidney function, or possibly a combination of these two factors.

Applied kinesiology natural health care makes the effort to determine WHY the blood pressure is abnormal and to remove that reason, rather than to control the body.

High Blood Pressure (Hypertension): Most concern about abnormal blood pressure is about hypertension. High blood pressure is involved in heart attacks and strokes, which are death-causing problems. Insurance companies examine the blood pressure of prospective policy holders before issuing life insurance policies, because it is well known that people with elevated blood pressure have a shorter life expectancy. It is important for the future well-being of an individual to bring his blood pressure under control, and this control should be obtained by natural methods if possible, because there are no harmful side effects to the body.

Using natural health approaches, sometimes you doctor will note irreversible disease processes which cause the blood pressure to be high, and recommend consultation with another doctor who prescribes blood pressure reducing medication. Fortunately, in most cases you can avoid the possible harmful side effects of drugs by controlling blood pressure at a normal level with natural methods. Medication is sometimes used on a temporary basis to avoid the possibility of a stroke or heart attack, if possible, while natural treatment is provided for the ultimate control of the blood pressure.

Cerebral Spinal Fluid: One of the most common causes of high blood pressure is improper function of the cerebral spinal fluid. This can readily be returned to normal because of the great advances that have been made within the field of applied kinesiology in testing for and correcting improper cerebral spinal fluid function. The cranium (skull) and the sacrum (tailbone) have a micro-movement—they must be free to move in a predetermined manner, especially with respiration. Sometimes a bump on the head or other injury can cause dysfunction of this mechanism, changing the cerebral spinal fluid flow and pressure. The body automatically adapts by increasing the blood pressure to enhance cerebral spinal fluid pressure. When the cranial and sacral mechanism is returned to normal function, the blood pressure is automatically and rapidly returned to normal. These cranial and sacral faults are examined with muscle testing procedures and respiration assist to determine what type of correction is necessary.

Kidney Dysfunction: When an inadequate amount of blood flows through the kidneys a hormone response is triggered which automatically raises the blood pressure to increase the flow, which is necessary for the body to properly remove waste products. Sometimes the kidney problem is a frank disease, such as Bright's disease, but it may be that a kidney simply isn't functioning adequately although it is not diseased.

Nutritional therapy and attention to the nerve system and other energy mechanisms of the kidney usually give good response and improved kidney function, and the improved blood flow through the kidneys eliminates the necessity for the increased blood pressure.

Anemia: The different types of anemia cause an elevated blood pressure quite often, because the quality of the blood is not good enough to provide the oxygen necessary for body function. To provide more oxygen, the body automatically increases blood pressure to push the blood through. You can correct this high blood pressure by treating the anemia.

Endocrine Imbalance: Hormones in the body influence blood pressure in many different ways. Applied kinesiology evaluates the hormone system for its direct influence on pressure. The applied kinesiologist must also evaluate the endocrines involved with nerve balance. These help control blood pressure by changing the peripheral resistance of the blood by way of constriction or dilation of blood vessels.

Arteriosclerosis—Atherosclerosis: These terms mean "hardening" of the arteries and "clogging" of the arteries. Neither of these processes develop within the body in a short period of time. Abnormal function (probably of triglycerides or cholesterol) must have been present a long time to cause these pathologic developments in blood vessels. Both arteriosclerosis and atherosclerosis cause high blood pressure by increasing resistance against the blood flow, and when the blood cannot flow freely to meet the body's needs, the intelligence within the body automatically raises the blood pressure to increase the flow.

Dietary changes can effect some improvement in these blood vessel diseases, but the outlook for return to normal is very poor if the condition is advanced. These are conditions in which medications may

be needed to prevent a stroke. Unfortunately, when the blood pressure is lowered by medication the individual usually feels lethargic and mentally inadequate because an adequate amount of blood is not circulating to the various body tissues.

The key to preventing arteriosclerosis or atherosclerosis from developing is a good maintenance health program that monitors triglyceride and cholesterol levels and reduces them if they become elevated, before they cause permanent damage.

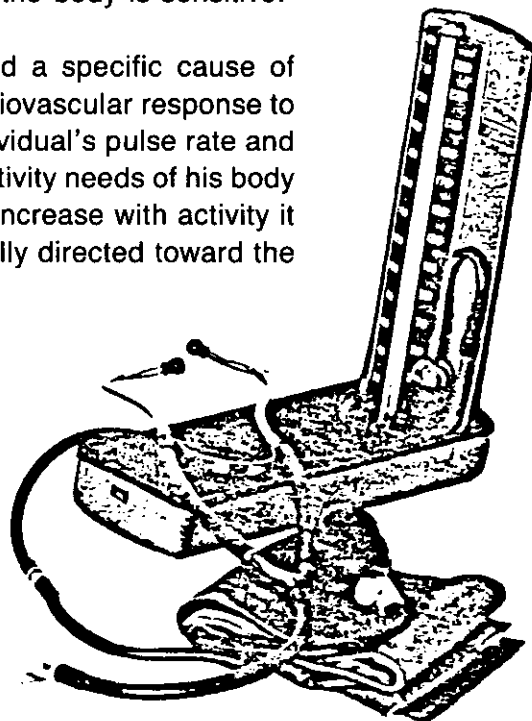
Low Blood Pressure (Hypotension): Low blood pressure is a relatively common condition, which is the cause of many symptoms: easy fatigue, lethargy, and lowered mental activity. Although the condition causes problems, doctors don't usually develop a treatment regime when they find it, because until recently there has been no real therapeutic approach to the problem. Hypotension fits very well into the realm of the natural health care doctor using applied kinesiology, because it is usually a functional-type problem rather than a disease.

Functional Hypoadrenia: Because the adrenal glands regulate mineral ions by way of hormone control there is a lowered total blood volume, through a series of events. Of course, when there is inadequate blood volume there is a lowered blood pressure.

Functional hypoadrenia can also cause orthostatic hypotension, as it is known. This simply means that the blood pressure does not rise as it should when a person stands up. This rise is necessary to effectively combat the effects of gravity on blood volume. A person needs a higher blood pressure when standing than when lying down. Lack of this blood pressure increase upon arising makes a person feel light-headed or dizzy when he stands up. This is usually first noticed in such simple actions as getting things from low cupboards and then standing up quickly. The dizziness or light-headedness is generally gone within five or six seconds as the body attempts to adapt, but normal adaptation should take place immediately so that no dizziness develops.

Chemicals and Drugs: Sometimes low blood pressure is a direct side effect of a drug being taken or a chemical present in the environment, to which the body is sensitive.

Cardiovascular Response: This is not considered a specific cause of hypotension, but there is sometimes a lack of cardiovascular response to exercise. Ordinarily there is an increase in an individual's pulse rate and blood pressure to meet the exercise or physical activity needs of his body when he is physically active. When these do not increase with activity it causes easy and rapid fatigue. Treatment is usually directed toward the lymphatic system, or is nutritional in nature.



Periodic monitoring of blood pressure is very important in a maintenance health care program, and knowledge about blood pressure gives the applied kinesiology doctor a considerable amount of information about total body function. The important point is to find any abnormal blood pressure early and return it to normal before disease processes have an opportunity to develop. Remember that individuals with normal blood pressure will not only live longer, but will enjoy his years of life more.

Uniquely Feminine

Many health problems are primary only to the female: those which correlate with the complex nature of the female reproductive system. Most of these problems respond very nicely to natural health approaches, but if the condition has been allowed to advance to an irreversible disease state a natural approach cannot be used for correction. The important point is to find the problem's cause as soon as possible and avoid this irreversible state.

Dysmenorrhea: This literally means "difficult menstruation, and the woman who experiences it knows all too well the significant symptomatic picture and begins to dread "that time of month."

Hormone Balance: Dysmenorrhea is frequently involved with hormone imbalance. The female hormone, estrogen, is present in both males and females, and the nature of the hormone is exactly the same in both but the concentration is much higher in the female. This hormone gives secondary sex characteristics and is very important in many aspects of the female reproduction function. Estrogen is the hormone responsible for the uterus preparing for a pregnancy, while progesterone is the hormone that maintains a pregnancy. When the ovum becomes fertilized and pregnancy begins, progesterone keeps menstruation from starting and prevents further pregnancies while this pregnancy is developing.

It is very important for estrogen and progesterone to be in proper ratio when there is no pregnancy. Each hormone has its role to perform. Too much estrogen in the estrogen-progesterone ratio inhibits the action of progesterone, whereas the effects of estrogen are blocked by progesterone. This intricate, fluctuating ratio is very important for a normal build-up and discharge of the uterine lining, which is the normal menstrual cycle. If the hormone imbalance is treated by nutrition and other procedures, there may be a disturbance of the normal menstrual cycle while the body re-balances its hormones.

Liver: This organ is of prime importance in the maintenance of the estrogen-progesterone ratio. It is responsible for deactivating estrogen, and also has a part in regulating progesterone. The estrogen-progesterone ratio will probably be off if the liver is not functioning at its peak level of performance, and an improper build-up and discharge from the uterus will develop, manifesting itself in dysmenorrhea. This liver involvement may be caused by dietary problems, blood-sugar handling stress, or dysfunction of body control mechanisms, and/or many other causes.

Glands: The adrenal glands are very important in the reproductive organ hormone balance, and so is the thyroid. These glands play a very intricate role in the total balance of the endocrine system. The "Master gland" is the pituitary—important in its role of controlling the ovaries by the production of the gonadotrophic hormones.

This just touches on a very complex subject. The important point is that reproductive hormone imbalance usually is the result of involvement somewhere else in the body. The simple administration of estrogen in the form of medication does not get to the basic underlying cause of the problem, and the prolonged administration of estrogen will ultimately cause the ovaries to become atrophied (reduced in size). This

happens because estrogen is an inhibitor to the gonadotrophic hormones from the pituitary, whether it is natural in the body or comes from medication. These are the hormones which stimulate ovary activity and the lack of this stimulation causes the body to say, "we don't need the ovaries any more," and they quit working. It's the same as putting your arm in a sling and keeping it there for two years—the arm would wither and become inactive.

Structural Balance: This is another primary cause of dysmenorrhea. The uterus can be tipped or dropped, creating a mechanical problem. This often coincides with muscular weakness, primarily of the major muscle of the floor of the pelvis, called the levator ani. Your doctor using applied kinesiology will test this muscle and return it to normal strength. He may also use some treatment technics for lifting the uterus and returning it to a normal position, unless this situation is so advanced that surgical intervention may be necessary, in which case your doctor of natural health may make a surgical referral.

Severe menstrual cramping is sometimes the result of nutritional deficiency such as calcium, and regaining normal nutritional balance and adequate nerve and energy control of the reproductive organs yields good results.

Amenorrhea: This means "lack of menstruation," which is normal after menopause, prior to puberty, and during pregnancy.

When amenorrhea is present for some reason other than these a general health examination should be performed. This condition can be due to anemia, lack of protein, over-active thyroid, and many other general health involvements.

Amenorrhea can also be caused by hormone imbalance, and sometimes this hormone imbalance is the result of tumor formation. Your doctor will evaluate you for this, and again a surgical referral may be necessary.

After successful treatment has been administered for amenorrhea it is difficult to determine exactly when menstruation will develop, because the body works in a cyclic manner and your natural health approach gives nothing to force the body into menstruation. Therefore, we must wait for a normal build-up and finally a discharge from the uterus, and normal menstrual cycles sometimes begin immediately after treatment is started, while in other cases it takes up to three months to regain normal menstrual cycles.

Menopause: Unfortunately the general consensus of opinion seems to be that women are going to have trouble when they go into menopause, but the normally functioning female does not have significant problems in the menopausal period of life.

Under normal circumstances the adrenal glands mature in their process of forming the female hormones at the same time that the ovaries stop functioning. Although the adrenals do not produce the female hormones in nearly the same concentration as the reproductive system, they are adequate for necessary maintenance. The adrenal glands' hormones take over the function as the reproductive organs cease functioning. Therefore, if an individual has a prolonged functional hypoadrenia (inadequate function of the adrenal glands) the severe symptoms of menopause such as irritability, hot flashes, etc., develop.

If these symptoms develop a woman should get natural health care as soon as possible, but preferably a woman uses a maintenance health approach to keep her body functioning in an optimum manner so that such symptoms won't develop.

Vaginitis: This is an inflammation of the vagina, usually as a result of either bacterial invasion or molds which tend to grow in the vagina. Most often this is because the lining of the vagina has inadequate health and consequently lacks resistance to the invading micro-organism.

The problem can correlate with a sugar handling stress, and cause an excessive amount of glycogen (a type of sugar) to be released from the uterus and the vaginal walls. In turn this sets up a fertile field for the many micro-organisms to grow and thrive in.

Frequently, when vaginitis is present there are colon health problems. The colon should have bacteria for normal function, but sometimes—especially with sugar handling stress—the colon bacteria are improper in nature, and they can transfer easily from the anal area to the vaginal area.

It is also recommended that she take showers instead of baths while recuperating from vaginitis to help avoid contamination.

Libido: Many factors in the complex female hormone system cause a lack of desire for sexual activity. The first approach to the problem is to evaluate the individual thoroughly on a natural health basis, including a thorough physical examination. Most problems significant to females respond very well to natural health care if treatment is started before irreversible pathologic conditions have the time to develop.

There is the usual husband and wife accumulating some sexual incompatibility, with one being a little more active and the other a little less active, and usually the husband and the wife attempt to solve these problems themselves.

In one instance, the husband was quite active, and the woman, although attempting to be cooperative, was not as active, and both asked me for a method to solve their problem—"what I could do?" I said, "Well, the best thing to do is to perhaps slow your husband down a bit," and I said to the wife, "and an appropriate thing would be to stimulate your activities."

So we gave the husband instructions to increase his consumption of fruits and vegetables and reduce the consumption of spicy foods, red meats and those things which traditionally, such as oysters, etc., have a tendency to stimulate sexual activity. The reverse nutritional effect was suggested for the wife. Appropriate treatment was provided for both, and both made a very satisfactory resolution of their problem, and both remarked to me that their problem seemed to be resolved.

It was close to Christmas time when the wife came into my office one day and said, "Both my husband and I are doing very well and we want to thank you for your help and your suggestions. Do you know what I'm getting my husband for Christmas?" I said, "No, I haven't the least idea." Of course, she had been making fruit and vegetable juices for her husband and doing it by hand, and she said, "I'm getting him an OSTRACIZOR," instead of the more appropriate spelling and pronunciation of "OSTERIZER," which, of course, is a type of blender. She thought for a moment, and then asked, "Did I say that right?" And I said, "Well, almost, but I think I get the message."

People are the funniest thing alive. What people say many times is more humorous than any joke that one can contrive.

Chapter 7

WHAT IS BODY LANGUAGE AND HOW DOES IT ALWAYS TELL THE TRUTH?

Why people look like they do

The reason people look like they do is basically posture, and the high shoulder that one sees as opposed to low shoulder on the other side is usually due to a weak latissimus dorsi muscle, or possibly a weak gluteus medius muscle, all on the same side as the high shoulder. The percentile relationship is usually high for the latissimus dorsi, slightly lower for a gluteus medius, and then it starts to scale down pretty well for a possible abdominal muscle weakness. This is a good example. The thing then becomes a little more complicated if the high shoulder is accompanied by a low occiput, head tilted low on the same side as the shoulder being high. It generally indicates a weak trapezius on the opposite side. The postural distortions simply follow the pattern of the muscles, and this is true on a side or front to back basis—in other words, AP and lateral. One simply observes the patient's structure and mentally visualizes or superimposes the muscles and does muscle testing, and the patient's posture is immediately validated.

The concept that structure determines function therefore also has implications; but fundamentally, people look the way they do because muscles are weak with corresponding contractions and the reciprocal or contralateral or antagonistic muscles form the observed posture.

There is also an evaluation of the face itself which involves cranial technic, osseous disrelationships of the skull, bone sutures corresponding to alterations in the skeletal scalp muscles and face muscles, and also the visceral relationship of the face to the rest of the body.

Body language represents the integrity of the body's response to a variety of inputs to its nervous system. Body language fundamentally is evoked by testing the muscles of the body and looking for weakness with its accompanying opposite muscle spasm. Body language, therefore, is the sum total of the information that can be obtained by trying to read the body language.

The high shoulder that one sees in a weak latissimus dorsi is very often seen in diabetes—the more uncontrolled the diabetes the higher the shoulder and the weaker the latissimus. Some diabetics will show a moderately high shoulder but will not show a weak latissimus. But if the patient therapy localized the latissimus, lymphatic circuits or vascular circuits, or acupuncture circuits, or stress receptor circuits, or used a variety of technics which we will describe later, the muscle immediately weakens and the obvious body language becomes clear again.

When the patient exhibits symptoms of an allergy, frequently there will be a bilateral pectoralis major clavicular weakness which is neutralized by the addition of hydrochloric acid and also by correction of certain cranial faults. In the presence of an adequate amount of hydrochloric acid, but the presence of a compensated cranial fault, changing the respiration will quickly evoke the cranial fault pattern and will be obvious on testing.

Very often, too, we will find weakness of the quadriceps muscles on therapy localizing the neurolymphatic receptors for the small intestine.

A weak latissimus dorsi allows the upper trapezius to elevate the shoulder on the side of weakness found on testing, and this produces the characteristic high shoulder that one sees in postural distortions. Also, it is very common when there is an alteration in the blood sugar level—being either too high or too low.

As we have mentioned, the old expression that “he is level headed” is exemplified by the level head, and the person who has a “wrong slant” on something generally does in the terms of the slant of his head. The muscles that literally balance the head, when weak on one side, allow the normal muscle to contract, tilting the head or rotating the head or pitching the head either forward or backward, and as a result we see the characteristic head down or head up or head tilted or head rotated position, which is so characteristic and identifiable.

People look the way they do for a variety of reasons—hereditary, occupational, etc.—but the primary pattern of body structure observation rests upon a balance or an imbalance of the muscles of posture of the body. People who are “forward” generally are ahead of a gravity line; the same is true of “backward” individuals. People who have the “wrong slant” on something generally show this in lateral deviations from the plumb line. “Depressed” people generally show it in posture, as do “stiff necked” and “stuck up” individuals. “Get your chin up” means exactly that, many times. People who “stick their noses in” generally show this forward, inquisitive side of their bodies in an actual way.

There is the old example of the dog and “his master’s voice,” where the dog has his head tilted to one side. This is a listening and sometimes faulty auditory pattern of posture which includes head rotation.

The gluteus medius muscle, which is a “hip holder-downer,” so to speak, when weak causes the hip, shoulder and head to be up on one side; and this causes: first, characteristic posture and tilt, and second, a sort of a rolling gait. The person as he walks feels that he is moving in an abnormal fashion. If the gluteus medius is weak on the left, for example, there will be a rolling gait with the roll being pronounced more to the left, to compensate by movement the failure of the gluteus medius to literally hold the hip down.

We see the same situation when there is a weak soleus muscle, the muscle of the calf, which then allows the whole body to be pitched too far forward from the lateral line. Disturbances in the abdominal muscles caused by weakness fail to pull the pelvis up in the front, and therefore it is dropped in front, causing lumbar lordosis or so-called “swayback” that one occasionally sees in otherwise normal adults.

People look the way they do because the normal muscles pull—because the weakened muscles allow them to. This is also true in facial expressions, and the furrowed brow can be caused by changes in the procerus muscle, the muscle that covers the bridge of the nose and operates along with the corrugator nasi to produce facial expression of the nose and forehead. The wrinkled forehead that one sometimes associates with surprise can be caused by contraction of the occipital frontalis muscle, a muscle that originates from the side of the head at the coronal suture, the suture between the frontal bone and the parietal bone, the bone that forms the lateral portion of the head. The occipital frontalis portion runs from the coronal suture forward, to the eyebrow area, and when contracted due to a variety of reasons can produce the wrinkled forehead.

Usually there is a failure of function of the occipitalis portion or vice versa. Occasionally a Prussian haircut or a brush haircut allows us to see double or triple ridges at the base of the skull near the occipital protuberance. This is caused by the same type of contraction due to weakness of the frontalis portion.

The alteration in the facial muscles many times produces the characteristic facial appearance, and this coupled with the cranial faults which can occur on an osseous basis, produce a characteristic pattern.

The person who walks with a Charlie Chaplin gait usually has failure of the sartorius and gracilis muscles to keep the foot turned in. The person who walks with a flat foot usually has a failure of the anterior tibial and posterior tibial. Practically any gait or posture deformity can be examined and muscle weakness can be shown to be the cause, and the proper measures taken to correct it.

The person who has the flat military back many times lacks function of the psoas muscle, the muscle that runs from the lumbar vertebrae downward and forward over the brim of the pelvis to the lesser trochanter inner portion of the upper femur. This can also be due to the failure of the sacrospinalis muscle to have sufficient tone, or it can also be due to extraordinary tension of hamstring muscles due to weak quadriceps. One merely has to analyze the body's mechanics to identify characteristic posture and then one can, by simple deduction, show where the weakened muscles are.

People look the way they do because of how their muscles produce the postural structure they have, and the key to the postural structure is to find by muscle testing the weakened muscle or muscles and take the appropriate action. There may be blockage of lymphatic or vascular muscles, or it may be a cerebral spinal fluid flow rate block, or there may be an acupuncture meridian disturbance, or there may be nutritional fault, or it may be simply a matter of paying attention to the muscle origin and insertion.

"In man, the lymphatic system is an extensive network of distensible vessels resembling the veins. It arises from a fine mesh of small thin-walled lymph capillaries that branch through most of the soft tissues of the body. Through the walls of these round end capillaries the interstitial fluid diffuses to become lymph, a colorless or pale yellow liquid very similar in composition to the interstitial fluid and to plasma, the liquid component of the blood.

"The lymphatic capillaries converge to form larger vessels that receive tributaries along their length, and joined become terminal ducts emptying into large veins in the lower part of the neck. The largest of these great lymphatics, the thoracic duct, drains the lower extremities and all the organs except the heart, the lungs, and the upper part of the diaphragm. These are drained by the right lymphatic duct.

"Smaller cervical ducts collect fluid from each side of the head and neck. All but the largest lymph vessels are fragile and difficult to trace, following different courses in different individuals, and even, over a period of time, in the same individual. The larger lymphatics, like large veins, are equipped with valves to prevent backflow."

Our health depends to a great extent upon the complex lymphatic system. In contrast to the blood stream which operates under pressure and follows a closed circuit from artery to capillary to vein and back to artery, the lymphatic system flows in only one direction. The initial lymphatics are very small and originate in intercellular spaces. The material gathered here passes along increasing duct sizes until it reaches the lower neck region, where it empties into veins leading to the heart. The ducts are so fragile and so small that they are invisible and many of the ducts have cell walls of only one cell thickness and the fluid that they carry is almost as clear as water, except after a fatty meal it appears white. X-ray films will occasionally demonstrate the lymphatic circulation when injected with a dye and sometimes radioisotopes have been used to discover the track of the lymphatic system in the body. "*Radiological Evidence of Lymphatic Drainage of Bone Marrow Cavity in Long Bones*" 10-1977 4—copyright, Georg Thieme, Verlag Stuttgart.

The lymphatic network provides an all important drainage system or sewer system which is absolutely necessary to our function. To nourish the cells, the capillaries leak out many materials—fats, vitamins, minerals, and so forth, along with other fluids and proteins, and much of this fluid passes back through the capillary wall to be carried away by the veins. The majority of this material is carried by the veins but not all. A percentage of the material is carried off by the lymphatic system; especially in the case of blood protein, the loss of non-retrievable proteins thru the capillary walls would be disastrous.

Recently they have tagged blood proteins with radioactive iodine and they measured the rate at which they passed into lymph vessels. Half of our blood protein is lost in the blood every 24 hours, as was found in this survey, but prompt retrieval of the protein of the lymphatic system neutralizes this constant loss. "*Scientific American*" June 1963—*THE LYMPHATIC SYSTEM*, by H. S. Mayerson, published by W. H. Freeman, San Francisco, California.

The route of retrieval return is well known. A system of minute capillaries, lymph capillaries, collects fluids and passes it along until it reaches the thoracic duct. This is the largest vessel in the lymphatic system. It is about the size of a soda straw and passes upward to the center of the body, emptying into subclavian veins.

The lymphatic streams of fishes and reptiles have lymphatic hearts, so-called, to move the fluid along—man does not. APPARENTLY lymph is propelled mainly by breathing, walking and intestinal activity and muscle action. As the muscles tighten, lymph vessels are squeezed and lymph is pushed along and backflow is prevented by valves located at regular intervals. Spaced along these lymph channels, bean-shaped masses of tissues from the size of a pinhead up to almost an inch long serve as filters. These lymph nodes are very numerous, so that when one is not working another one further along will do the job.

This filter system traps anything that is potentially harmful. Lymph node infections, for example, in an infected finger, can cause pain and swelling in the armpit; or an infected toe can similarly affect the groin, as there are concentrations of lymph nodes in these areas and the swelling and the discomfort here announces that a battle is being fought against the lymphatic system invaders.

The lymphatic system transports many things, especially hormones. It also transports dietary fats. Most fats are not directly absorbed, and with good reason—heavy concentrations of fat destroy red blood cells. The lymphatic system solves this serious problem by absorbing fats in the intestine and then metering it into the blood stream in amounts that can be easily handled. The complex lymphatic system also produces antibodies, and as a matter of fact produces at least about a quarter of the white blood cells that circulate in the blood stream. "*Applied Kinesiology—The Neurolymphatic Reflex and Relationship to Muscle Balancing*"—3rd Edition, 1965—AK Printing, PO Box 551, Geneva, OH 44041.

There are times when the system lacks reserve capacity to handle activity that was due. In the lungs, for example, blood vessels may use fluids faster than the lymphatics can carry away, such as in pneumonia and certain kinds of heart disease, or when irritating chemicals can bother lung tissue. The edema that is caused by this is very serious and unless the lymphatic system can increase its function man literally drowns.

There is a definite link between the lymphatic problems and serious kidney disease, and this is something that we have found also—that the most commonly found lymphatic pattern is a psoas reflex which is

associated with the lymphatic blockage to the kidney. "*Applied Kinesiology—The Neurolymphatic Reflex and Relationship to Muscle Balancing*"—3rd Edition, 1965.

The thoracic duct can very easily bring a part of lymph into the blood. It's the common trunk of the greater lymph vessels of the body except those on the right side of the head, neck and the chest and the right upper extremity and the right side of the heart.

It varies from about 40 to 45 centimeters and extends from the 2nd lumbar vertebra up to the root of the neck and, as mentioned, it is about the size of a soda straw, and it begins by a triangular dilation called a cisterna chyloae which is situated in front of the body of the 2nd lumbar vertebra, slightly to the right and behind the aorta. It enters through the crux of the diaphragm, and opposite the 5th dorsal it goes slightly to the right, passes behind the aorta, and it forms an arch in the neck which rises slightly above the clavicle and crosses anteriorly to the subclavian artery. This anatomical review is repeated for therapeutic potential emphasis.

It sometimes divides into two vessels of equal size which reunite onto several branches, which forms a plexus. It occasionally divides its upper part into a right and left, the left ending in the usual manner in the left subclavian vein while the right one opens into the right subclavian vein. The thoracic duct has several valves at its termination. There are some semilunar valves which are turned towards the veins to prevent leakage of the veins back into the duct.

The cisterna Chyloae receives the lumbar lymphatic trunks right and left and the intestinal lymphatic trunks. The lumbar trunks receive the lymph from the lower limbs in the walls of this or the pelvis. The intestinal trunk, as you would assume, receives lymph from the stomach and intestine. In the neck the thoracic duct is met by the left jugular and the left subclavian trunks where it then enters the left subclavian and occasionally the internal jugular vein, quite often at its angle junction with the right internal jugular vein.

There is twice as much lymph in the body as there is blood and there are twice as many lymphatic vessels as there are blood vessels. The anatomical location of the lymphatic glands does not seem to correspond to the neurolymphatic reflex locations.

There are intercostal lymphatic vessels arranged in a regular fashion between the ribs, but apparently these are not the actual Chapman or neurolymphatic reflexes.

Since the direction of the lymphatic system is fundamentally retrograde with the exception of the head and neck, it seems reasonable that the retrograde flow of lymph would be enhanced by placing the patient in a slightly head down position, in the so-called slant board position.

A patient who had a severe non-responsive anemia, who had been treated by a hemotologist in our city, was referred for additional care. His hemoglobin would seldom rise above 9 grams. With proper nutrition and chiropractic treatment, there was a slight elevation in the hemoglobin from 9 to approximately 10 grams, but all efforts on our part and that of a hemotologist did not elevate the patient's hemoglobin level above this 10 gram maximum.

Kinesiologically, we find a bilateral weakness of the tensor fascia lata which is associated with the large bowel, lymphatic reflex activity in patients who show an 8 gram or lower hemoglobin level. This patient showed that particular pattern, and efforts to improve the lymphatic reflexes for the large bowel and

the fascia lata were successful, but there was no rise in hemoglobin above the previously mentioned 9 to 10 grams. Since the long bones are associated with some hemopoietic effect, it seems reasonable that perhaps, if there is a grievous lymphatic problem, retrograding the patient with the head lower than the feet might facilitate lymphatic drainage because of the natural upward flow of lymph.

When this was attempted in this particular patient, not only did the fascia lata muscles weaken, but every other muscle showed a pronounced weakness on testing, contrary to what one might expect.

In an effort to identify possible causes, an effort was made to induce pectoral traction after the manner of Lincoln Lawson, as mentioned in the "*Osteopathic Annals*" of November 1978. This caused an immediate strengthening of the fascia lata and other muscles, but only as long as the pectoral traction was maintained.

In an effort to understand the modus operandi of this particular situation, it was soon learned that there was a stretch weakness of the pectoralis minor muscle, in this instance on both the left and right side.

Kendall and Kendall show the pectoralis minor to have an origin on the superior margin in the outer third of the 3rd, 4th and 5th ribs, and their cartilages from the fascia over the surrounding intercostal muscles, where it inserts into the medial border, superior surface of the coracoid process of the scapula. It has a tendency to assist in a forced inspiration, according to Kendall and Kendall, but also, as you would imagine, tilts the scapula anterior, and rotates it about a forward axis.

Fundamentally, it is a rib suspension muscle, and when the stretch weakness is found, due to a variety of causes, it impinges upon lymphatic trunks from both the arm and the thorax, and alters pressure gradients into the subclavian insertion of the thoracic duct.

Both subclavian lymph trunks and lymph trunks from the anterior and lateral thoracic walls are directly below the pectoralis minor, which is superficial to the rib cage.

Pressure was exerted on the coracoid process golgi tendon organs of the pectoralis minor in a caudal direction, while simultaneous pressure on the golgi tendon organs at the rib attachments of the 3rd, 4th and 5th ribs near the cartilages, was exerted in a central direction, with a hard pressure being exerted simultaneously on both origin and insertion, and the retrograde position was then repeated. The neurolymphatic reflex and the fascia lata, and all the muscles, remained strong. Four days following this episode, the hemoglobin jumped to 13 grams and has remained there ever since. The patient has made a good clinical recovery and his hemoglobin remains between 12½ and 13 grams, with very little hemotological support.

This procedure of diagnosis by retrograde position was then made a part of our diagnostic survey on patient entrance, and we found a high percentage of patients who showed a failure of muscle function on assuming a 20 degree head down position.

We found both left and right pectoralis minor muscles to have a stretch weakness consistently, and attention to the golgi tendon organs normally produced a retrograde position response, but also made an excellent clinical response in some of the clinical conditions mentioned earlier, such as limb swelling, and infection, and other evidences of lymphatic embarrassment.

There was an associated weakness of the serratus posterior superior and associated hyper contraction of the serratus posticus inferior, and attention to the golgi tendon organs of both of these muscles, along with vigorous rib adjustments to assume a more normal position, resulted in continued clinical improvement. Neurolymphatic reflex for pectoralis minor is found just above the xiphoid process on the manubrium. Manipulate until all pain on pressure has ceased.

Patients can be instructed to have pectoral traction exerted by members of their family so that patients will have an increased movement of fluids during illness, but this is a "finger in the dike" action which is only a temporary holding pattern, and requires implementation by direct action on the golgi tendon organs of the muscles involved. Sources of natural vitamin A—1500 units tablets (S.P.), or emulsified A—(V.M. Nutrifood) T.I.D. is also recommended. Three per day of 1500 unit amount is recommended.

The retrograde flow of lymph, along with the tilting of the patient with his head lower than his feet by 20 degrees, is an excellent diagnostic maneuver to elicit embarrassment of the lymphatic system. Normally the lymphatic system empties into the subclavian vein, but if something obstructs the entrance of the thoracic duct or changes pressure gradients, the additional lymph flow produced by the negative gravity position embarrasses the lymphatic system, the lymphatic system allows the accumulation of lymphatic waste in peripheral tissue spaces of muscles and viscera, producing a marked weakening on testing by the standard methods of muscle testing of Kendall and Kendall.

Normally the tissue flows from interstitial spaces are siphoned into the lymphatic system and then the lymphatics are eventually siphoned by the flow of venous blood into the angulosa venosa. Correction of the muscles involved increases the volume of the thorax in three dimensions, and it helps to establish, along with other technic, better diaphragmatic respiration and promotes the venous return from the rest of the body to the heart.

Frequently, stretching of the pectoral fascia by quick backward movement and also quick forward movement of the arms, produces marked muscle weakness on previously intact muscles, indicating that the fascia itself is shortened and cannot stretch rapidly enough. This is also a factor, since the fascia of the body is both contiguous in one plane, and continuous in the deeper planes.

Pectoral traction, effected by the pectoralis minor activity, affects not only the chest but also the neck and upper extremities. The fascia surrounds muscles and many times requires literally "ironing out" of the fascia, which has assumed a shortened position. The fascia and the muscle normally have a one to one relationship and stretching of the muscle normally increases its tone, but when the fascia is short, stretching the muscle reduces the muscle tone, and therefore this is a very useful diagnostic device.

The fascia becomes a framework network for the neurovascular bundles. It forms conduits for arteries, veins, lymph vessels, glands and nerves. One of the main functions of fascia is to keep these channels open.

Many factors produce a drag on the fascia and attention to the muscle structure as well as the bony structure maintains the normal balance of flow. Blood in large veins, which usually has a pressure of 6 to 9 millimeters greater than the right atrial pressure, which ideally is at zero, may be compromised by pectoralis minor pressure at subclavian areas.

Attention to the pectoralis minor, and if necessary the major, sternal and clavicular, helps restore the patency of the large veins and allows a greater volume of blood to enter the chest, making the linear flow greater and making it easier to fill the heart.

Structural and nutritional correction of the pectoralis minor and associated structures is a simple procedure, the diagnostic requirements for implementation of this activity are simple, it is easy to accomplish in a short period of time, and its therapeutic results are measurable and adequate. We have used it with great success in our practice and it has received a good response from members of the ICAK and other interested groups to which it has been shown.

Experience has shown that the neurolymphatic reflex for the pectoralis minor is located just above the xiphoid process on the sternum and requires vigorous manipulation for approximately two minutes to achieve a good response. It is not necessary to treat the patient in the retrograde position, and in fact this seems to slow down the relatively good response that occurs when the patient is treated in the horizontal position. Therefore, the retrograde position is recommended for diagnosis but not for treatment, and then merely reapplied to be sure the treatment has been adequate.

A simpler method of showing the patient that a great deal of the lymphatic drainage occurs at the left subclavian vein can be demonstrated when the patient is in a retrograde position.

When the muscles weaken in the particular area you are concerned with, have him elevate the left arm directly above his head when he is in the head down 10-20 degrees retrograde position. The muscle weakness that you find in that position is obviated by the left arm being above the head. This occurs about 90% of the time. About 10% of the time the right arm will also produce this effect, and in a relatively small percentage it requires both arms elevated above the head to produce the effect.

Gordon Zink, D.O. and William B. Lawson, Ph.D. had an article in "*Osteopathic Annals*" of November 1978, on the role of pectoral traction in the treatment of lymphatic flow disturbances. In the article they talked about upper respiratory infections, sinus and ear infections, eustachian tube, nose and throat problems, common colds and tonsillitis, lower respiratory infections such as bronchitis and pneumonia, and refractory tennis elbows, sprained ankles, low back ache, and even nocturnal frequency of urination, and the response that occurs from simple pectoral traction. In other words, pulling in a cephal direction on the tissues of the armpit, or in other words, axillary traction. As was mentioned previously, this is a "finger in the dike" technic, but it can be taught to patients to help themselves along while you're treating them.

The retrograde position is especially useful for therapy localizing to vertebral faults, and upon the correction of the structural subluxation, another element may be required. Therapy localization in a retrograde position certainly will be negative, but if the therapy localization hands are placed with one hand over the original area and one hand below the original area there often will be a positive response.

For example, if it was 3rd lumbar area and you made an adjustment on the left of the 3rd lumbar, have the patient place both hands on the 3rd lumbar and it will be negative in a retrograde or horizontal position. If the patient places his hands over the lateral portion of the sacroiliac joint it will be negative, but if he had one hand over 3rd lumbar and the other hand over the contralateral sacroiliac joint it would be positive. It requires vigorous manipulation of the contralateral area below the adjusted subluxated area discussed previously. This is a useful measure in producing a response in many, many patients,

and seems to be a characteristic of much structural disturbance, and is especially useful in the treatment of our ever-present and ubiquitous chronic, clonic, tonic, intermittent torticollis.

The rule is: identify the subluxation, correct the subluxation, therapy localize contralaterally an area immediately below the subluxated area, manipulate the most inferior portion while you hold and reduce in tests to reduce pain or sensitivity or tension in the uppermost area.

Applied Kinesiology—Postural Indices

Many patients require careful chiropractic examination (C.C.E.). Many patients require examination in the three postural modes, standing, sitting, lying. Evidence of subluxation may be present in one position and absent in another. The patient may complain of symptoms in one position and not another. The postural examination is an essential for effective treatment. Body language does not lie; the "leader within" can be approached from without. The opportunity to use the body as an instrument of laboratory analysis is unparalleled in modern chiropractic because the response of the body is unerring. If one approaches the problem correctly and makes the proper and adequate diagnosis and treatment, the response is adequate and satisfactory both to the doctor and the patient. "Numquam mendacium dicit corporea dicit." "Body language does not lie." Learn to understand the language of the body—speak to it in its language and it will respond to you. Man possesses a potential for recovery through the innate intelligence of the physiological homeostasis of the human structure. This recovery potential with which he is endowed merely waits for the hand and heart and mind of a trained individual to bring it to a potential being and allow the recovery to take place which is man's natural heritage. This benefits man, it benefits him individually and collectively, it benefits the doctor who has rendered the service and it allows the force that created the structure to operate unimpeded. Careful chiropractic examination (C.C.E.) produces excellent chiropractic care and vice versa.

Postural Analysis: Analyze the patient in a vertical position, checking the level of the shoulders, the hips and the occiput. Checking the rotations of the arms, the scapulae, the buttocks. Checking the knee for flexion or extension bilaterally. Make a notation of any departure from normal of the spine or any other portion of the body which deviates from the norm. Think in terms of what the muscle does, and then think in terms of what the posture looks like if the muscle becomes weak on one side, and with the compensatory hypertonus on the other. For example, if the latissimus dorsi becomes weak on the right—the attachment of the trapezius on the right pulls the shoulder up, while the uninvolved trapezius latissimus dorsi complex on the opposite side may go into a compensatory hypertonus and depending upon the relative strength of the upper trapezius, the latissimus dorsi, the shoulder usually goes down on that side, adding to the tilt of the shoulder girdle. If the right upper trapezius becomes weak, the left upper trapezius goes into compensatory hypertonus, elevating the left shoulder and depressing the left occiput, producing the elevation of the right occiput, and the descent, under the normal pull, of the right latissimus dorsi, giving the classic upper trapezius pattern. Naturally, there may be combinations of the trapezius and latissimus producing modifications in this relatively simplified pattern just described.

When the gluteus medius becomes weakened on one side, the right for example, the right ilium elevates, the right shoulder elevates, the right occiput elevates, and the patient walks with a gait reminiscent of going downstairs on one side. As the gait continues, the loss of tone allows the ilium to rise, which then causes the body to compensate by over-swinging to the right, and it looks as if the patient is going downstairs on the right, while moving along at a normal pace on the left. This produces the characteristic gluteus medius gait. Many times, if the gluteus medius is weak, on the right for example, and the left

gluteus medius is very strong, it will push or shove the pelvis to the right; at the same time there will be a compensatory movement of the upper thorax to the left, producing the classic situation where the patient going through a narrow doorway will touch the doorway on the right with his hip, and his left shoulder will touch the left side of the door, as he goes through.

You are all familiar with the tilt we find in the weakness of the sternal-cleido-mastoid, for example on the left, causing the occiput to ride on the left and depress on the right, from "righting reflex." This, many times, is complicated by the inter-actions of the upper trapezius and this also may be complicated by actual subluxations of the upper cervical and the occiput, producing unusual structural problems. But body language does not lie, and the subluxation can be identified by challenging, and the muscles can be identified by simple muscle testing. In the presence of a weak teres minor situation, either unilaterally or bilaterally, when the patient stands you will notice that the patient's hands will face forward. In other words, the knuckles will face in a forward direction, as opposed to the diagonal position that the hand generally assumes in a normal balance between the teres minor which extraneously rotates the humerus, and the teres major which internally rotates the humerus.

In the presence of an unbalanced piriformis, the patient will have a tendency to walk with the toes turning in an outward direction on the side of the contracted piriformis, as opposed to the relatively normal gait on the side of the weakened piriformis. The piriformis gait may also be bilateral, in that there may be a slight pigeon-toed walk, the toes turning in; or in the case of a unilateral pattern, one toe will turn out as the patient walks and one toe will face relatively forward in the usual gait pattern.

The psoas, when weak, for example, produces a movement of the spine away from the weakened psoas muscle, but usually produces changes in the femoral head, the femoral head rising and the lumbar spine approaching the raised femoral head, on the hypertonic side. With quadratus lumborum patterns, it deviates to one side or the other with a relatively level pelvic pattern.

Listed are possible deviations with possible muscle weaknesses, which would give you a clue as to which muscles to test when there are changes in postural patterns which are obvious in the vertical position.

Methods for detecting muscle weakness are basically the methods of muscle testing of Kendall and Kendall, from *Muscle Testing*, published by Williams & Wilkins, Baltimore, Maryland, 2nd Edition. There are some errors, some deviations from the norm, in the Kendall and Kendall publication, and especially in the case of the rhomboids. We have found that it is very unusual to find a weak rhomboid, yet time and time again T.S. Line indications would lead us to this test only to find it strong, until we finally found out that the rhomboids were recruiting right and left and left and right, and that if we tested the rhomboid in the seated position, or in the standing position, the opposite rhomboid would recruit and reinforce the rhomboid we were testing. We now test the rhomboids in a side lying position, with the non-tested rhomboid section being placed in such a way that the shoulder in contact with the table is forward of the lateral body line, and the patient is literally resting on his shoulder blade, so it is very difficult for that particular rhomboid to recruit when the opposite rhomboid is tested in the usual fashion of taking the flexed elbow and pulling it away from the thorax, while the patient attempts to maintain this flexed elbow in contact with his thorax. The same is true of the P.M.C. with the opposite pectoral recruiting; cross non-tested arm across thorax when testing P.M.C. in difficult cases.

THE PELVIS, THE ASSEMBLY, AND THE SUB-ASSEMBLY—The osseous relationship of the ilium to the sacrum is unique in that this is a weight-bearing joint with very little motion, yet there is a respiratory

motion on the sacrum, back and forth, in a wobble fashion, between the two ilia. Therefore there is a weight-bearing portion of the ilium and there is a respiratory portion of the ilium, and these basically can be referred to as the iliac boot and the sacral boot, when we discuss the respiratory pattern that exists in sub-assembly subluxation.

Category 1: Torque pattern where there is a disturbance of the respiratory boot on one ilium as opposed to the other.

Category 2: When there is a structural subluxation of one ilium on the sacrum or the sacrum on the ilium; and

Category 3: When the assembly and the sub-assembly of the sacrum and the ilium remains intact and there is a disturbance of the total pelvic unit on the fifth lumbar, or the fifth lumbar on the total pelvic unit.

Inasmuch as we usually examine the patient in a vertical position, both A-P and P-A, and if necessary in a seated position, and then have the patient lie in a supine position, we will deal with Category 2 first: the osseous subluxation of the ilium on the sacrum—since it is most convenient to identify this subluxation in a supine position. Therefore, in a Category 2 situation, one will find a difference in leg length, and since the body is aware of the fact that the ilium has subluxated, for example in a posterior direction—the left ilium, for example, subluxating on the sacrum—the body will be aware of the fact and there will be a therapy localization positive factor present when a patient places his hand on the affected sacroiliac joint, for example the left, and then a muscle such as the pectoralis major clavicular or any other muscle is tested.

POSTURAL DEVIATION

Ears not level:
Shoulders not level:
Hips not level:
Shoulders rotated:
Head level but rotated:
Pelvis twisted: A-P; P-A.:
Hands rotated medial:
Hand held away from body:
Belly hanging out, lumbar lordosis:
Belly curved in, lumbar kyphosis:
Bowed legs—Genu Var.;
Knock knees—Genu Val.;
Knees hyperextended:
Forward lean:
Scoliosis, "C" Curve:
Ankle pronated or pes planus:
Foot turned in (pigeon toed):
Foot turned out:
Ankle supinated:
Difficulty placing hands behind back:
Difficulty raising arm:

POSSIBLE MUSCLE WEAKNESS

Neck muscles, Rhomboids, Sacrospinalis, Psoas, Gluteus Medius, Upper Trapezius
Latissimus Dorsi, Neck Muscles, Gluteus Medius, Upper Trapezius, Deltoids
Psoas, Adductors, Gluteus Medius
Levator Scapulae, Lat. Dorsi
Rhomboids, Abdominals, Trapezius, Sacrospinalis
Psoas, Fascia Lata, Sartorius, Abdominals
Teres Minor
Gluteus Medius, Psoas
Abdominals, Piriformis, Psoas
Sacrospinalis, Psoas
Adductors, Fascia Lata, Gluteus Medius
Gracilis, Sartorius
Popliteus, Gastrocnemius, Quadriceps
Soleus
Abdominals, Sacrospinalis, Latissimus Dorsi
Psoas, Anterior Tibial
Psoas
Adductors, Hamstrings, Peroneus, Psoas, Gracilis
Peroneus
Trapezius, Upper Trapezius, Teres Major, Ant. Deltoid
Serratus Anterior, Rhomboids, Levator Scapulae, Deltoids, Abdominals, Supraspinatus, Teres Minor, Pectoralis Major
Clavicular

You must naturally have an intact muscle to use as an indicator, but if the muscle that you use is intact, and if there is an osseous subluxation of the ilium on the sacrum, there will be a marked weakening when the patient's hand is placed over the involved S.I. joint, and the muscle is tested. This is the primary identifying characteristic. If there is a posterior ilium, the sartorius muscle and the gracilis muscle will both be sensitive and painful to palpation at their origin and their insertion. Therefore, there will be pain on palpation at the attachment of the sartorius, at the upper portion of the ilium, there will be pain over the obturator, at the attachment of the gracilis, and there will be pain over the sartorius gracilis complex as it extends down the medial portion of the lower third of the thigh, and all this will be present on the short leg side.

Therefore, diagnose by pain at the upper groin, pain at the obturator, pain at the medial thigh on the short leg side, to palpation. And since the body is attempting to use the muscles involved to put it back, and is unsuccessful in this attempt, the leg will appear short, much shorter than is possible for the slight amount of movement of the ilium. Therefore, the body's effort to correct it is the means of identification and diagnosis. There will be pain at the first rib head, at the junction of the first rib with the first thoracic vertebra. This pain on palpation will be significantly present when the ilium is posterior or the ischium is posterior, and can be identified on palpation. Frequently the sartorius gracilis muscles will be weak in the clear, or on therapy localization of the neurolymphatic or the neurovascular or the stress centers, indicating that these should be corrected coincident with the actual osseous correction. If there is a posterior ischium there will be pain at the lateral thigh, lower third vastus lateralis, on the long leg side. Again, this is tested in the supine position. There will be pain at the lower groin attachment of the pectineus. There will be pain on the long leg side over the ischium, biceps femoris, and there will be pain at the first rib head on the side of the posterior ischium.

This again represents the effort of the body by way of the vastus lateralis, the biceps femoris, as well as the pectineus of the adductor group. These muscles are attempting to replace the posterior ischium in its abnormal position on the sacrum, and will test either weak in the clear or on therapy localization. The first rib head represents the last fixed point where the body can attempt to pull in an effort to restore both posterior ilium or posterior ischium to normal balance. This is the reason we find the first rib head involved in the osseous subluxation of the ilium on the sacrum. Frequently it is the disturbance in the first rib head in its jammed position that brings the patient to the office in the first place, rather than a pelvic problem, although the pelvic problem many times is the primary reason why the patient is visiting you for the correction potential that you can introduce into his structural situation.

The X-ray evidence of the posterior ilium, as you know, is increased vertical height, and the X-ray evidence of the posterior ischium is decreased vertical height, as opposed to the opposite side, but this in no way gives identification as to the side in lesion; whereas with therapy localization and the elicitation of pain on pressure at the various areas mentioned above, gives us definite evidence as to which side is involved, and is a much more accurate approach.

The correction is simple. The patient is placed in a side-lying position, in the lumbar roll position so to speak, and the ilium is thrust forward with the elbow; or the patient may lie in any position that you may find comfortable to adjust the ilium or the ischium. The method of correction varies very little, from one doctor to another. The basic thing is to get the job done, and the best tool you have is therapy localization and the disappearance of the pain that is elicited on pressure of the various areas mentioned above.

Another less traumatic method is to use the DeJarnette wedges or blocks, and barring possession of these, the patient's shoes. Simply place the 4" high and 6" long wedge or block underneath the posterior ilium, for example, if the patient is in a supine position; and place the other block underneath the ischium, and simply take the long leg and flex it and bring it medially, while you take the short leg and flex it and take the knee laterally. This relatively non-traumatic method allows the patient's body weight to replace the ilium on the sacrum and is effective technic if the osseous disturbance is such that the patient cannot be adjusted easily, or for some reason you do not wish to attempt osseous correction. But here again, the muscles concerned, both in the posterior ilium and posterior ischium, must be balanced prior to this maneuver. Otherwise its effect is very short lived. Ask the patient to stabilize block or shoe position with hands during this technic.

Category 1—or the Torque Pattern, or the Non-Osseous Respiratory Pelvic Fault—is best examined in the prone position. Here again, measurement is made of the leg length. The leg length in itself means nothing, but when coupled with the careful examination of the pelvis, it is highly significant. The first step is to have the patient lying prone, the second is to have him do a double handed therapy localization to the S.I. joint and then use a convenient muscle such as the hamstring or the piriformis, and test it. If there is a Category 1, indicating a torque pattern, the left hand on the left sacroiliac joint and the right hand on the right sacroiliac joint will cause a remarkable weakening of the particular muscle you are testing. It is very interesting to observe that if the patient's left hand is placed on the left S.I. joint all by itself, there will be no weakening of the muscle tested. If the patient's right hand is placed on the right S.I. joint and the left hand is removed, there will be no weakening of the muscle tested. But when the patient's two hands are placed on the two S.I. joints, and it makes no difference whether the left is on the right or the right is on the left or the left on the left or the right on the right—if both hands are placed on both S.I. joints, there will be a remarkable weakening of the tested muscle, such as the hamstring, indicating a torque pattern.

Step #1—Identification by Therapy Localization: The patient is then asked to get up on his hands and knees, with his weight bearing on his knees, with his thighs in a vertical position, supporting himself with his hands on the table. He is naturally in a prone position. Then the piriformis is tested. Interestingly enough, when one tests the piriformis in a flat, prone position, you will generally find no piriformis weakness; but if the piriformis is tested in the knee position, with the weight bearing on the knees, invariably you will find a weakness of the piriformis on one side or the other, and the weakness of the piriformis always coincides with the double hand therapy localization to the S.I. joint. So now we have the presence of a weak piriformis, which can then be tested by respiration assistance, and we usually find in these instances, an inspiration assistance, although this is just an average. Fix what you find, and find what you fix. Under these conditions, simply test the piriformis while the patient is weight bearing on his knees, and see which phase of respiration causes a return to normal, and act accordingly. If inspiration assists it, simply move the sacrum forward at its lower third and use a cranial contact, pressing the mastoid process forward; or if expiration assists it, as it occasionally does, move the mastoid process backward, toward the occiput, while getting underneath the sacrum and moving it in a posterior direction coincident with expiration. Activate the neurolymphatic reflex and neurovascular to the piriformis and then recheck the piriformis in the weight-bearing position. You should get a good response. Then replace the patient on the blocks, the right block being maintained underneath the femoral head, that is the short leg side, and the left block being placed underneath the anterior superior iliac spine on the long leg side. Naturally, use vitamin E for nutritional support, challenge nutrition following respiratory challenge.

The double hand contact to the S.I. joint will give you the joint in lesion, and is the respiratory boot of the ilium that has disturbed the ilium in its relationship to the sacrum, that causes the double hand contact to the S.I. joint to be a positive indicator.

If piriformis is negative, check for rare gluteus medius or maximus, using standing weight bearing. Activate NL or NV or cranial or nutritional and proceed to adjust non-involved side of S.I. joint of Category 1.

Step #2: In case of negative piriformis, etc., on weight bearing, have patient straighten spine, still supporting himself on knees; test neck flexors. Use a double hand contact on the sacrospinalis, first on the right, placing one hand just above the crest of the ilium, placing the other hand just above the other, with one hand above the other side by side, not superimposed on one another, but with one hand superior and one hand inferior, covering the area basically of the quadratus lumborum and the sacrospinalis. Test the neck flexors. Repeat this on the opposite side and test the neck flexors or other muscle. If there is involvement of the sacrospinalis or quadratus lumborum, the double hand contact to the one side will cause a blowout or a weakening of the muscle. Test again using respiratory assistance.

If one gets a positive sacrospinalis, quadratus lumborum indicator, using the double hand contact to the sacrospinalis, use the neurolymphatic reflex to the involved sacrospinalis. This is to be used on the side that produces the muscle weakening on the double hand contact, and therefore one contacts the neurolymphatic reflex to the sacrospinalis, which is at the umbilicus on the same side as the weakness, just above the symphysis pubis on the same side of the weakness, and at the tip of the 2nd/lumbar transverse process, and at the lateral border of the 12th rib for the quadratus lumborum. Activate by hard heavy pressure at the previously mentioned neurolymphatic reflexes, and recheck after 30 or 40 seconds, using therapy localization, using both hands on the same side; and normally this abolishes the response, except in instances where there is a cranial fault which should be corrected by either inspiration assistance or expiration assistance, as you well know. Use ACP for nutritional support.

It is a wise procedure at this time to initiate a block position, and it may also be introduced prior to activity to the neurolymphatic reflex to the involved sacrospinalis and quadratus lumborum previously described. The patient is placed in the prone position, and the block or the wedge is placed on the short leg side, underneath the acetabulum, on the long leg side underneath the anterior sacroiliac spine. If you do not possess blocks, a pair of the patient's ordinary shoes will suffice, but I highly recommend the blocks under these conditions. They can even be made of styrofoam and padded with appropriate padding and then covered, but the blocks are also available from the DeJarnette source, and they are very useful, and I highly recommend them.

Therefore, construct on a non-involved side, two small squares with your marking pencil to represent the respiratory boot of the ilium and the respiratory boot of the sacrum, and these two small squares should be like a couple of matchboxes placed against each other. They should parallel each other. Whereas, on the opposite side, on the involved S.I. joint side, on the respiratory boot involved side, if the ilium is posterior, then the respiratory boot has moved inferior. If the ischium is posterior, then the respiratory boot has moved superior. Therefore, we construct the small matchbox square in the same position on the opposite side as one has on the sacrum, since the sacrum is not involved at this time. It depends on the relative position of, shall we say, the right leg. If the right leg is the short leg that means the posterior ilium condition exists, and therefore the iliac boot has moved inferior. If the right leg should be the long leg, then the iliac boot has moved superior, and therefore construct your little square accordingly. Then adjust the intact respiratory boot side by repeated sharp short thrusts (approximately 10) in such a direction as to normalize the respiratory boot of the ilium on the opposite

side; and in the usual pattern, one would be adjusting the relatively long leg, which one can call the posterior ischial side (on the block, placed at the anterosuperior iliac spine) and using that as the intact joint side, biting the intact S.I. joint side down to match the relatively inferior position of the ilium. The same would be true if it were the opposite situation. The idea is to adjust the intact side to line up with the disturbed side. We have not found it necessary to apply any adjustment to the other side other than as mentioned above. In other words, we do not adjust the involved S.I. joint side at all. We have found by therapy localization that this is not necessary and many times produces a problem. Here we differ with my good friend Dr. DeJarnette.

The same procedure is followed in a "crest" sign. If the quadratus lumborum and the sacrospinalis are involved, one adjusts the UNINVOLVED S.I. joint combination to the involved side, and the procedure for adjusting is exactly the same and the number of slight adjustments given in the proper direction depends entirely upon, first, therapy localization to the S.I. joint disappearing, and second, disappearance of pain on palpation at the first rib head on the involved S.I. joint side.

We have found that in the crest sign we frequently find that correction plus adequate quantities of A.C.P. are valuable, whereas in the piriformis involvement we find adequate quantities of Vitamin E are valuable, and we have found in the osseous subluxation, the use of veal bone calcium is a valuable adjunct to maintenance of the proper correction of the osseous subluxation, of the Category 2. May I repeat that you do not adjust the involved S.I. joint side of Category 1 (torque type)—you do not adjust the S.I. joint side which showed therapy localization on a positive basis. We use the intact side to line up the intact S.I. joint on the lesioned respiratory boot mechanism on the ilium. This affords a smooth and easy continuity of normalization and seldom needs to be repeated, and gives a good response and balances the pelvis very adequately. Many times this is the primary fault, and a great many of the patients we see fall into this Category 1 procedure.

This primary fault is present in many, many different ailments, and is as important as doing a blood count or a blood sugar in blood chemistry. In structural analysis, the correction of the various disturbances of the pelvis as a unit or sub-assembly are as fundamental as the most basic blood chemistry.

Category 3 involves an intact pelvis, no therapy localization to the S.I. joint, no double hand contact to the S.I. joint or the sacrum, produces a therapy localization indicator. Here again we use the simple therapy localization—now to the fifth lumbar, fourth lumbar, third lumbar, second lumbar, first lumbar areas—and both on a double hand and single hand contact. Attempt to find the area of lumbar involvement and then use vertebral challenging to find the correct direction for the adjustive thrust. This category is a relatively simple one and you have no great problems. One gets a ready response diagnostically on a therapy localization basis and then one can simply vertebrally challenge in the usual fashion to verify the structural position—remembering the cardinal rule that when you challenge vertebrae, you always adjust the vertebrae in the direction that produces weakness.

A brief outline of postural patterns has been presented. A preliminary technic for pelvic analysis and correction has been described with muscular relationships to osseous and respiratory patterns.



Chapter 8

WHY POSTURE, A LEARNED CORTICAL REFLEX, HAS NOTHING TO DO WITH HOW WE STAND AND HOW WE SIT

Most of us are familiar with the concepts of Alexander, who felt, along with Magnus, who first discovered it and published his material in 1924, that the postural center is at the base of the skull. Most of us also remember that the so-called "rabbit punch" was outlawed in pugilism because of its deadly effect, and it was really due to the nerve system of the posture center that this particular mode of attack was used. The original article, published in the book of reprints on "Posture" dealt with a lot of Alexander's ideas, and copies have been available for some time.

A copy of this "Posture" material is included on the following pages.

"Many people ask me about posture. You don't choose your posture, your posture chooses you. It is my job to treat and adjust any and all departures from normal of your body, back to normal position and function

"You can help by observing a few simple rules regarding the proper use of your body. Poor use of your body produces many ills, perpetuates many others and prevents full recovery from many conditions.

"At the back of the head and the upper part of the neck there exists a vital region which controls the brain and the body as a unit much as the central exchange controls the telephone system. This area is the "primary control." Good postural patterns can become a 'conditioned reflex pattern' that 'brain-washes' for a good purpose, since no one has ever taught you to stand, sit, or walk.

- " 1. The weight of the body should rest chiefly on the rear foot. In other words, on the heels; put the hips over heels; the movement starts at the ankle and the hips should go back as far as possible without altering the balance effected by the position of the feet and without deliberately throwing the upper body forward.
- " 2. In standing the feet should seek a normal base; the most perfect base is obtained by setting the feet at an angle of about forty-five degrees to one another. Defects become exaggerated as this angle decreases, the back hollows and the stomach protrudes.
- " 3. Breathe naturally so as to allow the chest to WIDEN at the bottom of the rib cage. In other words, widen the back at the lower ribs, lengthening the spine at the same time.
- " 4. Let the shoulders hang DOWN like a couple of old wet raincoats hanging from a couple of hooks. Do NOT throw them back. You will find the hanging position brings your shoulders down as far as they will go, which is their proper position
- " 5. Dangle both arms; let your forearm dangle from the elbow, the hand from the wrist, and the fingers from the palm.
- " 6. Don't forget to allow the lower part of your chest to expand largely sideways. Do not sniff. We live at the bottom of a sea of air; you need not think about your breathing; think only of expanding and contracting your ribs—let the air in.

- “ 7. Now comes the most important part, the position of the head. Let the head be forward and up. This may sound complicated but just imagine putting your head about a fourth of an inch forward of the position it normally occupies—not down, not back, not up, but forward. Do not crane your neck but merely PUT it ever so slightly ahead of its usual position.
- “ 8. The properly coordinated person stands with the back of the hands facing forward, the thumbs inward, and the elbows slightly bent outwards. Where the human machinery is concerned, Nature does not work in parts but treats everything as a whole, so now you must coordinate all these parts by a mental resolve. This allows your body to stand naturally as the good Lord intended, and like having good mental and moral habits, these new BODY habits quickly can become a part of you with better health and better appearance and better function as a reward.
- “ 9. Sitting down and standing up require a few more bits of advice. As you go to sit down, follow your usual inclinations but press the knees together as you lower yourself into the chair or seat. Reverse the procedure as you rise, press the knees slightly outward.
- “10. For example, sit in an ordinary chair with a straight back. Place your feet lightly on the floor, a few inches apart, calves as near to the edge of the seat as possible, but not touching it. Let your back rest against the chair, hands relaxed in your lap. THINK—‘Head forward and up, neck relaxed, spine lengthening, back widening.’ The rib widening straightens your back. Now tell your hip joints to bend your torso forward in the chair; let your knee joints go forward and away from each other; bend your hips and ankle joints; and the next thing you know you are on your feet.
- “11. The movement of sitting down is the reverse of getting up. Give yourself the four orders in quotes above; let your knees go forward and come together, let your hips go back and your ankles forward, and you will find yourself lightly as a feather seated well back in the chair with your torso bent forward from the hip joints. Keep this position for a second, think for a split second of those four orders, and then order your hip joints to bend and you will find yourself gracefully seated upright. All good actors and actresses sit down and get up this way, that’s why they’re such a delight to watch. It is the power of movement that makes the great actress or actor, not just static good looks. This kind of attractiveness of poised and controlled movement makes those that have the secret stand out from others. Use gravity to help you, not harm you.
- “12. Walking can be a pleasure if it is done properly. Stand in front of the first step of some stairs; place your right foot on the first step with the weight of your body on the left heel, as is normal in standing. As you transfer the weight from the left heel to the left ball of the foot to go upstairs with your left foot, you must spring forward on the ball of your foot. Walking is like going upstairs, but on the flat. In other words, you spring forward slightly on the ball of your foot while you walk and your heel lifts as you walk. This produces a beautiful movement which is never fatiguing and is literally a treatment for your circulation and your spine.

Chapter 9

HOW POSTURE AFFECTS PAIN AND VICE VERSA, AND HOW TO TREAT PAIN IN ANY AREA

We had a patient present herself in the office whom we hadn't seen for about a month, who looked as if she had had some postural deterioration and also been diagnosed by a podiatrist as having had a Morton's neuroma, a very painful condition between the first and second metatarsals, painful to pressure and painful on ambulation and painful on weight bearing; and had been treated by the podiatrist with anti-inflammatory substances and special shoes and special foot casts for insertion into her shoes.

Because her posture had changed and because Dr. Robert Resnick, one of our associates, had not seen a case of Morton's neuroma, I thought it would be interesting for him to observe it. As she was in pain while standing, and because her posture seemed to have changed somewhat, I suggested that before we began to treat the Morton's neuroma, I would make efforts to identify her postural pattern. She was asked to stand, and as in the accompanying material from Alexander, we asked her to 'put her hips over her heels by rolling back at the ankle—make her chest wide by taking a deep breath in and out—drop the shoulders down like a couple of wet raincoats'—then literally "put her head ahead." I had previously palpated the pectoral muscles on the anterior, the neck muscles, the lumbar muscles, and the buttock muscles, all of which were very sensitive to pressure.

When she assumed this particular posture, as she had done many times in the past, using the postural technic of Alexander, there was a great decrease in the amount of subjective pain on palpation. She looked at me with surprise and mentioned that the pain in the Morton's neuroma which had been bothering her had suddenly stopped. It was suggested that perhaps the change in weight bearing was responsible for the cessation of pain, and I asked her to lie in a supine position and repalpated the pain in her right foot in between the first and second metatarsals, and the evidence of the Morton's neuroma was once more present.

I asked her to imagine the pain was gone, and naturally the pain remained. I then asked her to imagine that she was standing. The pain remained. I then asked her not to imagine it, but to actually do the postural technic while supine—put the hips over the heels, the chest wide, the shoulders down, the head ahead—and the pain stopped subjectively and also stopped on pressure palpation, much to Dr. Resnick's surprise and amazement, not to mention my own.

He asked me what could be the basis for relief of pain, and I suggested to him that when I had asked her to do that particular postural set of exercises, I felt the metatarsals rise in the foot. Posture really has nothing to do with how we stand or how we sit; posture is a series of learned cortical reflexes which everyone has and has had since the very first time they stood up and began to walk.

The learned cortical knowlege was learned perfectly—but by a process of time, attrition, and perhaps trauma attrition, we have forgotten some of what we have learned. Therefore, we have to not RELEARN it but REMEMBER it. It is just as if you were playing tennis and forgot to bend the knees on a particular shot on your backhand. You wouldn't have to learn how to hit your backhand all over again, or anew, you simply would try to remember to look at the bottom of the ball or to bend the knees, or both, to accomplish the lofting of the ball over the net by an easy motion of the knees.

It is just as if you have a credit card which allows you to order room service. We don't have to buy the hotel, or the room service dishes, or room service cooking equipment. We simply pay for it in that particular fashion. You have an automatic credit card, which is your posture, and that postural index that you once learned can be reused if you know that you have it. We therefore teach patients to practice the postural exercises while lying down to reinforce the postural control that we all have as our right, and that we are all heir to.

As you recall, the original material, by Magnus, who published his material in 1924, was corroborated in 1926 by Professor Coghill of the Worcester Institute in London. He found that all movements were governed centrally from the place where the head joins the neck. And in 1937, Dr. Mungo Douglass, in his book entitled, "Reorientation of Viewpoint Upon the Study of Anatomy," said the stupendous importance of these discoveries cannot be realized.

Excerpts from this book are included on the following pages:

"Two important discoveries in the last thirty years have led to vantage points from which anatomy can be re-viewed. Firstly, the late Rudolph Magnus of Utrecht revealed that the use of the head and neck in relation to the torso conditioned uses throughout the body. Written anatomically this would be thus—that groups of muscles in their working as well as adjusting the relation of parts to parts do work which is, in fact, a linking in a chain without which assumedly specific action in more ultimate parts could not occur.

"Secondly, and more important than Magnus, F. Matthias Alexander of London, studying living men and women in use, observed that, although all human beings were provided with the same mechanism, divisible into anatomical elements, these elements in use showed a diversity of structure as elements and as a means to produce human edifices of bewildering variation. The observation was not of similars varying in magnitude for that was an observation to be expected and accepted as in the course of things; but of similars directed without law to utter dissimilarity.

"From his studies Alexander was able to deduce certain conclusions which anatomically may be written thus, that there were certain functions certain groups of muscles could not be considered to perform, although human beings so used them, and for the reason that, firstly, from such use obvious hurt resulted to the mechanism in part or whole, or secondly, functions in ultimate parts were hindered or stopped.

"Proceeding further he discovered that by using that function of the central nervous system called inhibition, certain usages of groups of muscle could be stopped, whereupon the remaining usages of these groups could be used both to produce movements of parts about joints, and maintain relations of parts to parts with least friction.

"Essentially he discovered that these usages of groups of muscles lying in the neck posterior to the spine were those that first must be inhibited before it was possible to permit all groups of muscles to perform movements of parts about joints, and maintain relations of parts to parts, with least friction.

"Viewing anatomy in the light of these discoveries it is seen that the function of muscles is two-fold, namely, movement of parts about joints, and directive of part to parts, with least friction.

"Basically it becomes essential that anatomy shall recognize that the relationing function of muscle is the primary function of muscle, and that movements of parts upon parts is secondary.

“Secondly, it must be recognized that the primary relation upon which all more ultimate relations depend is that relation established by the small group of muscles which comprise the atlas-occipital, atlas-axis system.

“The stupendous importance of this relationing function of muscles cannot be realized by the mere description of its existence. The failure to recognize the conception is charged with a heavy responsibility since it means the approach to all living, and human endeavor with but an imperfectly formed knowledge of physiological means.”

Then you all remember from the article on “Posture,” that, in the case of flat feet, it was mentioned that the President of the British Medical Association, in his Presidential Address of 1926, said, “Please note that Alexander was not interested in the foot. What he did was to teach the patient how to use the brain and muscular mechanism. In the process, not only did the disability associated with dropped arches disappear, but the dropped arches rose.”

An extract from Dr. B. Kinnear Wilson’s “Modern Problems in Neurology” (page 130), is most explicit as to the influence of the head in determining every attitude of the body, but like every other authority gives no indication as to what muscular mechanism causes the “displacements” or movements of the head. This is the extract: “The apparatus for the auto regulation of attitude must be in being if cortical excitations are to effect movements and acts. Winekler expresses the same idea when he says ‘that with each displacement of the head a given attitude of the whole body is determined’ and it follows that for ‘each voluntary movement’ the body finds itself in such a position as to enable the appropriate contraction of the muscles to be attained at the moment of production of that voluntary movement.

We have found that attention to the postural reflexes by self education of the patient for a short period of time—two or three minutes in the morning and two or three minutes at night while the patient was still recumbent, is of remarkable value in reinstating various posture factors which the patient already knows but has literally forgotten.

In an excellent article in “QUEST” for December of 1978, Feldenkrais showed that the ability of the body to know the postural pattern of the foot could be readily demonstrated. He took a book and placed it on the recumbent patient’s foot and rapidly moved the book back and forth and left and right while in contact with the patient’s foot. While pressing upward on the patient’s foot he told the patient that his foot was on the floor. Then he changed the position of the book rapidly, angling it downward, upward, angling it left and angling it right—in other words, giving all the motions of the foot. Since normally the foot follows the changes in floor level, it would seem reasonable that the foot would do so. The capacity of the foot to follow the rapid changes of movement of the book is easily seen, and it is a good demonstration of what the body is capable of doing when given the right stimuli.

The body has the capacity to balance itself to a good postural level and simply requires re-education. Many times the patient feels that it is the doctor’s responsibility to alleviate the symptoms, and this method of postural analysis and control makes the situation a two-way street where some of the responsibility for the patient’s progress is placed upon the patient as well as the doctor. Here again it is a more wholistic position and certainly a very valuable one in terms of general patient maintenance.

One of the interesting things about this particular development was the rapid cessation of pain from a variety of causes when the patient put himself into the right postural pattern. It was astonishing, for example, how pain from trauma of the hand being hit by a hockey puck in a hockey game—the trauma of

a fall producing damage to the shin bone—the repeated injuries of a variety of injuries on the foot in the usual sprained ankle patterns—and the rest of the traumatically induced pain that many people are subject to—responded remarkably well to simple postural correction on both a subjective and objective basis.

The Melzack-Wall system is still a valuable and useful approach in relieving pain, but here is a method by which the patient can also help himself. An interesting feature of this particular postural pattern was that any diagnostic capacity that one can elicit from the patient can be eliminated immediately by having the patient present four of the postural patterns. In other words, do a Therapy Localization, do the S.I. Joint Therapy Localization, do Lumbar, Cervical, Dorsal or any other, (Ileocecal Valve) in any area we have found useful in Applied Kinesiology.

The patient is then asked to do the four basic factors for posture: Hips over the heels, chest wide, shoulders down, head ahead—and the indication for Therapy Localization immediately stops. This tells the patient that he in a way is responsible for much of his own problem.

It does not absolve you of the need to correct the problem, but it does show the patient that he is also the source of the problem, and therefore he must assist in the mode of correction.

In this particular regard it is well to recall that the crura of the diaphragm, as you know, lies on the anterior surfaces of the bodies of the lumbar vertebra. The right, which is longer and larger, is attached to the upper three lumbar, while the left arises from the upper two lumbar vertebrae.

In the diaphragmatic esophageal hiatus is a button shaped opening lying in an A-P direction from front left to rear right. The right diaphragmatic crura and tendon cross the medial fibers to the left on the left side of the hiatus. The hiatus is at about the level of the 10th dorsal and naturally its occurrence in the diaphragm about 30 mms. on the right and 20 mms. on the left changes this level. The diaphragm is at its highest level when a patient is lying on his back.

The recumbent position when commencing to sleep is the position that many patients frequently say seems associated with a hiatal hernia digestive problem.

The use of the postural technic also greatly aids most patients that have a hiatal hernia, and it is a most interesting thing to remember this anatomical configuration spoken of here

Another element to consider is that the normal contra-rotation of the lumbar spine with flexion extension, spoken about by Ilii in his book, "The Spine," may also have a counterpart in the respiratory activity of the diaphragm producing mild countertorque coincident with respiration. As a result it may greatly improve spinal fluid flow rates, and this may be another reason why the postural pattern has such a salutary effect.

Some patients who show poor proprioception respond well to postural corrections, but many do not. A constant finding in those who responded poorly was negative vertebral Therapy Localization. But when Therapy Localization to cervical and lumbar was accomplished in weight bearing, in sitting up, or standing, all difficult patients showed cervical and lumbar vertebral Therapy Localization at 3C and 3L, some only at 3C, very few only at 3L.

Investigation by vertebral challenging showed constant positive findings of posterior 3 Cervical and posterior 3 Lumbar. Adjusting in prior posture released these segments, neutralizing weight bearing Therapy Localization and eliminating vertebral challenge and greatly improved posture and capacity and ability to respond to postural correction and other therapy.

Postural Indications

We measure the plumbline pattern on every patient, while the patient stands in a plumbline—which can be easily constructed from a simple nylon line and weight such as a fishing “head sinker”—or one can purchase posturometers from various sources advertised in our journals.

For example, if the patient’s spine was left of the plumbline, an adjustment direction should be given to bring the spine back to the plumbline. A simple skin marking pencil can be used to recall this to your mind when giving structural corrections. If the patient’s spine is to the right of the plumbline, for example, spinal adjustment should be given from right to left.

The patient whose spine is to the right of the plumbline, and the indication for adjustment therefore is from right to left, and the adjustment by vertebral challenging indicates left to right, put the patient’s spine into an overcorrected position on the table bending to the left and make the adjustment in that position. Then resume challenging and corrections under those conditions.

In other words, when the patient’s spine is to the right of the plumbline and the adjustments which should be given from right to left have to be given from left to right, simply put the patient’s spine into a strongly left bent position when that particular adjustment is given, so as not to disturb the balance. The same is true if the patient’s posture is anterior of the plumbline. The plumbline should strike the patient in a lateral position through the lateral malleoli, through the center of the knee, through the center of the hip, through the center of the shoulder, and through the TMJ disc slightly anterior to the external acoustic meatus.

If the patient needs anterior plumbline adjustment, any adjustment given from posterior to anterior will greatly increase the patient’s distortion even though the adjustment may be accurately given. The same is true if the patient is posterior of the plumbline; any adjustment given from p. to a. will be beneficial, but a. to p. will be a negative pattern. Therefore, proper attention should be given.

If for some reason the patient is anterior to the plumbline, final adjustment has to be given in the posterior position. Put the patient into the correct position first, before you make the adjustment.

These are simple observations, but most frequently overlooked, and this is responsible for many failures to respond to correct application of structural corrections.

In acute sacroiliac problems, it is a wise procedure to do a TS line palpation and correction of the appropriate muscle findings as aided by the respiratory assistance technic, and then recheck the sacroiliac lesion. Cranial technics will resolve many apparently acute sacroiliac faults.

The signs of a posterior ilium, as you know, are pain at the upper attachment of the sartorius, the upper attachment of the gracilis, the medial lower one-third of these two muscles—all of this on the short leg side. The sign of a posterior ischium is pain at the attachment of the upper pectineus and upper adductor longus muscles, which is roughly the lower inguinal region on the long leg side, down to

and including the symphysis pubis region of the inguinal area. There is also pain on the lower attachment of the vastus lateralis and the biceps femoris, roughly the lower one-third of the lateral long leg. There is also pain directly over the ischium at the biceps femoris attachment on the long leg side. Both this sign of a posterior ischium and the signs of a posterior ilium disappear when proper cranial sacral technic is performed.

Naturally, if these signs do not disappear, adjust the posterior ilium or ischium in the manner you are accustomed to. These indicators for disturbances in iliac position, although well documented, apparently are not too well known. The indicators, for example, of a jammed occiput is a short leg in the supine position with the same leg remaining short with the patient lying prone. This is in the absence, naturally, of any above-mentioned posterior ilium or ischium

In these cases of the jammed occiput there is pain along the medial aspect of the sartorius and the gracilis but in no other area. This remains constant whether supine or prone until correction takes place. The indication for a lateral atlas is again a short leg when the patient is lying supine, with pain along the medial aspect of the gracilis and the sartorius only in the absence of a posterior ilium or ischium. This short leg reverses when the patient lies prone, the opposite leg becoming short and pain appearing over the medial aspect of the gracilis and sartorius of the prone short leg. Both leg pain and leg shortness change sides as the patient reverses position. This is immediately corrected upon proper correction of the lateral atlas. The atlas is lateral on the side of the short leg when the patient is lying prone, not supine.

Another indication of a jammed occiput is a low occiput and a low buttock line on the same side. This checks out in your analysis; and many times there is a gluteus medius on the opposite side; but both the medius and the occiput must be corrected. When the occiput is low on one side and the buttock is low on the opposite side, this is an indication of an inferior lumbar vertebra position. The lumbar vertebra will be inferior on the low buttock side.

These rather rudimentary indicators apparently are not too well known although they have been documented for some time, and they have been included in this portion of the text for recent graduates who are not familiar with these classic signs of osseous abnormalities and therefore the indications for their adjustment.

Chapter 10

WHY SOME PEOPLE GO TO BED FEELING WELL AND WAKE UP SICK

The Pineal Gland and Associated Structural Reflex Activity

There is an excellent article from HOSPITAL PRACTICE for January, 1969, entitled "The Pineal," and in conjunction, Richard J. Wurtman, of the Massachusetts Institute of Technology, discussed the pineal. Dr. Wurtman is Associate Professor of Endocrinology and Metabolism in the Department of Nutrition and Food Science at the Massachusetts Institute of Technology in Cambridge. He discussed the fact that recognition that levels of hormone secretion varied markedly from day to day has triggered intense investigation into the influence of environmental life upon endocrine function.

Many of you are familiar with the work of John Ott, D.Sc. (Hon.) and his work in the film that was shown at Houston at the ICAK meeting in December of 1978. The studies have pointed to the pineal gland as a major mediator of a wide variety of hormonal responses including the gonads, the thyroid and pituitary, the hypothalamus and other regions of the brain.

In the July, 1965 issue of the SCIENTIFIC AMERICAN, Volume 213, No. 1, on pgs. 50 to 60, published by the W. H. Freeman & Co., 660 Market Street, San Francisco, California, Scientific American Offprint No. 1015, kindly sent to me by our good friend David Leaf, D.C., Dr. Wurtman and his associate Dr. Julius Axelrod discuss the "Pineal Gland." The function of this small organ near the center of the mammalian brain has long been a mystery.

Recent studies indicate that it is a biological clock that regulates the activity of the sex glands. The function of the pineal gland on the body has never been clearly understood. In a recent edition of GRAY'S ANATOMY by T. Pickering Pick, FRCS and Robert Howden, MA, MB, CM, by the Running Press, Philadelphia, Pennsylvania, there is barely a quarter of a page devoted to the pineal gland, its anatomy and its structure.

In the Warwick and Williams edition of GRAY'S ANATOMY, the 35th British Edition, by W. B. Saunders, in the section on endocrinology under the basic heading of Splanchnology, the discussion of the pineal body occupies a considerable amount of space, and there are many long paragraphs discussing the function of the pineal. They say, "The functions of the pineal, although receiving much attention in recent years, are still poorly understood. The amino acid melatonin, a tryptophane which has been extracted from bovine and other mammalian pineals, has been shown to cause melanophore contraction and consequent lightening of the skin color in some lower vertebrates, although not in mammals."

Serotonin is also present in large concentrations, probably within the pinealocytes. Evidence is mounting that the pineal plays a part in the regulation of gonadal development, perhaps by influencing the output of gonadotrophins, via the hypothalamus, particularly in the period immediately preceding sexual maturity. Melatonin and possibly serotonin may be directly or indirectly involved in this action.

The pineal body, or pineal gland, as it is sometimes called, is a small pinecone shaped piriform mystery organ which occupies a depression between the superior colliculi. It is below the corpus callosum and it is enveloped by the lower level layer of the tela, which is then deflected over the tectum. It measures about 8 mm. in length and weighs 1/10th of a gram, and its base, directly anteriorly, is attached by

a peduncle or stalk which divides into two laminae, superior-inferior, which are separated from each other by the pineal recess of the third ventricle. It is basically below and behind the pituitary and receives stimulation by way of the noradrenalin from the sympathetic portion of the autonomic nerves, which stimulates the release of secretion from the pinealocytes into the neighboring capillaries.

Some of the investigators, however, suggest that the primary site of release is into the pineal recess of the 3rd ventricle of the brain, so that the cerebral spinal fluid is, on this view, the means of transporting to other cerebral structures.

Wurtman says, "The Morphologic characteristics of the pineal qualify it as a neuro-endocrine transducer. The input side of the pineal cell is neural; it has the anatomic characteristics of a synapse, and pineal metabolic activity is known to be stimulated by neurotransmitter norepinephrine. However, the output side of the pineal cell is glandular. It secretes a specific hormone, melatonin, that provides a coded message interpretable only by specific target organs. In brief, neuro-endocrine transducers are 'the way stations' between brain and circulation. "The role of the pineal appears to be to convert neural input controlled by exogenous glandular output. In other words, the biological time clock for glandular activity is pineal related.

Evidence is pretty conclusive from the studies of Lerner and Axelrod, of Wurtman, and also of Dr. Virginia Fiske of Wellesley College, that constant light increased and constant darkness decreased the growth of ovaries in the rat, and she also recorded in 1961 that constant light was associated with decreased pineal rates, while darkness produced enlarged pineals.

About the same period of time Wurtman did experiments that indicate the same factors to be true, and along with Dr. Leona J. Zacharias of the Massachusetts General Hospital, determined that blindness from retrolental fibroplasia, an unusual type of blindness from too much oxygen given to infants who are premature, produced an early onset of menstruation, a number of months earlier than girls with normal vision. In order to be certain that our findings were not dependent on some particular aspect of retrolental fibroplasia (the fibrous tissue increased behind the eye lens), they also studied young girls with blindness due to other diseased states. The results were similar; girls with no light perception reached menarche almost a year earlier than peer matched controls. Girls with moderate light perception were intermediate in age of sexual maturation.

Blindness also appears to influence the release of norepinephrine from sympathetic nerve endings. It has been known for some time that the amount of norepinephrine excreted into the urine varies around the clock. It is highest during the day and falls at night. The traditional explanation for this rhythm is that normal daytime activities place greater demands on the sympathetic nervous system, and hence potentiates norepinephrine release. However, in testing the urine norepinephrine levels in ten blind subjects and in ten controls matched for physical activity, the control subjects demonstrated normal day-night fluctuation. No norepinephrine rhythm could be defined in the blind subjects. This was performed by two Polish investigators, Dr. W. Januszewicz and Dr. B. Wocial. They speculated that light perception may play a fundamental role in sympathetic nerve tone, a hypothesis supported by experimental evidence on norepinephrine levels in pineal organs.

Normally, cortisol is secreted at a lower rate between midnight and early morning, and begins to rise during the morning or early afternoon. Dr. Grant Liddle and his colleagues at Vanderbilt University have manipulated environmental lighting patterns and examined the resulting alterations in human adrenocortical rhythms. He placed healthy subjects under light cycles longer or shorter than the natural

24-hour day and examined the ability of the adreno-cortical rhythms to accommodate to these unusual regimens.

Data reported so far indicate that there are limits beyond which accommodation cannot occur. This tends to confirm the widely held view that the adreno-cortical rhythm is not simply a reflex response to environment. Adreno-rhythms thus appear to be generated endogenously, in contrast to the exogenously activated 24-hour pineal biorythm with the chemical name of melatonin. They utilize the light-dark cycle as synchronizer or time table. Only the pineal rhythms described above have so far been shown to result directly from light or dark.

HOSPITAL PRACTICE, January 1969, also states, "One aspect of biological responses to light that seems to deserve immediate study, concerns the identification of that portion of the energy spectrum capable of influencing neuroendocrine functions of humans. No information is available as to which photo-receptor cell—rod, cone, or something else—mediates the non-visual effects of light, nor do we know whether all visible or ultra violet wave lengths are equally effective.

"For the past few generations, humans have spent much of their lives under artificial light sources which are often designed to satisfy cosmetic considerations, and whose spectrums bear little similarity to the natural sunlight in which life on earth evolves. There are essentially no data to help us evaluate the biological consequences of living under incandescent light, or standard 'cool light' fluorescent lights. If, in fact, excessive exposure to artificial light sources or inadequate exposure to natural light has harmful biological effects we may find ourselves in a generation or two, worried about light pollution. Somebody ought to try to rule out this possibility now."

A patient was seen who had evidence of low thyroid and low adrenal activity, and who responded well to the usual five I.V.F. factors, but underwent unusual stress, and therefore had some recurrence of some of the headache symptoms and fatigue that she had previously complained of. Treatment was effective in reducing the headache in this particular individual, and long acquaintance with her particular problem gave insight into her situation based on sufficient experience. After her headache had been relieved, it was suggested that she would feel better before driving home if she would rest for a few minutes on the treatment table. In an effort to provide her more comfort, the lights were turned off. As the lights were turned off, I observed that her foot moved laterally with a definite motion. I turned the lights back on again and replaced her foot in its original position and turned the lights off again, and found the same situation to occur. I then turned the lights back on again and tested the sartorius gracilis muscle, previously weak, but now strong from treatment. It was strong. I turned the light off and both the sartorius gracilis muscle complex weakened dramatically.

In an effort to understand this, and with the dilated pupils generally found in the adrenal patient, I asked her to close her eyes while I attempted to repeat the light experiment, and eye closure had no effect. The cessation of light produced a remarkable weakness

I then assumed that it might be a nutritional factor not related to the adrenal or thyroid, which had been pretty well covered in previous treatments. Because of the relationship to light the pineal has been known to have, I used an extract of pineal and got an immediate response to the cessation of light in that the muscle remained strong. Further investigation revealed that pineal substance was selectively successful in eliminating this particular pattern of activity and response to light or its cessation.

Attempts to use other nutrients were all uniformly successful with very few exceptions on a *single* instance. But if the light was allowed to be turned on and off several times, no nutrient except the pineal substance was effective in neutralizing the weakness response. Further investigation revealed a particular type of cranial fault which had not been heretofore discovered. Compression of the wings of the sphenoid bone or compression of the temporomandibular joint bilaterally, pressing from lateral to medial, with about 5 lbs. of pressure, would produce marked muscle weakening.

Pineal substance when placed on the tongue would neutralize this response—pineal substance when placed on the tongue would neutralize the light response. Things equal to the same thing are equal to each other by geometric theorem, and therefore it was felt that the cranial fault of wing compression, or temporomandibular joint compression, with a narrowing of the temporo mandibular joint from side to side, about the symphysis mandibulae, required expansion bilaterally of the temporomandibular joint and also expansion bilaterally of the pterygoid processes.

Simultaneous spreading of the anterior portion of the ramus and alternate spreading of the pterygoid process, taking care not to fracture the hamulus, was uniquely successful in preventing the muscle weakness that related to cessation of light exposure.

No respiratory phase was able to be identified with this particular type of cranial fault. This naturally may co-exist with inspiration-expiration or half-a-breath-in, half-a-breath-out cranial faults, but no particular respiratory phase of activity was found to be identified with this particular cranial fault. Nor was there any unusual form of temporomandibular joint activity found to be associated with this type of cranial fault. Alteration in mouth opening positions would occasionally negate above findings temporarily.

Different nutrient extracts were tried in an effort to identify potential pineal sources. The Neurotrophin Extract of Standard Process was usually ineffective the first time, but usually effective on the second cessation of light exposure, and from that point on. Many nutrients showed an initial response to light but not a continued response to turning off and turning on of the light. This could be likened to the analogy of a quick charge in a battery sufficient for one start, but not sufficient for starting the following morning.

The cyclic response in terms of menstrual difficulty, thyroid difficulty, parathyroid difficulty, adrenal difficulty and menopausal difficulty has been very satisfactory. The pineal gland is not the only gland in the body which has a cyclic activity, but it seems to be a characteristically effective method of inducing normal cyclic response.

The visual purple or rhodopsin allows us to see at night. It is destroyed by light. When light sources diminish visual purple regenerates. It is just as if you have a golf cart run by a battery and you run it into a garage to recharge the battery for the next day's use, and when you plug it into the electric outlet the house lights go out.

Normally recharging the battery does not turn out the house lights, but if there is a cranial fault or lack of pineal gland activity, this is the muscle weakness that occurs. In individuals exposed to ultraviolet or sunlight, only half of the sample would show a response to light cessation as opposed to 100% in the previous selection sample.

In other words, prior exposure to sunlight and then cessation of light reduced by 50% the previous number

of people who reacted to cessation of light, indicating that normal sunlight somehow has the effect of mediating better and proper pineal function

Those of you that saw the marvelous film by John Ott on the effects of light that Dr. Sheldon Deal and Dr. Dan Duffy introduced, are well aware of the interest that John Ott has in light and its effects on many physiological processes. We have been in communication with Dr. Ott in his Sarasota, Florida office, and he is aware of these processes that have been discovered in A.K. and we are expecting further data from his end at some future time.

We now routinely check difficult patients against light cessation and fundamentally it seems to be a photo-receptor response of the eyes and the skin, since shielding of the eyes by normal lid closure or other activity does not seem to alleviate or modify the response to light cessation, or the cessation of electro-magnetic radiation of a photic source, to be more precise. Lead over individual eyes alters responses and this element is under active investigation.

A percentage of patients require pineal substance at the rate of one three times a day to maintain better response to light, and many, many difficult problems that arise from rest and sleep are modified by this activity. Some patients may require more pineal substance and some patients may require less, but one tablet three times a day seems to be the average, and it is an effective technic for cyclic glandular disturbances, and we have found it to be useful in our current patient sample.

Good source material for this information is:

HOSPITAL PRACTICE, January 1969, entitled, "The Pineal and Endocrine Function" by Richard J. Wurtman.

"The Pineal Gland" by Richard J. Wurtman and Julius Axelrod, SCIENTIFIC AMERICAN, July 1965, Vol. 213, No. 1, Pgs. 50-60.

SCIENTIFIC AMERICAN, off-print 10-15, the W. H. Freeman & Co., 660 Market Street, San Francisco, California 94104

THE SCIENTIFIC AMERICAN off-print 13-25, "Effects of Light on the Human Body," by Richard J. Wurtman, July 1975, Vol. 233, No. 1, Pgs. 68 to 77, by W. H. Freeman & Co., 660 Market Street, San Francisco, California 94104.



Chapter 11

WHY WEATHER CHANGES AFFECT PEOPLE AND A BREATHING TECHNIC TO BALANCE YOURSELF AGAINST WEATHER AND CLIMATIC CHANGES.

Nasal Ionizing Technic

There was a book published in 1908 entitled "*The Law of Rhythmic Breath*," by Fletcher, published by the R. F. Fennell Company, 18 East 17th Street, New York, which I assume is out of print. In this rather old book, comment is made that Eastern or Hindu physiology begins its surprising by teaching that with every inhalation through the right nostril, a positive electrical current flows down the right side of the spine, and with every inhalation through the left nostril a negative electrical current flows down the left side of the spine. The lungs are correspondingly charged with positive or "solar" energy, and negative or "lunar" currents. It is by these two currents that all processes of life are performed and it is imperative to a condition of health that they be equally balanced.

Early in 1905, Dr. Atkins of the California Medical College discovered and succeeded in registering by mechanical means, the fact that a positive and negative electric current do exist in the air chambers of the lungs of a living person. Evidence would indicate that in static electrical explosions that have occurred in operating rooms because of the increasing sophistication and complexity of equipment, when the lungs explode it is usually observed that only one lung explodes, even though the other lung is damaged. It is with this evidence in mind, and with the observations of Eastern physiologists, that this material is also brought to your attention.

A small handbook and glossary published by the American College of Ophthalmology and Otolaryngology, 615 Second Street, S.W., Rochester, Minnesota 59901, 1970, states, "There is a consensus of physiologists that most if not all functions of the organism are on feedback control by some sort of cerebral mechanism. There has been an increasing amount of indirect evidence that the nose is such a control device. Recently there has been some apparently valid direct evidence, both from experimental laboratory and clinic, that strongly supports this. There are many difficulties inherent in understanding the aerodynamics of respiratory nasal flow, and the apparent need to correlate nasal conductance with a pneumatic ventilation. The partial pressure of blood gases that develop in the mano-metric technics tend to support the hypothesis of the nose as such a service mechanism."

Page 16 of the above handbook states: "Therefore the surgical technics to correct what was referred to as nasal stenosis for a time was designed on incorrect physical principles. If the first procedure failed to give relief, further luminal enlargement would take further destruction of the functioning tissue." They were astonished that these luminal enlargement procedures often not only failed to relieve the presenting symptoms, but added new symptoms to old.

On page 18, again quoting: "Tonndorf explains the genesis of many of the difficulties that have plagued rhinometry, granted its acceptance as a clinical tool. He said through his father's insistence he became aware of the clinical conditions that did not seem to fit well with his observation as to the behavior of nasal air flow. He found, for instance, that in septal deviations, the narrowed side may allow better air flow than the widened. Or that after the resection of the turbinate, the patient may have more respiratory obstruction than before, although with rhinoscopy, the nasal chambers widened. Also, in several forms

of atrophic rhinitis, the enlarged cavity existed in the nose from the disease, which is associated with reduced conductance."

On page 26 THE NASAL CYCLE is described. Authorities such as Kayser, Wright, Lillie, Hetderx, Stocksted, Connell and Kenny all described the nasal cycle. It was noted by Van Dishoeck "that it was only during a period of changing over the main conductance from one side of the nose to the other that the air stream approaches allow an even diffusion between the two sides. Only when this occurs was a turbinate friction resistance found to be of importance." The nasal cycle continues even when nostrils are closed by tape. The nose is a servomechanism for a regulation of the air flow to the lungs.

On page 28, again quoting: "Because of the nasal cycle, measurement is done every 20 minutes over a three-hour period." What is meant here is that despite the fact that nostril breathing is a common thing, it is apparent that we breathe through one nostril more at one time than the other, on the basis of simple rhinometry. Apparently we breathe through one nostril more than the other despite the fact that we breathe through both, and one nostril predominates over the other, and every 20 minutes this nostril pattern changes. It changes every 20 minutes, but has to be measured over a three-hour cycle to average out the changes from one side to the other. The book "*Magnetism and Its Effect on the Living System*" by Albert Roy Davis and Walter C. Rawls, Jr., published by Exposition Press, Hicksville, New York, 1st Edition 1974, supports the premise that man is a vital, magnetic individual, and they say that he has a bi-polarity—the right side being fundamentally positive and the left side being fundamentally negative in the front, the reverse being the case on the posterior.

The idea of bio-magnetic polarity has been recently popularized by the advent of more and more knowledge on acupuncture and its relationship to polarity, and the advent and introduction of instruments which take advantage of the fact that there is a polarity pattern in acupuncture. The Acumatic and other similar instruments base much of their success on the choice and the opportunity for choice of polarity in the use of electric acupuncture.

Man lives at the bottom of a sea of air, as evidenced by the frequent references on radio programs to the changing barometric pressure. So also does man live in a sea of energy, and it has been mentioned many times that the acupuncture points are like antennas for both the reception and the transmission of energy, and it is the ultimate balance that man is able to maintain that allows his relative state of health to continue to exist and do service. How man maintains his polarity in the face of changing levels in his environment has always been a very interesting conjectural question. It is evident now that man's polarity is maintained by the simple process of respiration, especially nasal respiration. The evidence strongly points in the direction that the turbinates in the nasal chambers are ionizing chambers, and that the positive and negative currents that the Eastern and Hindu physiologists proposed are in fact the real basis by which polarity is maintained. These premises are very entertaining and somewhat scholastic, but they tend to become of vital importance when related to both cranial respiratory assistance and Therapy Localization Technics.

Since the advent of Therapy Localization, the placing of the hands of the patient on critical areas of the patient's own structural anatomy, and then the consequent testing of the muscle to measure the possible effect of the placing of the hands on the critical area, much information has been obtained. In a demonstration at the Wayne University College of Medicine before the first graduating class of physiotherapists, a general Applied Kinesiology demonstration was made and no attempt was made to validate or elucidate the principle of Therapy Localization other than to use it as a tool to quickly

evaluate a particular problem with a particular patient. But the usual response that would normally exist in an upper cervical fixation with its concomitant bilaterally weak gluteus maximus muscle did not obtain. The patient, on placing the hands palms down over the cervical column, showed no increase in strength as one usually finds, but paradoxically apparently showed an increased weakness of the gluteus maximus muscle when tested individually.

This same situation also obtained when testing a patient with an iliac fixation with its associated weakness of the neck extensor on the same side. When the patient placed the hand over the iliac fixation, as evidenced by the weak extensors of the neck, normally a good response would be seen on testing the weak extensor, but the reverse was true. This remained an enigmatic situation until the following day, when an attempt was made to reproduce the conditions of the situation at the Wayne University demonstration, and the hands were placed on the areas, and this time the hands were reversed so the volar aspect of the hands instead of the dorsal aspect were placed, and this immediately changed the usual response that we saw. Therefore, when doing Therapy Localization, it is necessary to use both palmar and volar aspects of the hands to elicit proper Therapy Localization. This was an interesting added bit of information which contributed greatly to the management of difficult problem cases, but still one wondered why was this so.

In attempting to evaluate the respiratory pattern on a particular patient, in whom a temporo-sphenoidal line indicated a weak pectoralis clavicular, the muscle was tested. The pectoralis muscle tested very strong "in the clear," but on Therapy Localization on the fifth left interspace, which is the source of the neurolymphatic reflexes for the pectoralis clavicular both left and right, the right pectoralis major clavicular muscle suddenly weakened.

The first rule in testing a weakened muscle is to use respiratory assistance. The patient was asked to take a deep breath. There was a considerable response in terms of muscle strength. Because of recent observations on rhinometry, and the observations on the Eastern and Hindu physiologists, an attempt was made to determine if one nostril would assist more than the other on the inspiration-assisted pattern that was observed with the previous muscle. The patient was asked to close off one nostril and breathe only through the right, with corresponding increase in function. The patient was then asked to breathe through the left nostril; this immediately re-established the previous weakness pattern.

A continued effort to demonstrate this was made throughout the day, and it was now evident that positive effects could be obtained by nostril inspiration one side or another. It was soon evident that the criterion was simple. If the hands were placed palm down, on any portion of the patient's anatomy, and muscle weakness ensued, correction could be obtained in many ways; but in testing for cranial respiratory assistance, if inspiration or expiration assisted, it would always occur on full nostril inspiration and on closing off one nostril as opposed to the other. If the original Therapy Localization was palm down, the right nostril would always be the dominant nostril to produce the required effect. If it were palm up, the left nostril would be the one required to produce the dominant effect. Even though full nostril inspiration done bilaterally or full nostril expiration done bilaterally produced muscle strength, it was found that only one side of the nostril was active.

Your attention is called here to the previous pattern of interosseous cranial faults—the universal cranial fault, which is elicited by asking the patient to take a deep breath with mouth closed and one nostril occluded. The muscle is tested and observed for weakening in terms of response. If no weakening occurs, the patient is asked to take a deep breath with mouth closed and the opposite nostril occluded, opening the one previously closed, and the muscle response is again observed. If the muscle weakens

upon the occlusion of one nostril or the other, this is an indication of the presence of a universal cranial fault. These patients that we are discussing *do not have the universal cranial fault*. The patients that we are discussing and the method of choice for determining the presence of the requirement for one nostril or the other for assistance in cranial technic was based on Therapy Localization and was not based on the presence or absence of a universal cranial fault, although the universal cranial fault may accompany the requirement for nostril activation.

This is a fine point and has confused many, but the universal cranial fault was discovered by having the patient take a deep breath and have the nostril produce weakness when either nostril is used, and this still obtains. But the further addition of nasal ionization was done by Therapy Localization on an ordinarily strong muscle, when placing the hand over the appropriate neuro-lymphatic, neurovascular or acupuncture circuit or stress center would produce weakness, and then inspiration or expiration assistance would be used under these circumstances.

It is hoped that no confusion exists between presence or absence of the universal cranial fault and the necessity or requirement for the ionization technic. They may occur singly, they may occur together, or may occur independently of one another. The universal cranial fault does not necessarily require the ionization technic, although ionization technic may be required in the universal cranial fault. (Your attention is directed to pages 23 through 26 of the 1974 Research Manual for further descriptions of the technic for universal cranial fault, diagnosis and correction.)

Because of previous information on the mono-polar bio-magnetic activity of the hands, the right hand being positive in its palmar aspect and the left hand being negative in its palmar aspect, and the reverse being true with the back of the hand, some confusion existed in reference to Therapy Localization and the appropriate nostril to be used. The choice is simple. If the patient Therapy Localizes palm down and inspiration or expiration assistance strengthens the muscle that weakened on Therapy Localization, then use the *right* nostril as the ionizing nostril. If the patient Therapy Localizes negatively or fails to Therapy Localize with the hand palm down and localizes with the hand palm up, then inspiration and expiration assistance produces an increase in strength of the muscle weakened on Therapy Localization, use the *left* nostril for either inspiration or expiration ionization.

Experimentation Using the So-Called Lead Square Effect

Lead and other materials such as ceramic have been known to exhibit a blocking effect on acupuncture energies, and the lead square effect is noted when it is placed over the nostril despite the fact that the right nostril provides an increase in strength when inspiration or expiration takes place through it; if the opposite nostril is occluded no result is obtained. This would indicate that the ionization is instantaneous and has no relationship per se to the oxygen carbon dioxide traversement of tissues or the relative flow rate of oxygen to the turbinates or the exhalation of carbon dioxide. The "stat" result would indicate that this is an "instant on" "instant off" ionization rather than a slow process involving oxidation and carbon dioxide metabolism.

When Therapy Localization occurs on a palm down aspect on the anterior body, and it occurs on a palm up aspect on the posterior section of the body, despite the difference in polarity that Davis and Rawls have evidenced, when the patient Therapy Localizes palms down on the front part of the body and palm up on the back part of the body, the divergence on the posterior aspect indicates a "switch mechanism" is operating, and this is not the usual umbilical-K-27 switch mechanism. The switch mechanism here continues to be umbilical, but it is umbilical coccygeal. Simultaneous stimulation of

umbilical coccygeal areas, when the coccyx is pressed at its posterior and anterior tip and manipulated vigorously for 20 to 30 seconds at the same time the umbilicus is stimulated, will then cause a reversal of the Therapy Localization paradoxical relationship and the patient will then Therapy Localize palms down on the posterior and palms down on the anterior, if this is the situation. In other words, it is impossible for something to be black and white at the same time, or up and down at the same time. Therefore, the patient would not use the right nostril for inspiration on the front and the left nostril for inspiration on the back at the same time. Obviously this cannot take place. Yet, if the rule is followed that palm up is the left nostril and palm down is the right nostril, it would indicate that the negative and positive should appear at the same time. Since in the usual nasal cycle this does not occur it seems unreasonable, and as a result this switch mechanism was observed, and has been observed enough times to know that this is a factor that has to be put into your therapeutic equation occasionally.

It is frequently observed that the patient may require right nostril inspiration and left nostril expiration, indicating a cranial fault of the inspiration assistance on the right, for example, and the expiration assistance on the left. A patient who exhibited the most violent form of clonic, tonic, intermittent, torticollis was observed—and despite good experience with this very, very debilitating and extraordinarily demoralizing symptom complex, some progress had been made, but not adequate to satisfy the patient or his attending physician. This patient had traveled the distance from Ohio and was being seen on his second visit when the principles of nasal ionization were thought to have a relationship to the extraordinary weakness on the one side and the extraordinary tonicity on the opposite side.

Since the principle of Applied Kinesiology involves the premise of a weak muscle, it was thought that perhaps the weak muscle lacked positive ions and the hypertonic muscle had too many negative ions, and the patient was asked to inspire through the right nostril and expire through the left nostril, after appropriate structural fixation technics had been applied. This was the patient's second visit to our office, and his response, although minimal, was gratifying. Despite the fact that the patient had two artificial limbs and a very violent form of the intermittent torticollis, he continued to be cooperative. On attempting to stabilize his skull structure to indicated cranial technic, the violent motion of the head persisted in the prone and supine position to the extent that it was very difficult to maintain treatment, but the supine position was chosen and efforts were made to correct a right hand inspiration cranial fault and a left hand expiration cranial fault, using nostril occlusion intermittently as an associated factor.

Attention to inspiration through the right nostril and expiration through the left nostril for a considerable period of respirations resulted in some decrease and diminution in the violence of the intermittency and quantity and tonicity of the torticollis, and as the respiration via ionization was continued the muscles continued to respond. Finally the muscles were quite quiet and the patient was resting comfortably. Cranial contacts were maintained for a number of respirations until the patient had respired perhaps 500 times fairly rapidly, not experiencing any hyper ventilation. The hands were then removed and the patient was instructed to continue breathing through the right and out through the left, and there was a complete absence of the chronic-clonic-tonic-intermittent torticollis for the first time in a considerable number of years.

The patient was then asked to stand, and some of the violence of the contractions began once more. The patient was instructed to again use the nostril respiration ionization, and again there was a quieting effect. This was one of the most remarkable evidences for the utility of the ionization technic that we have seen in a considerable period of time.

Naturally, if sacral contacts are to be used on either inspiration or expiration, the Therapy Localization

of palm up or palm down gives the correct nostril to use, and one remembers that Therapy Localization palm down on either inspiration or expiration was right nostril; palm up on either inspiration or expiration was left nostril. The concept is simple, the technic is simple, the interaction is complex. To quote again: "In the law of the rhythmic breath, Hindu physiology begins its surprises by teaching us that with every inhalation to the right nostril a positive electrical current flows down the left side. The lungs are correspondingly charged with positive or solar energy and negative or lunar currents. It is by the means of these two currents that all the processes of life are performed and it is imperative to a condition of health that they be equally balanced."

Upon their rhythmic and harmonic flow, fed by the breath of life, depend the measure of health and vitality in the human system. The existence of the nasal cycle, well documented by the authors previously cited, would indicate that there is a mechanism which allows balancing of the ionization and utility of this measure with cranial technics. It is gratifying, to say the least, and adds measurably to your therapeutic success.

I had a patient who was a rather small but very personable young girl. At that time she was about eight or ten years old, and she came to my office with an occlusion of both nostrils and could not breathe through her nose at all. This is very often found in disturbances of an allergy, especially if it is found to be related to the small intestine. The small intestine, as we will try to demonstrate through this book, relates to the quadriceps muscle. Both relate embryologically to the naso-respiratory tract.

Her quadriceps muscles were quite weak on testing, but on activation of the neurolymphatic reflexes her quadriceps muscles quickly strengthened. This improved the general lymphatic drainage of the small intestine, with which the quadriceps muscles share the common drainage or sewage pattern, and her nostrils began to clear rapidly. On the second or third or fourth visit she came up to me and said very brightly, putting her face quite close to mine so I could see that she was breathing through both nostrils, "Do you notice anything different?"

Because I love to kid children and I know they love to be kidded, I looked at her in surprise while she breathed very, very easily and openly and quite demonstratively through her open nostrils, and said to her in response to her question, much to her chagrin and dismay, "What! Don't tell me you shaved off your mustache." She put on a crestfallen look and turned to her mother and said, "He's impossible."

But this is what children like—they like you to have fun with them at their level—and her obvious attempt to show me that she was better caused me to give her a big hug, and both her mother and I enjoyed the reference to her nonexistent mustache.

Chapter 12

VERTEBRAL FIXATIONS

*How Spinal Vertebrae Not Out of Place
but "Stuck" in Place Cause Trouble.*

The original methods of Applied Kinesiology coupled with the neurolymphatic, neurovascular, cranial, sacral release and nutritional supplementation have aided in the restoration of muscle tone and organ function in many patients. Blocked lymphatic drainage and corresponding blocked drainage of the associated organ was aided, as you know, by technic to reduce vascular blockage of the associated organ. Cranial technic applied on a respiratory pattern has also been uniquely effective in producing a lasting and permanent response in patients that were previously difficult to treat. These methods have been effective but identification of fixation patterns in patients has been a difficult if not impossible task, although many efforts have been expended in an effort to deal with this particularly difficult phase of our practice.

The concept of the vertebral subluxation or cranial or sacral subluxation is easy enough to visualize. In other words, something is out of place and needs correction. A simple concept and uniquely effective and the basis for much chiropractic success. The concept of a vertebral structure or iliac or cranial or sacral structure not out of place but locked in place is a little more difficult concept to achieve. In many instances in the past we have found fixations in the cervical, dorsal, lumbar and sacral areas as well as in iliac areas. These fail to be identified on X-ray or palpation, yet a careful analysis will quickly reveal the presence of these fixations and there is technic available to quickly relieve these fixations. Lumbar fixations especially are productive of much symptomatic trouble and especially in cases of resistant sciatica lumbar fixations are a source cause of these difficult and painful problems we all have to meet and try to treat.

Examination of X-rays will frequently reveal a level pelvis, a level sacrum, no wedge pattern in any of the lumbar, dorsal or cervical vertebral areas, a level occiput—yet the patient will have symptoms which are very similar to patients that we have previously seen who have evidence of subluxations in the cervical, dorsal, lumbar, sacral or iliac areas.

The method of identification of the fixation vertebral pattern was first described in the neurovascular technic manual and consists basically of attempting to move vertebral segments with the thumb on the spinous process to the left and to the right and attempting to identify the ease or the relative lack of ease of movement. Thus, thumb pressure technic requires a judgment of this movement ease or lack of ease, but this can be very quickly acquired.

The fixation concept is based on the fact that the rotatore brevis runs from the transverse process of one vertebra up to the spinous process of the vertebra above, and the rotatore longus which runs from the transverse process of one vertebra up to the vertebra two above it, and when bilaterally weak or contracted are responsible for the unit of three fixation pattern. This unit of three pattern exists throughout the spine from cervical to lumbar. Intrinsic spinal muscles become weakened even though there is no vertebral malalignment, but there is fixation of the segments involved because they resist the effort to push the spinous process in one direction and relatively accept the effort to push it in another. They resist normal movement and, for example, they will resist individually the effort to push the spinous process from left to right, but will readily move from right to left—or vice versa. They do this in units

of three vertebra. For example, lumbar five, lumbar four, lumbar three, and occasionally lumbar two will all resist efforts to move their spinous process from left to right, but they will allow movement of the spinous processes from right to left.

The vertebrae may be locked or fixed in groups of threes. This grouping of three is due to the action of the rotatore brevis and longus attachments. It is wise to correct these muscle patterns first—all spinal muscles, the rotatores, the upper cervical spinal muscles, as well as the levator costorum, the small rib elevators which arise from the transverse process of the seventh cervical, and the upper eleven thoracic transverse processes—and pass downward and laterally to the outer surface of the rib below.

All of these muscles have a common lymphatic center. This is the acupuncture K-27, which is located at the junction of the first rib and the proximal end of the clavicle. Activation of this neurolymphatic reflex point begins the approach to correction of fixations of the dorsal, lumbar and cervical areas.

These vertebral segments which are not subluxated are locked or fixed in position. They may be locked at their posterior facet, or they may be locked at their anterior facet; rarely are they locked at both anterior and posterior facets simultaneously.

A spinal fixation of a posterior facet may be unlocked by treating or adjusting the top vertebra of that unit of three on the one below it. Palpation may reveal an obvious subluxation, but this subluxation is held in subluxation by the relatively non-palpable fixation pattern above or below.

Group spinal fixations of the anterior facet may be unlocked by treating the bottom vertebra, or the most inferior vertebra of that unit of three, unlocking the most inferior vertebra on the one above it.

This whole method of determining fixation and facet localization was mentioned in the original neurovascular manual, but it has been discovered in testing innumerable cases, that if there is a fixation in the cervical area, there will be a bilateral weakness of the gluteus maximus muscle; and following correction of the cervical fixation, whether it be an anterior or posterior facet fixation, there will be a complete and total response in the muscle strength of the gluteus maximus muscle.

If there is a fixation of the dorsal segments, there will be a bilateral weakness of the teres major muscle, and correction of the dorsal fixation will immediately cause the bilateral weakness of the teres major muscle to respond.

It has also been found that if there is a fixation of the lumbar area, the splenius capitis muscle will test weak when tested bilaterally. This test is performed by having the prone patient raise his head and attempt to keep it raised against your muscle test direction of replacing his head down to the headpiece of the table. Following the correction of either anterior or posterior lumbar fixation patterns, the bilateral weakness of the splenius capitis becomes immediately normal. We have found that in the presence of a sacral fixation there is weakness of the splenius capitis muscle when tested singly left and right, even though the splenius capitis may test bilaterally normally strong.

This is what accounts for the unusual patterns that we occasionally see, with the high side of the occiput testing normally weak as we would expect, yet the other side showing a relative weakness as well. This was something that was difficult to understand at first, but understanding the presence of sacral fixations and their relative frequency allowed an explanation of these unusual muscle testing findings.

To reiterate, in the presence of a sacral fixation there will be a weakness of the splenius capitis muscle when the prone patient raises his head and turns his head in one direction and you attempt to press his head downward while he resists. This is repeated on the other side, the patient turning his head in the opposite direction, and you again attempt to press his head downward while he resists.

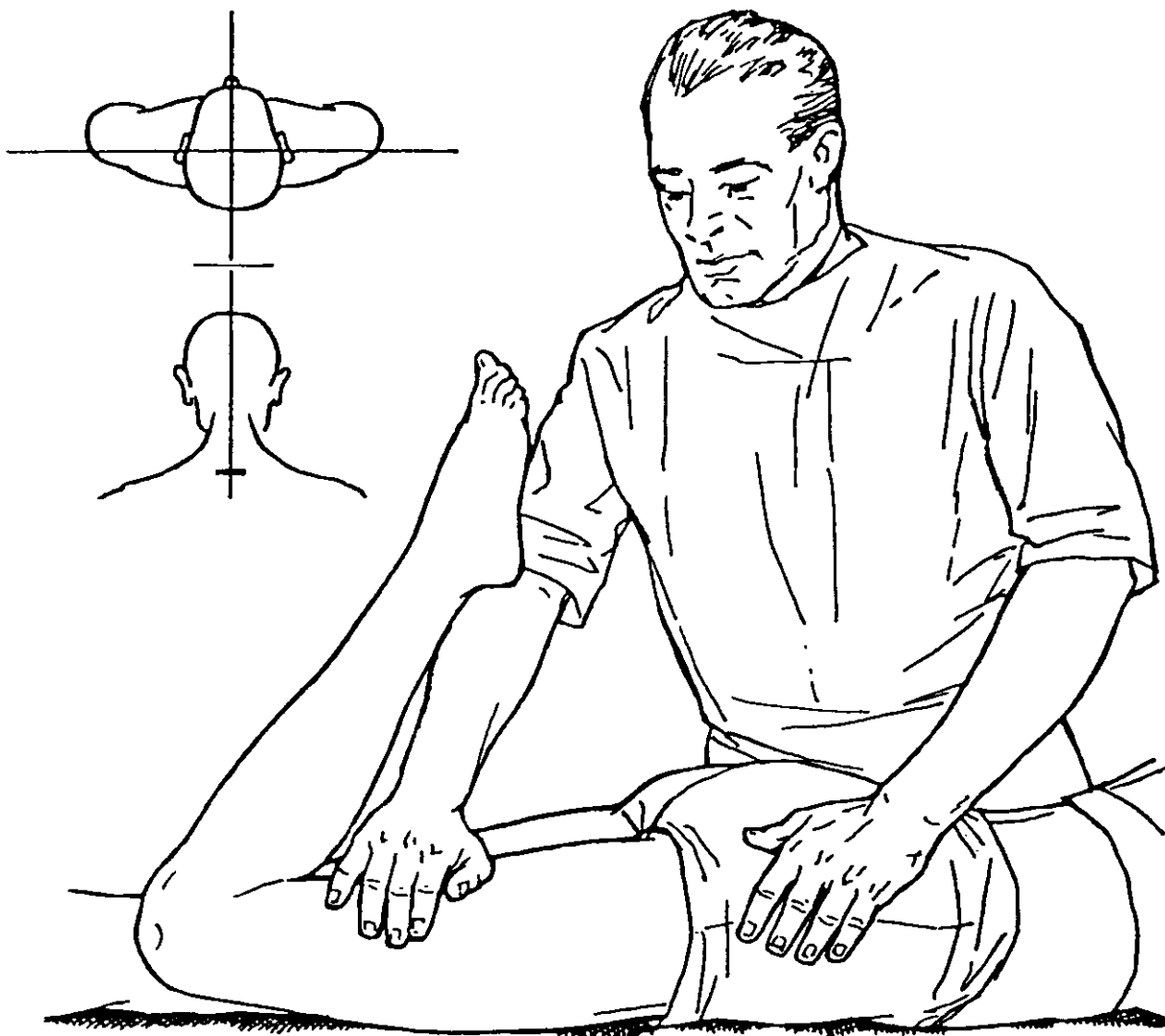
In the presence of a sacral fixation, there is this bilateral weakness. To correct, attempt to move the spine of the sacrum with your thumb, first to the left and then to the right. You will receive the sensation that it moves more easily in one direction than the other. The way that it apparently seems to move most easily is the way it is disposed or oriented, or the direction of lesion. In your mind imagine that it will move more readily into lesion than out of it. For example, the sacral spine moves easily from right to left yet resists movement from left to right. You can assume that the sacrum in a micro fashion is anterior on the left and posterior on the right. Thrust directly downward with the patient prone. Thrust or press with your thumb on the left side, which we are calling the micro posterior side in a micro mental way, and press on the anterior side or the right side in a micro mental way. Determine which side seems to resist your testing motion. Generally speaking, the sacrum will show resistance on one side or the other. Treat the side which seems to show the greatest amount of resistance to your testing pressure. If it is a posterior side, adjust the sacrum straight downward to the table. In other words, a thrust on the sacrum from posterior to anterior in the line of the sacroiliac joint contact, just medial to the posterior superior iliac spine. If it is the anterior side that shows resistance, place the patient on the posterior side in a lumbar roll position with the anterior side in the upward position and attempt to hold the posterior sacral side with one treating hand while you use a very slow and torqued position pressure thrust against the upper shoulder so that you release the anterior sacral fixation. Naturally, immediately following this, retest the splenius capitis left and right. There will be complete recovery in the previously weak testing strength.

There is a significant difference between vertebral subluxation and vertebral fixation. A vertebral subluxation is a single vertebra involved in misalignment, causing neurologic aberrations. Vertebral fixation is a muscular locking together of multiple vertebrae, almost always three in pattern. Vertebral subluxations are usually apparent on x-ray as misalignments, and vertebral fixations are only observable on x-ray with cinerentgenography or if multiple exposures are taken in flexion and extension or rotation. Vertebral subluxations will cause a strong indicator muscle to go weak upon therapy localization and vertebral challenge. Vertebral fixations will cause a strong indicator muscle to go weak upon therapy localization only with motion of the vertebrae, and will vertebral challenge.

To therapy localize for a vertebral fixation, have the patient place both hands on the suspected fixation. There should be no change of the indicator muscle strength. If the indicator muscle does change, there is a vertebral subluxation or an active NL reflex. After determining no change of the indicator muscle, have the patient put that area of the spine into active motion. Quickly, after movement both right and left or back and forth, test the indicator muscle. If there is a vertebral fixation, the indicator muscle will weaken after motion and with the patient continuing to TL the fixation while the indicator muscle is tested.

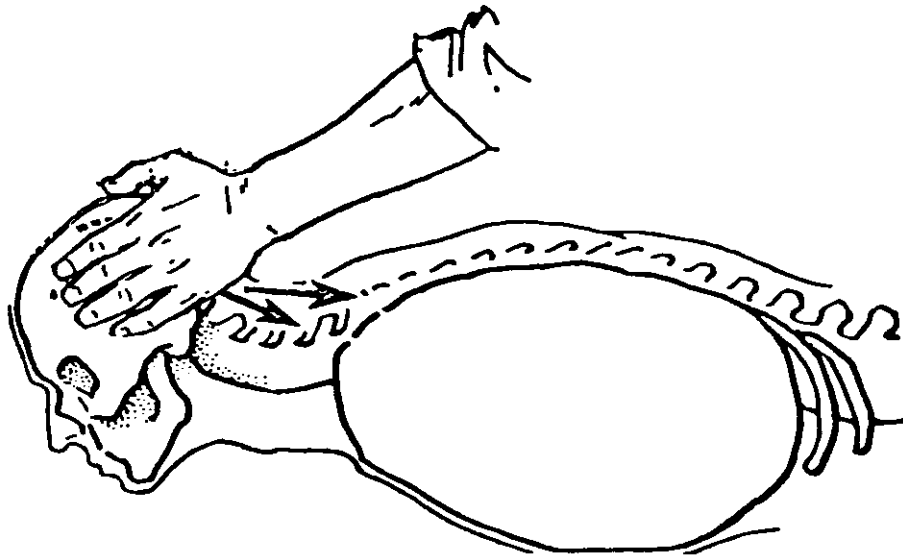
The vertebral fixation pattern is a result of the supporting muscles of the vertebrae being out of balance. Note how the rotatores lungus and brevis, attaching to one transverse process, tie three vertebrae together. Vertebral fixations can easily be located by thrusting in opposite directions on the spinous processes of two vertebrae at the same time. In the presence of a fixation, the spinous process will move easily in one direction and resist movement in the other direction. An analysis of the muscular attachment of the rotatores lungus and brevis reveals the reason for this ease of movement in one direction and the resistance to movement in the other direction. The spinous process will easily move toward

CERVICALS IN FIXATION WHEN GLUTEUS MAX IS WEAK BILATERALLY

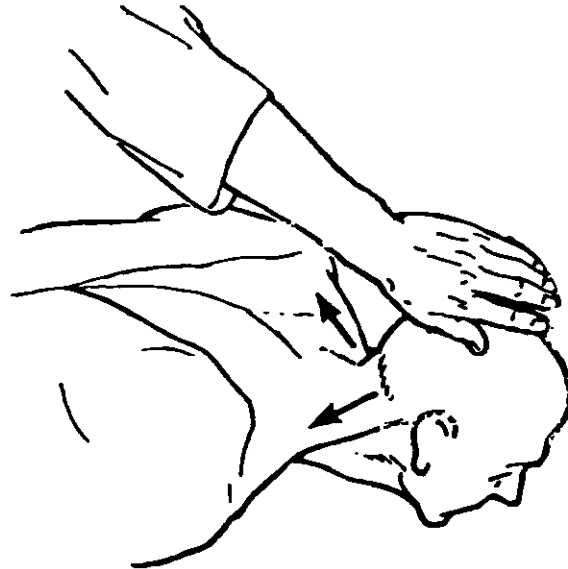
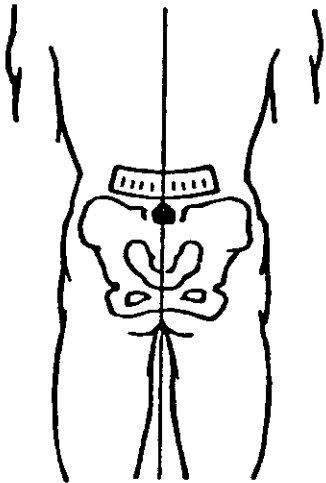


Cervical Fixation Analysis Muscle Test

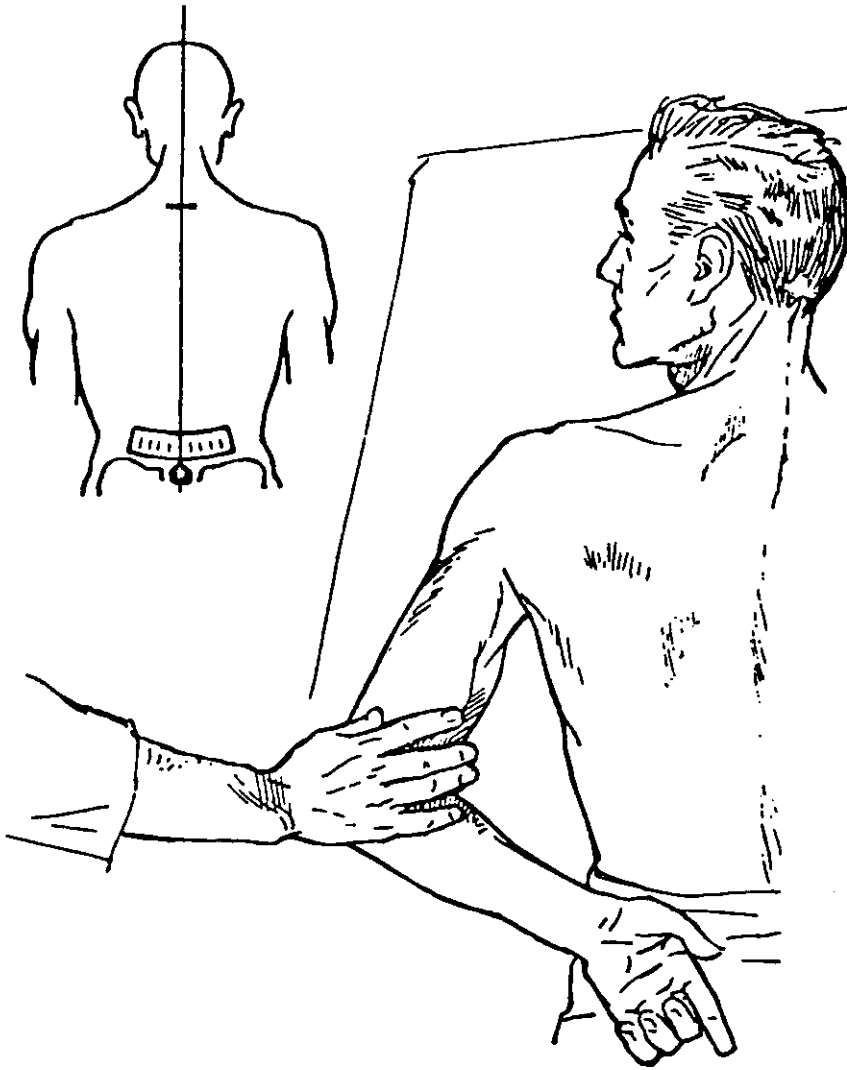
Drawing No. 1



LUMBAR ARE IN FIXATION WHEN BILATERAL
NECK EXTENSORS ARE WEAK



Lumbar Fixation Muscle Analysis Test

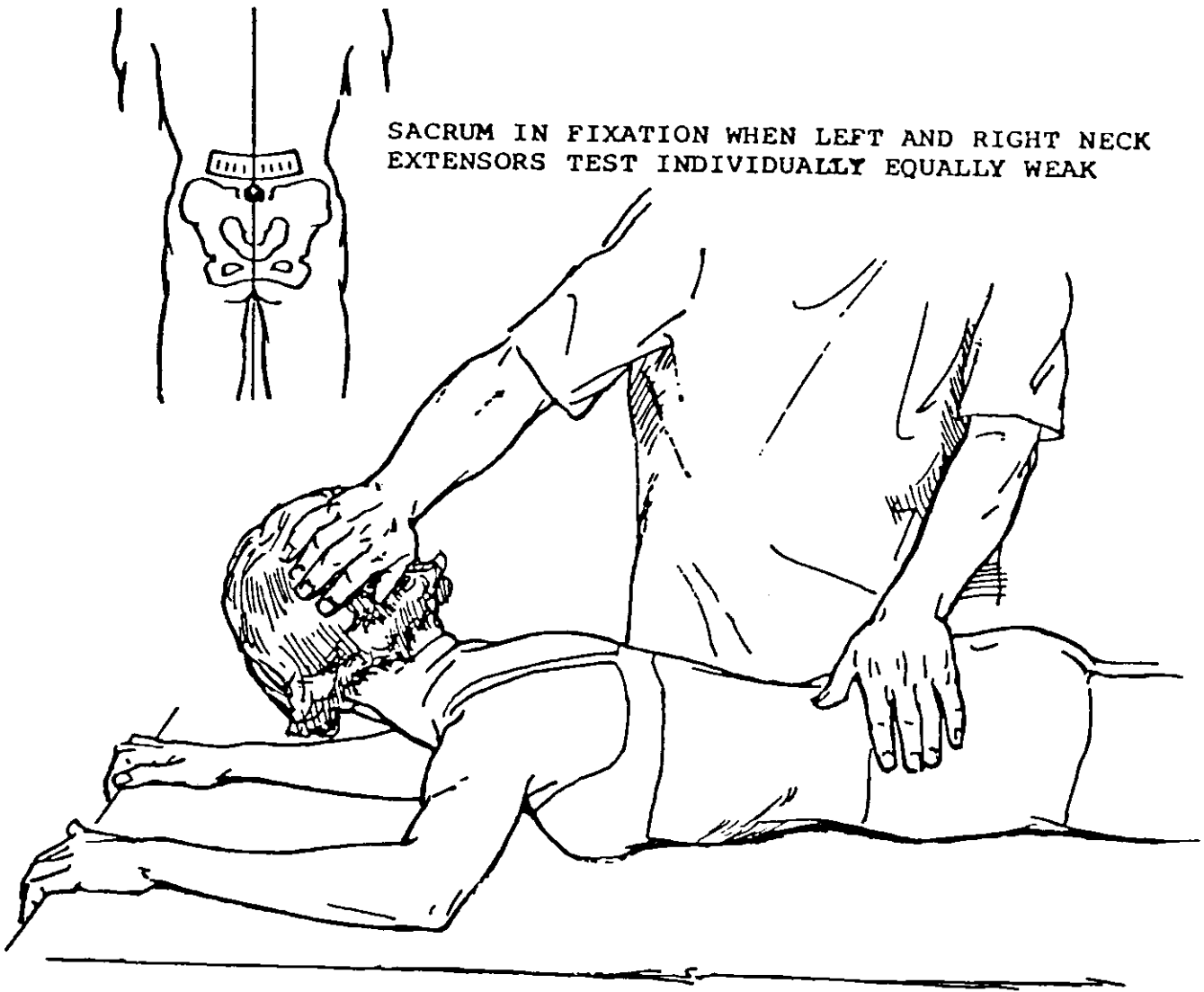


TEST TERES MAJOR BILATERALLY SIMULTANEOUSLY,
DORSALE IN FIXATION WHEN BOTH TERES MAJOR
ARE EQUALLY WEAK

Dorsal Fixation Muscle Analysis Test

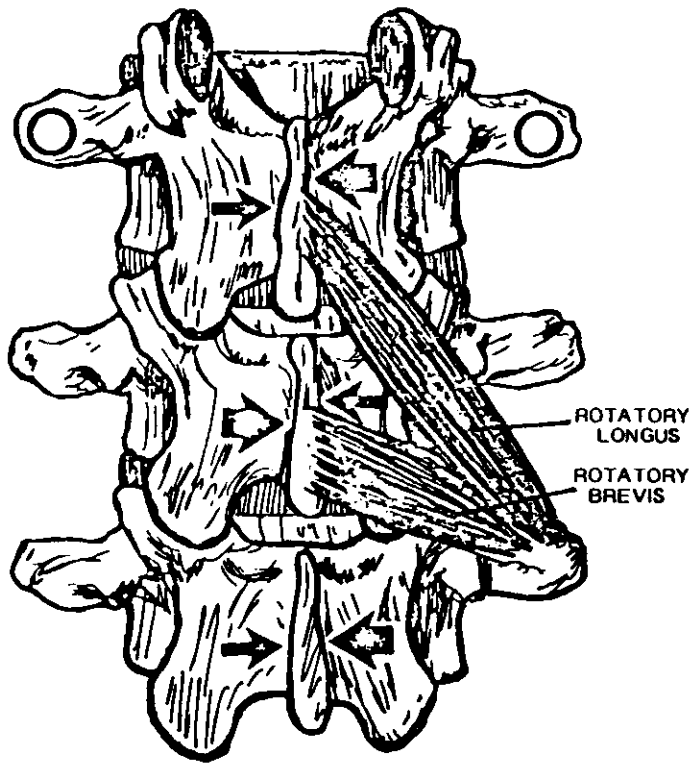
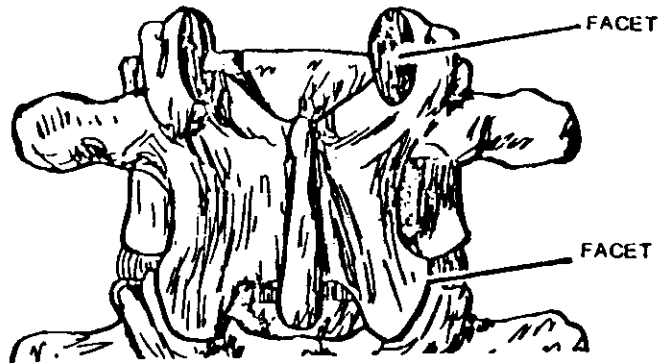
Drawing No. 2

SACRUM IN FIXATION WHEN LEFT AND RIGHT NECK
EXTENSORS TEST INDIVIDUALLY EQUALLY WEAK



Sacral Fixation Muscle Analysis Test

Drawing No. 3



the side of excessive muscular tension and away from the side of muscular weakness. In other words, the spinous process will move easier into lesion than out of lesion. As you evaluate the motion of the vertebrae, you will find that almost always there are three vertebrae involved.

The fixation of the three vertebrae can be unlocked by adjusting either the top or bottom vertebra on the center vertebra. The key to successful correction of the fixation complex is determining which vertebra should be adjusted on the center vertebra.

After locating the fixation complex by motion palpation, push on the top vertebra spinous process first right and then left. Since the vertebra will rotate easier into lesion than out of lesion, you can determine the direction of micro-lesion by the motion evaluation: e.g., if the spinous moves left easily and right hard, call this situation a right posterior transverse. After determining which side of the top key vertebra is relatively anterior and which side relatively posterior, you are ready to proceed to the second step to determine which side is in fixation, in turn telling you which vertebra to adjust on the center vertebra. Push on the relative posterior facet line; then push on the relative anterior facet line. Judge whether the anterior side or the posterior side gives most resistance. If the relative posterior side gives more resistance, the complex is termed a posterior fixation. If the resistance is greater on the relative anterior side, it is considered an anterior fixation.

In the case of a posterior fixation, the top vertebra is adjusted on the center vertebra. An anterior fixation requires that the inferior vertebra be adjusted on the center vertebra

Use a double transverse adjustment and hold the center vertebra while either the inferior or the superior vertebra is moved first with a very quick following movement of the center vertebra

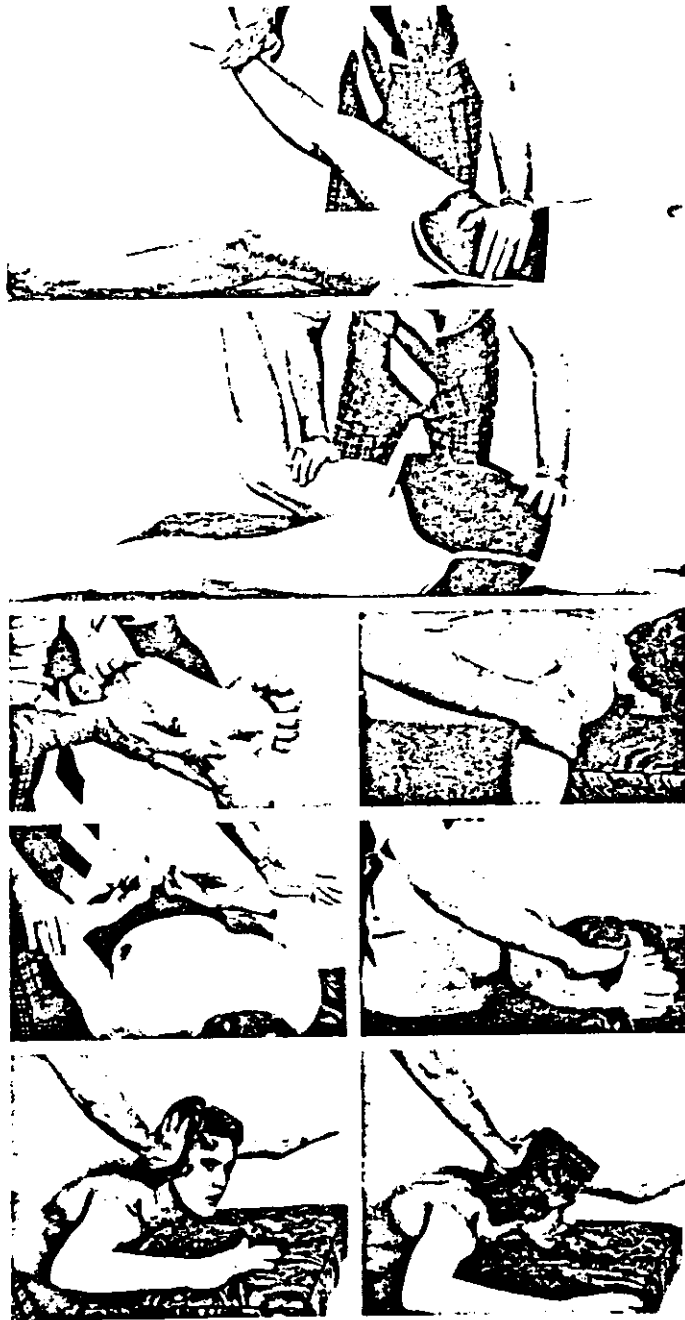
Unlocking fixation is always in the direction of resistance, and is done after the muscles involved are corrected. Two hands are always necessary to correct a fixation, as the center vertebra must be held in place while the vertebra above or below is adjusted on the center vertebra. A subluxation can be adjusted with only one hand.

The common neurolymphatic location for all rotatores longus and brevis is at the junction of the clavicle, sternum, and first rib head—or, in other words, at the location of K27. Activate this area prior to correcting any fixations.

Origin and insertion technic should be applied to the rotatores longus or rotatores brevis, or both, on the weak side. The weak side is the side the spinous process moved away from easier on the first motion palpation evaluation.

The location of vertebral fixations can easily be found by muscle weakness patterns:

1. Occipital fixation—bilateral psoas weak.
2. Upper cervical fixation—bilateral gluteus maximus weakness.
3. Lower cervical fixation—bilateral popliteus weakness.
4. Cervical-dorsal junction fixation—bilateral deltoid weakness. (Rare, bilateral anterior serratus weakness.)



FIXATION-SYMPOM CORRELATION

- C1-C3 – respiratory problems, arthritic patterns
- C4-T2 – hypertension, abdominal ptosis
- T3-T5 – coronary disease, cholesterol involvement
- Dorsal-lumbar – diaphragm involvement
- Lumbar – low back problems

5. Dorsal fixation—bilateral teres major weakness.
6. Dorsal lumbar junction fixation—lower trapezius weakness.
7. Lumbar fixation—neck extensors weak when tested bilaterally together.
8. Sacral fixation—neck extensors are weak both on right and left, tested individually.
9. Iliac fixation—one neck extensor is weak and no other factor is found for its weakness.

After correction of a fixation and successful strengthening of the bilateral muscle weakness, test in the weight-bearing position to determine if the fixation pattern returns. Some muscles, such as the deltoid and neck extensors, can easily be tested while the patient is standing. An easier way to test weight-bearing is to have the patient place both hands on top of his head and force caudally to simulate the gravity force present in weight-bearing position. This is effective down through the thoracic spine. Weight-bearing for the sacrum and pelvis can easily be done with the patient in the hands and knees position. To cause weight-bearing into the lumbar spine, the patient can place force into the spine by pressing his toes against the footrest of a high-low table; or, an assistant can direct force against the feet in a cephalad direction while the indicated muscle is tested bilaterally.

If the fixation returns upon weight-bearing, there is an indication for octacosanol, which is found abundantly in some preparations of wheat germ oil. Octacosanol has an antigravity factor. Upon its ingestion by chewing, there will be an immediate removal of the gravity fixation without additional correction.

Cervical Fixations

Cervical fixations can be corrected with the patient supine. The group of three vertebrae involved is located by contacting the right and left transverse processes of the same vertebra and pushing anterior on one side while pushing posterior on the opposite side. The pressure is then reversed; notation is made of the resistance to the pressure in the different directions. When a fixation pattern is present, there will be three adjacent vertebrae that will have resistance to movement in one direction and less resistance to movement in the opposite direction. The vertebrae will have resistance in the direction of correction, and less resistance in the direction of increasing the lesion.

Determine anterior or posterior fixations the same as in lumbar and thoracic fixations. Correction is accomplished with the patient supine or prone. Hold the center vertebra while the superior vertebra is adjusted on the center if posterior facet fixation, the inferior vertebra is adjusted on the center if anterior facet fixation.



Sacral Fixation

When the neck extensor muscles are found to be weak bilaterally, but tested individually, there is a sacral fixation, the sacral fixation pattern can be examined very similarly to vertebral fixation patterns. By pressing on the spines of the sacrum in a lateral direction, the examiner determines which way the sacrum moves easily and which way there is resistance to movement of the spines. The sacrum will move easily into the direction of lesion, and there will be less movement in the direction of correction. If the sacral spines move easily toward the left, there will be a predisposition to a left anteriority and right posteriority following the angles of the sacroiliac articulations. The sacral fixation is treated on the side of the sacrum which shows the greatest amount of resistance to an anterior-ward testing pressure directed just medial to the posterior-superior iliac spine.

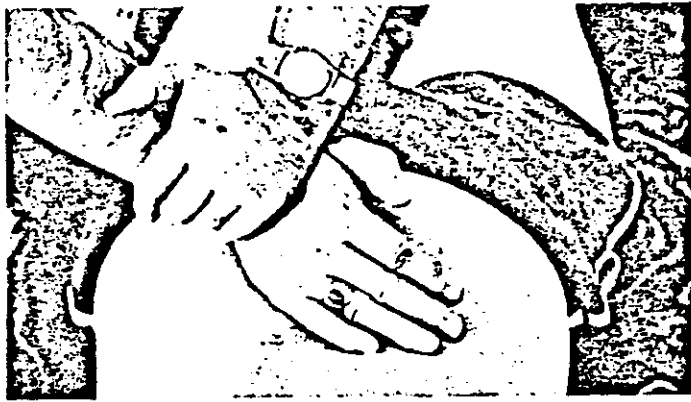
If the resistance is found on the microposterior side, adjust the sacrum straight down toward the table in line with the sacro-iliac articular plane.

If the microanterior side shows greater resistance, the patient is placed side-lying with the microanterior side of the sacrum in an upward position. The microposterior sacral side (the one closest to the table) is held with one treating hand, while the patient's trunk is torqued with the superior shoulder moving posterior and the patient's upper leg and pelvis being stabilized in such a manner as to release the anterior sacral fixation. After releasing the sacral fixation, re-test the posterior neck extensors right and left individually to determine correction.

I had a patient who was a young nun, who complained bitterly of a sciatic neuritis, a pain in her leg that came following a fall. She was quite meticulous about her condition and used to ask me why did she have such a problem each time I would treat her. I would remonstrate, "You have the problem because of the result of the injury," and she would ask, "But why was that?" I would reply, "Because the vertebra was moved out of position." Her next question would be, "But why does that cause the pain?" And I said, "Because the vertebra literally caused a pinching of the nerve and it caused the nerve to swell." Then she asked, "Why doesn't it go away?" and I answered, "Because the swelling caused by the pinching doesn't go away immediately. If you had a callus on your hand from playing tennis, when you put the tennis racket away the callus doesn't go away immediately, it takes a little time." Again she asked, "But why is that?" I said, "Because the vertebra was pressing hard enough and had not moved back to its original position." And again she asked, "But why is that?" and I answered "Because of the disturbance that came from the fall." And still again she asked, "But why is that?" With her continued questioning, I tried to sort of end the conversation by saying, "Well, Sister, the ultimate cause of your trouble is 'original sin.' Would you buy that?" She said, "Okay"—and much to my surprise discontinued her questioning.

Later that afternoon I had a patient who had had a bad varicose ulcer which had healed up quite well under our care, and the ugly discoloration and open ulcer at her ankle had cleared up very nicely. Unfortunately, however, she had fallen and ripped it open again on a sharp piece of concrete on the step where she had fallen.

I had asked her to stop smoking, which has a vaso constricting effect; and also to increase the use of a natural source of Vitamin "E," which has a tendency to make the blood a little more fluid, with less tendency to clot. When I questioned her, she mentioned that she had started to smoke again and stopped taking the Vitamin "E." I said, "Well, we will pay a little more attention to your condition and get this cleared up. I want you to stop smoking and start taking the Vitamin "E" again." She agreed,



but she said, "Why did it come back?" I said, "Well, the way the blood vessels come out of the bone there they have to make almost a right angle, and the skin circulation to that part of the shin bone is rather precarious at best." She said, "But why did it come back?" I said, "Well, because the circulation was a bit impaired and there was some scar tissue, and besides you had the fall and it damaged the tissue." She said, "But why did it come back?" and I again tried to explain, "Because undoubtedly the circulation was impaired by the increased tendency of the blood to clot and also the increased vasoconstriction caused by your smoking." When she again asked, "But why is that?" I said, "I had a nun in here this morning who kept asking me questions like this, and I told her that the ultimate cause of her problem was original sin." To this the patient said, "Hmph!" and then looked at me questioningly and asked, "What do you think caused MY trouble?" I said, "Well, your history is quite clear. It was the fall." She looked at me again, questioningly, and said, "The fall?" I said "Yes." She opened her eyes wide, arched her eyebrows, and asked, "Adam's?" And I said, "No, yours."

Sometimes the things patients say truly surprise you. In this instance I had used the concept of "original sin" to neutralize a questioning patient with a certain humorous tone, and most of the time it had gone very well. But there are always exceptions.

Chapter 13

APPLIED KINESIOLOGY DIAGNOSIS AND TREATMENT OF EMOTIONAL STRESS OVERLOAD

Why and How Emotions Lock and Unlock Body Processes and How To Effectively Diagnose and Treat Both Evident and Hidden Emotional Problems.

Mental and Emotional Health

Mental health problems are one of the most misunderstood afflictions of mankind today. More people are hospitalized for mental health problems than for any other cause. Tranquilizers, mood elevators, and other types of psychic drugs usage is on a constant increase. We are constantly advised to "take this medication to help cope." The basic cause of the problem, unfortunately, is not corrected by medications and long-term hospitalization.

The problem needing attention may be a severe case of schizophrenia, depression, hyperkinesis in children—or it may be "housewife syndrome" or too much business pressure. The brain is an organ having specific functions which must be accomplished. When it does not function normally, most often there is a physical or chemical reason for the dysfunction.

The mystique about the brain and its functions arises because it is such a complex, still-little-understood body organ. When it is subjected to abnormal chemistry within the body, its great complexity makes it even more apt to cause significant and severe symptoms.

There is one bright light in understanding and treating mental and emotional problems. We can draw a parallel for better understanding this way: Consider the digestive system as a complex of organs making up a system similar to the system made up of the brain and the nerves. Let's say you're functioning normally—showing no symptomatic health problems. During an evening at a friend's house you eat three jalapeno peppers with an excellent Mexican dinner and beer. Although these taste great at the time, later that night you can't sleep because of severe digestive burning and actual pain. It doesn't take a mental giant to diagnose the disturbance as excessive irritation in your digestive system caused by the jalapeno peppers. This teaches you that this type of dietary indiscretion is not compatible with a good digestive function, or a good night's rest, so you do not repeat the ingestion of jalapeno peppers.

In other words, this is easy to understand because it is a process with which we are quite familiar. The digestive system is one which doctors and physiologists understand very well. Even television commercials tell us about this system.

Similar types of symptom complexes can develop in the nerve system, which includes brain activity. Here are some of the ways that improper function of our bodies can affect our mental and emotional patterns:

Allergic Reactions: Allergies, whether to natural food products or chemical contaminants, have been shown to cause severe brain reactions. We have all seen swelling which takes place because of an allergy to a particular food or chemical compound. This swelling may be in the eyelids or the mucous membranes of the nose (hayfever), together with constriction in the bronchi (asthma), of the skin (hives)—and so on.

Surgery has shown that same swelling can occur in and around the brain because of allergy. This creates a much more significant problem because the brain is contained within the confines of the skull, and swelling causes pressure upon the nerve tissue of the brain. This pressure causes irritation to the sensitive brain tissue, and a change in function of the brain. This reaction is similar to the swelling of tissues in the air passages of the nose and bronchi. However, when the breathing passages are closed down the basic function of the bodily system is impaired—the passage of air. The difference in swelling in the skull is that, instead of interfering with air movement, it interferes with the brain's basic function—thinking.

Understanding the process of allergic effect on brain function makes it easy to understand how doctors, who have found an allergic response to be the cause of a schizophrenic patient's symptoms can cause immediate recurrence of those symptoms by giving the patient whatever he is allergic to. Doctors using this natural approach to mental and emotional problems can have a schizophrenic patient hold under his tongue a small amount of the allergen, and witness him go into a schizophrenic attack within minutes even if he has been without symptoms for many months—and the attack may last hours or even days after the allergen test is performed.

Many types of foods and chemicals in our environment can cause this type of allergy. A basic allergy, which natural health methods can correct, can make some individuals incapable of correctly utilizing natural food products (different grains, sugars, etc.) Chemicals which have been added to our foods (preservatives, food colorings, artificial flavorings, etc.) form a classification of allergens foreign to the body, which frequently must be eliminated from the diet in order to regain normal mental and emotional function.

Certain types of nutritional deficiencies can render the body incapable of coping with chemicals—either natural or synthetic—which may be causing the allergy. The doctor testing body function with applied kinesiology (a system of using the muscles of the body for evaluation) can determine what nutritional supplements are necessary and what foods or chemicals are affecting the patient.

Blood Sugar Handling Stress: It is quite difficult for the body to maintain blood sugar levels within normal ranges in today's society. Two glands—the pancreas and the adrenal—primarily accomplish this function. If the blood sugar levels drops to a low state or makes rapid changes there are usually mental ramifications, accompanying or following this blood sugar stress. Depression and the inability to think clearly are very common mental-emotional problems accompanying low blood sugar (hypoglycemia). Blood sugar can be compared to gasoline, which runs an engine. One of the tissues depending most significantly upon normal blood sugar levels is nerve tissue. We can see that the brain will not function well when the blood sugar level is too low. Just as significant is a rapid change from low to high, or high to low, blood sugar. This causes rapid mood changes and other mental symptoms. Unfortunately, many individuals suffering from a blood sugar handling stress find they feel better after eating candy, drinking soda pop, etc. This rapid sugar intake just aggravates the condition and ultimately makes the total condition worse.

A subsequent involvement of blood sugar handling stress is often functional hypoadrenia, which occurs when the adrenal gland is unable to handle all the demands placed upon it. This secondary condition aggravates an allergic reaction, as has been discussed. The adrenal gland manufactures hormones for the body which are pro-inflammatory and anti-inflammatory in nature, and these hormones help to hold allergic reactions in check. There is an inadequate or imbalanced supply of these hormones when the adrenal gland is not functioning adequately, and have not only the emotional problems from blood

sugar handling stress (depression and mood changes) but the individual is very susceptible to allergic reaction, which causes a swelling around the brain and other nerve tissue.

When we remove the mystique from mental illness we find that the brain and nerve system act as an organ and system. Their reactions are much the same as those of the stomach and digestive tract in our earlier jalapeno pepper illustration. Mechanical pressure from an allergy reaction causes an effect—blocked air passages in the nose or bronchi, or impaired brain function—depending on the location of the swelling. A lack of certain nutritional complexes which are detoxicants to hallucinogens cause the brain and nerve system to react. If there is a low blood sugar level or rapid changes in blood sugar level, the brain reacts by not functioning or by changing its function rapidly.

Remove the mystique and mental health problems respond to natural health care like any other health problem. The key, as usual, is to receive the proper treatment as early as possible, being careful not to mask over the condition's symptoms with chemicals that act as tranquilizers or mood elevators. Delay of proper treatment can cause permanent damage, or at least make the condition much more difficult to correct.

Applied Kinesiology Diagnosis and Treatment

Any holistic health care system must consider the patient's mental and emotional states in addition to the patient's physical health. Applied Kinesiology (AK) views health as a structural, chemical, psychological equilateral triangle in which each side is in contact with and has a direct effect on the other two sides. (Because of AK's chiropractic origins, applied kinesiologists generally consider the base of the triangular model of human health to be structure, or body mechanics.) Any change in one side measurably affects the other two sides.

On a philosophical level, most practitioners will agree with such a holistic model. But making practical clinical use of it often depends more on intuition than precise clinical evaluation.

Psycho-somatic and somato-psyche relationships have been discussed by many leaders in body-mind therapies, such as the late Ida Rolf, Moshe Feldenkrais and Alexander Lowen. All these approaches recognize the intimate hook-up of the soma and the psyche, and direct their therapies toward improved function and communication of the body-mind. Yet, in a general practice of chiropractic, medicine, dentistry, and so on, the relationships of mind and body are just as often overlooked because of the cumbersome nature a work-up of the patient involves along these lines. The GP may in fact recognize a body-mind problem in a patient and refer him to someone who specializes in such a discipline, or he may attempt to affect the psychological side of the patient's health problem through his bedside manner and personal charisma; or he may simply, unintentionally or otherwise, overlook the psychosomatic or somatopsychic component of the patient's problem in an attempt to direct therapy at apparently more pressing needs.

Applied kinesiology provides specific tools for identifying precisely what is taking place in a patient's nervous system by relying on a system of sophisticated body biofeedback communication. Since the beginning of its development in 1964 applied kinesiology has utilized standard muscle testing procedures to identify aberrant nervous system function (as opposed to pathology). These procedures have now been refined to where muscle testing provides a consistently accurate tool in assessing patient's health problems, a line of communication with the patient's nervous system unparalleled by any other approach.

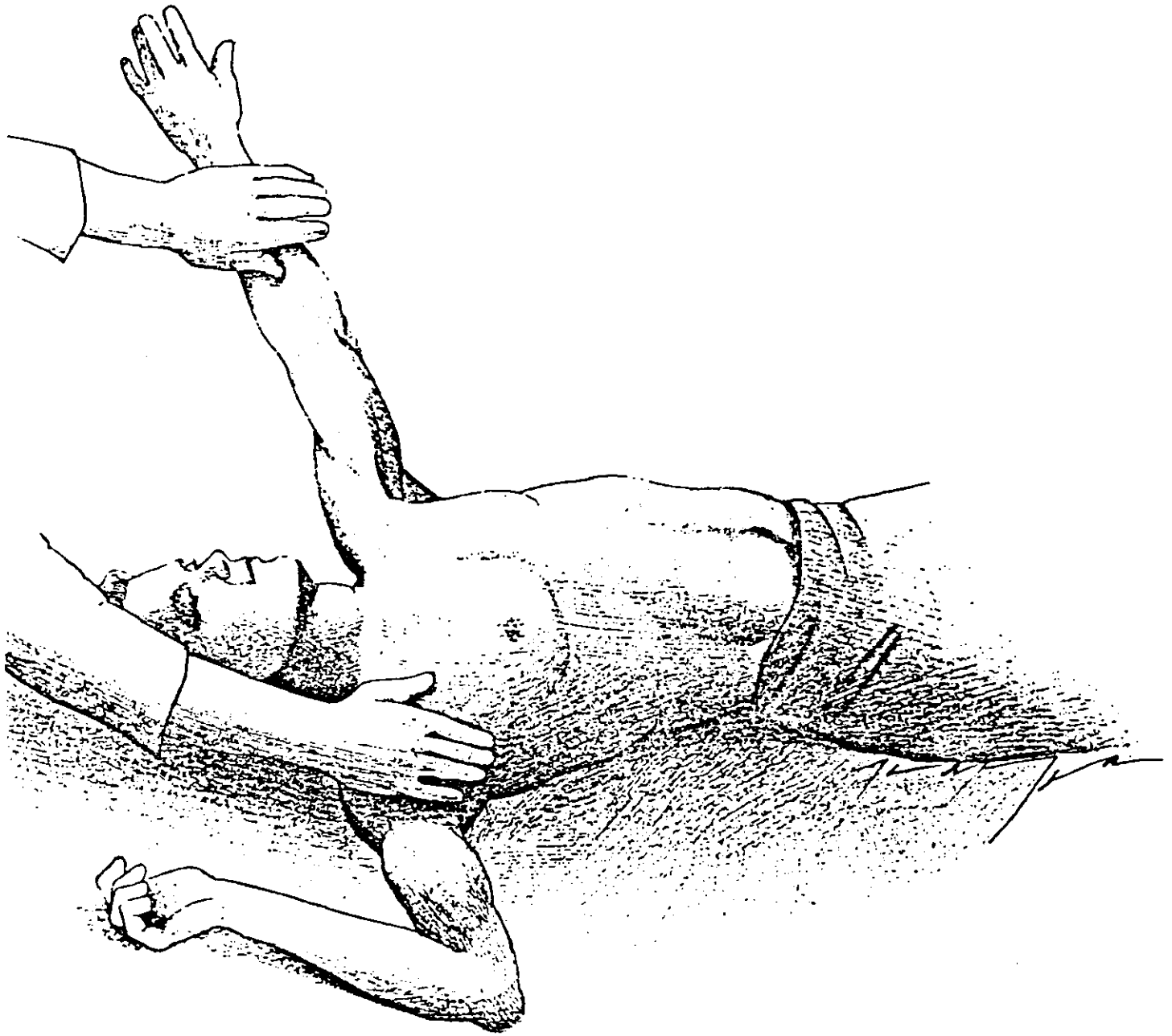


Fig. 1: PROCEDURE FOR TESTING PATIENT'S PECTORALIS MAJOR CLAVICULAR DIVISION. WITH PATIENT ON BACK, IDEALLY ON WAIST-HIGH TABLE. HAVE PATIENT RAISE ONE ARM STRAIGHT UP TOWARD CEILING, ELBOW FULLY EXTENDED, AND PALM TURNED OUTWARD AWAY FROM BODY. PRACTITIONER THEN, HOLDING OPPOSITE SHOULDER DOWN FOR STABILITY, APPLIES PRESSURE ON PATIENT'S EXTENDED FOREARM IN OUTWARD AND SLIGHTLY (10°) FOOTWARD DIRECTION WHILE PATIENT RESISTS. PAY CLOSE ATTENTION TO AMOUNT OF RESISTANCE PATIENT IS ABLE TO EXERT.

AK investigation has elucidated a specific organ-muscle relationship. Muscles and organs have specific viscerosomatic and somatovisceral relationships. When there is dysfunction in a specific organ (say the stomach), a specific related muscle will test weak (in the case of the stomach, the pectoralis major, clavicular division). This muscle weakness may be obvious on initial testing or may require further AK investigation, the details of which are beyond the scope of this chapter. A muscle may test weak for a variety of reasons—injury to the muscle itself, neurological reflex inhibition from malfunction of its related organ, a deficiency of a nutrient requirement specific for that muscle, a psychological stress overload, and numerous other causes discussed comprehensively in AK texts. (Muscle weakness in this context is of a functional nature and is different from the muscle weakness of the neuropathies although both functional weakness (inhibition) and pathological weakness (degeneration) may be present together.)

The relationship of the stomach and stress is well known in both medical and lay circles. The “triad of chronic stress” as presented by Hans Selye involves adrenal cortical enlargement, atrophy of the thymus and lymphatic structures, and gastric or duodenal ulcer formation. People commonly get “butterflies” in their stomachs before a performance, presentation, or competition; an argument often leaves one or more participants without an appetite, and so on. The gastric-stress relationship is the basis for understanding the applied kinesiology approach to emotional stress overload.

If a lightbulb goes out, you may have to replace the bulb or repair a short in the switch or in the wire or in the main line to the house. Replacing the bulb may not resolve the problem. In the case of muscle weakness, exercising the muscle (the classical approach) will not correct the problem when the weakness is due to inhibition from a “short circuit” somewhere along the neurological line. The “circuit breaker” must be reset and the potential cause of the overload in the circuit may (or may not) have to be corrected. These “circuit breakers” have the potential to correct themselves, when they do not, they result in patients who eventually show up in your offices and it becomes your duty to recognize and treat these areas.

Applied kinesiology offers a simply applied diagnostic tool, designed for the general practice, which unveils the body-mind factor and places it in a perspective which can be treated routinely in the office by the GP and continued in the home by the patient.

Emotional stress frequently causes an “overload” in one or more of the body’s neurological circuits. The stress may be a single event, such as the loss of a loved one or an accident, or it may be of a chronic nature—a difficult marital situation or a financial or job-related stressor. When its intensity or duration reaches a certain level, it will cause a “short circuiting” in the patient’s nervous system of one or more protective “circuit breakers.” This allows the emotional stress overload to affect not only the psychological side of the triangle, but the chemical and structural sides as well.

When such a short circuit occurs (and we find it occurring in approximately 30% of our new patients), there will be a spillover effect from the psyche into the body (which can be identified by the use of applied kinesiology muscle testing) which will contribute virtually to any dysfunction the patient may present.

Emotional Recall Technique

To determine if emotional stress is adversely affecting your patient, begin by using the technic of “emotional recall.” Start with the pectoralis major clavicular muscle (PMC) showing bilaterally normal strength to testing, as explained in Fig. 1. (If one or both PMC muscles are weak initially, they may be temporarily

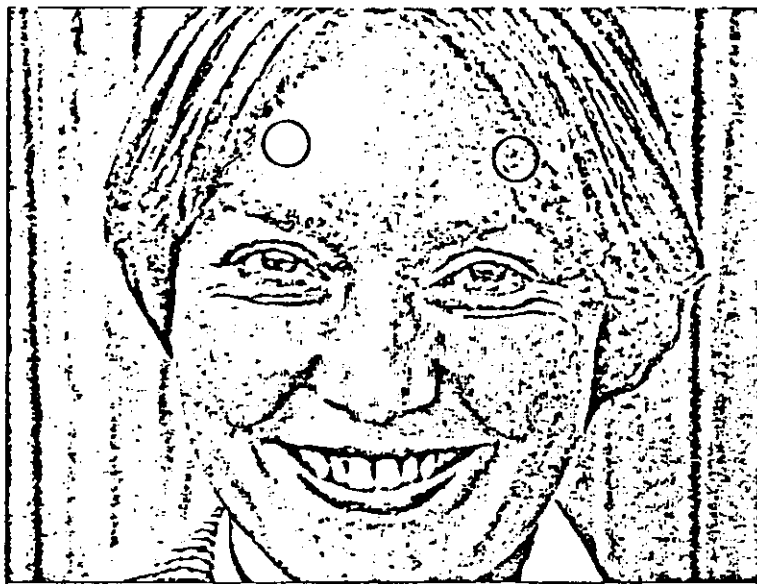


Fig. 2: LOCATION OF THE EMOTIONAL NEUROVASCULAR RECEPTOR POINTS. THESE ARE ACTIVATED BY MAKING LIGHT FINGERTIP CONTACT UNTIL STRONG AND EQUAL BILATERAL PULSATATIONS ARE FELT.

Test Muscle	Related Body Mechanism
Sternocleidomastoid	Sinus
Scalene	Sinus
Subscapularis	Heart
Teres Minor	Thyroid
Infraspinatus	Thymus
Pectoralis, Clavicular Division	Gastric
Pectoralis, Sternal Division	Liver
Supraspinatus	Brain
Latissimus Dorsi	Pancreas
Piriformis	Uterus
Piriformis	Seminal Vesicles
Psoas	Kidney
Gracilis	Adrenal
Sartorius	Adrenal
Gastrocnemius	Adrenal
Soleus	Adrenal
Tensor Fascia Lata	Colon
Popliteus	Gall Bladder
Peroneus Longus	Bladder
Peroneus Brevis	Bladder
Tibialis, Anterior	Urethra
Deltoid: Ant., Med., Post.	Lung
Serratus Anterior	Lung
Coracobrachialis	Lung
Quadriceps	Small Intestine
Abdominal Muscles	Duodenum
Trapezius, Upper	Eye, Ear
Trapezius, Middle, Lower	Spleen
Splenius Capitis	Sinus
Hamstrings	Rectum
Gluteus Maximus	Sex Glands
Gluteus Medius, Minimus	Uterus
Adductors Longus, Brevis & Magnus	Seminal Vesicles
	Sex Glands
Sacrospinalis	Bladder

strengthened by heavy finger pressure at the muscle origin and insertion, or by one of the other AK methods discussed in this text. With your patient supine, instruct him to close his eyes and think about a major problem bothering him at the present time, or to relive in his mind a major tragic or disturbing incident from his past. The patient should NOT verbalize these thought patterns; rather, encourage him to feel, smell, taste, hear, sense in every respect the way he feels (or felt) when the disturbing incident takes (took) place.

As the patient brings the emotionally stressing situation into clearer mental focus, watch for the appearance of rapid eye movements (REMS) under the closed lids. REMS will always develop when the patient completely concentrates on the emotionally stressing events. When the REMS become obvious and agitated, the patient is usually well in the emotional recall pattern.

At this point some patients will actually experience an emotional release in the form of sobbing, sighing, heavy breathing and tears. Assure the patient that this is a normal reaction, but no further discussion of the patient's mental or emotional state should occur at this time.

When REMS have been present for 15 seconds or so, retest the PMC bilaterally. If the patient has an emotional stress overload, the previously strong muscles will now test dramatically weak—a demonstration to both practitioner and patient that the psychological side of the triangle is a significant factor in the patient's presenting problem.

This pattern, however, indicates a neurological "short circuit" which may readily be corrected and does NOT necessarily indicate that the patient requires referral to a specialist in mental health. In fact, the term psychosomatic illness describes only half of the body's reaction to emotional stress overload. One should place equal emphasis on the somatopsychic factors in illness as well. What appears to occur is a vicious cycle of a psychosomatic and somatopsychic reverberating circuit, unchecked because of faulty neurological circuit breakers. The majority of patients encountered in our general practice who demonstrate this emotional stress overload pattern are returned to normal functioning by the therapy discussed below.

The Emotional Neurovascular Reflex

Terrence Bennett was an innovative chiropractor who did considerable investigation through the Neurological Research Foundation in California between 1936 and 1950. His published findings included work on what he termed the "neurovascular reflex points." He showed that there are discrete sensory areas on the surface of the body which have direct neurological relationships with specific visceral function. He felt that these relationships were neurovascular in character and that stimulation of these points by light touching of the skin would improve function in the diseased area by reactivating a dormant embryonic vascular pulsating action in the specific organ in question.

Applied kinesiology investigation of these "neurovascular receptors" was later published in 1966 (Goodheart's 1966 Research Manual and revealed that each primary NV receptor related not only to the visceral function described by Bennett but also to a specific muscle. The NV reflex-organ-muscle relationship paralleled the other organ-muscle relationships he had established earlier and served to further document their accuracy.

The NV reflexes are one of the types of "circuit breakers" which have been previously described and are found primarily in the skin of the head. When "short circuited," they may be "reset" by the practi-

tioner's holding his fingertips in a light, tugging contact on the specific location until a pulsation is felt in the patient's skin by the doctor's fingertips. This is assumed to be an indication that the receptor has accomplished its task of improving circulation and normalizing function in the target area of treatment and requires from 15 seconds up to several minutes of holding. A weak muscle will respond by strengthening upon proper activation of the associated NV reflex points, that is, by "resetting" the neurovascular "circuit breaker."

The specific circuit breaker related to emotional stress overload has been found to be the neurovascular receptor previously described by Bennett as being related to the stomach, and (Goodheart 1966 Research Manual) as being related to the pectoralis major clavicular. Now it becomes clear why the emotional recall technic will cause weakening of the PMC's, especially in light of what has been shown about the stomach's reaction to stress.

Treatment of the Emotional NV Reflex

Once you have identified an emotional stress overload denoted by weakening of the PMC's during emotional recall, the application of appropriate therapy to the short-circuited emotional neurovascular receptors must be performed. The emotional (gastric, PMC) NV points are located on the frontal eminences bilaterally (see fig. 2). These are located directly over each eye, halfway between the eyebrow and the original hairline. The practitioner lightly touches these receptors until he feels strong, EQUAL pulsations in the skin bilaterally. This takes from 15 seconds up to, in difficult cases, 7 or 8 minutes. They also may be adequately treated by the patient himself. (If this therapy seems too simple, think of the tens of thousands of cutaneous touch-pressure receptors which are being stimulated selectively and continuously by the doctor's or the patient's touch while all of their neighboring receptors remain quiescent. This barrage of afferent input will create a specific effect to which the nervous system must react.)

The practitioner must confirm that the length of the therapy has been adequate to reset the patient's emotional NV circuit breakers. This is simply done by re-enacting the emotional recall procedure, and retesting the PMC's to ascertain that they no longer weaken during recall. If they do, it is an indication to hold the NV points longer.

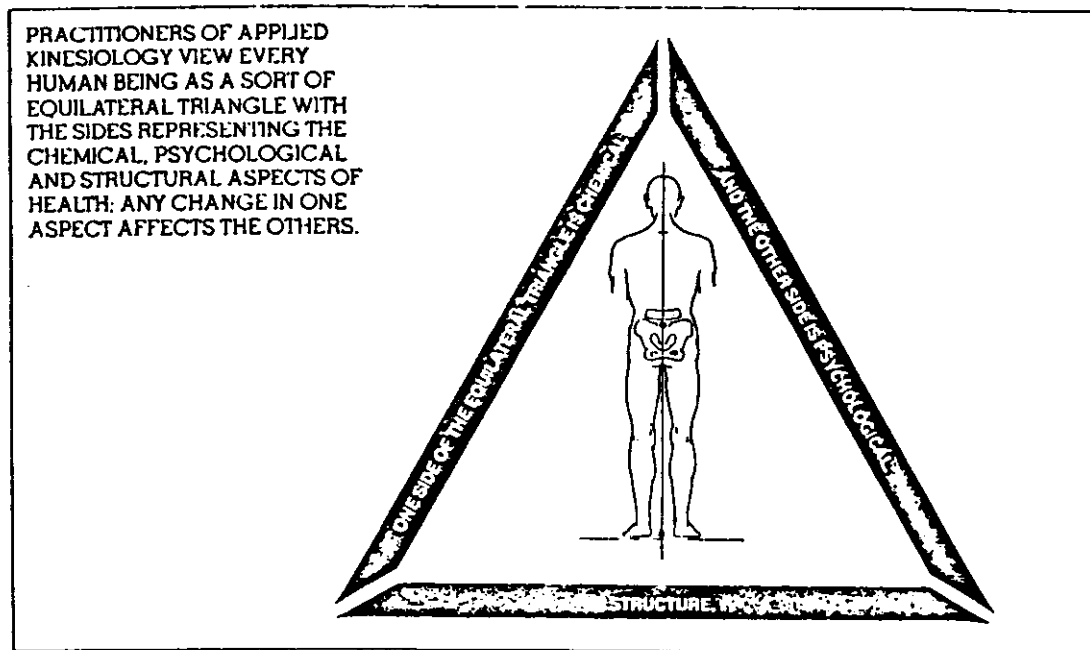
The dramatic maintenance of PMC strength at this point suggests what has been done for the patient. The simple application of the emotional NV reflex pattern has interrupted and destroyed the reverberating psychosomatic-somatopsychic cycle. Our experience shows that a large number of patients, particularly those who experienced emotional releases associated with the initial emotional recall will, after the second emotional recall, say that it has become difficult for them to even think about the problem which bothered them so much only minutes ago. Some will say that the problems which then seemed insurmountable now seem trivial. Such patients have experienced a release from the somatopsychic feedback that previously had locked them into an emotional pattern and prohibited them from achieving the balancing of a rational perspective. The overall long-range response of patients on both physical and psychological levels indicates that this therapy achieves a balancing of the patient's nervous system and an improvement in the capacity of the patient to cope with emotionally stressful situations.

The life styles of some patients are such that they are never able to get out from under emotionally stressful situations. Instruct such patients to activate the emotional NV points themselves by lightly touching them, first thing in the morning and last thing at night, for 4-5 minutes., and any other time they are experiencing emotional stress. The practitioner himself would do well to heed this admonition. Activation of the emotional NV's for 30-60 seconds several times a day can be a great aid to eliminating

the cumulative effects of the stress of your practice.

To summarize the emotional stress overload-emotional neurovascular technic:

1. Test PMC bilaterally (both PMC's must be strong initially to perform this procedure. If weakness is present, it must first be corrected.)
2. Have patient perform emotional recall: a) mental, not verbal, recall; b) watch for REMS.
3. Retest PMC bilaterally (expect to find them much weaker in more than 90% of patients in whom emotional stress overload is present).
4. Hold light touch contacts to the emotional neurovascular reflex points of both frontal eminences until a pulsation is felt beneath the patient's skin.
5. Retest both PMC's (expect them to be strong now).
6. Have patient re-perform emotional recall.
7. Retest both PMC's. If they now weaken, hold NV points longer. When they are strong, therapy is complete.



Ribonucleic Acid Memory Patterns

In approximately 5% of patients whose history and signs and symptoms suggest the presence of emotional stress overload, investigation via emotional recall yields negative findings. A common pattern of ribonucleic acid (RNA) requirement is found in most of these patients. The need of RNA acts as a coverup mechanism, hiding the classical muscle weakness response to emotional recall.

RNA is closely identified with chemical memory patterns in the nervous system. Applied kinesiology investigation has shown an interesting pattern relating to RNA deficiency. Interesting findings relating RNA to the proprioceptive memory of the nervous system were published in 1971 (Goodheart Research Manual, 1971).

Normal patients will be able to perform a one-footed Romberg test (ability to maintain balance while standing on one foot) adequately with their eyes open or closed. Certain patients, however, who can perform the Romberg with their eyes open show considerable loss of stability (swaying and tendency to fall) immediately upon closing their eyes. It is as if these patients' nervous systems have literally forgotten where they were the instant before they closed their eyes. Goodheart related this finding to an RNA deficiency. Upon chewing one or more RNA tablets (180 mg. each, derived from a yeast source) these patients were shown to have a marked improvement in the positive Romberg with eyes closed. The cellular proprioceptive memory pattern seems to be dependent on an adequate nutritional source of RNA for its normal function. Upon chewing and ensalivating the appropriate number of RNA tablets (usually 1, 2, or 3, but occasionally 6 or more, as determined empirically by normalization of the Romberg test), the nervous system is immediately able to remember where it had been with the eyes open.

This procedure has helped identify an RNA dietary requirement in many patients in which it would otherwise have gone unsuspected. RNA is given to these patients in an amount equal to that which normalized the Romberg test, 2 or 3 times daily. Many patients with equilibrium problems (even geriatric and neurological patients with this type of instability) have shown improvement in their symptoms of loss of balance or general postural instability when placed on a regime of RNA supplementation based on this diagnostic procedure.

RNA and Emotional Recall

The fact that RNA is related to memory is applicable to the emotional recall pattern previously discussed. Some patients, who are strongly suspected of emotional stress overload, appear to have nervous systems which have "forgotten" the emotional incident which triggered the pattern. The patient may consciously be able to relive the emotional trauma, but the nervous system has forgotten how it is supposed to respond to such a stress overload. The emotionally stressed patient who is negative to emotional recall on initial examination is asked to chew and ensalivate a 180mg RNA tablet. The practitioner once more instructs the patient to perform the emotional recall. When the RNA pattern is present, the patient will now show positive response in that both PMC's will test weak.

The emotional neurovascular reflex points are then treated as previously discussed. The patient may or may not demonstrate a positive one-footed Romberg with the eyes closed. In other words, there may not be an outright RNA deficiency, but rather a sub-clinical need for the RNA to more or less jostle the patient's memory for the emotional recall to be active. RNA in this context is a diagnostic adjunct and is not required as part of the patient's nutrition.

The critical factor is identification or diagnosis of the need for emotional neurovascular therapy. The patient's nervous system has literally forgotten what the problem was and how to react to it, yet the problem continues to be an irritating focus. The 180mg RNA brings the problem to the surface, where it can be treated by the AK methods discussed. The RNA-memory activation pattern is also useful in restoring the nervous system's memory of other aberrant circuits. That is, certain other muscle weakness patterns which one would expect to find based on the patient's history, signs, and symptoms

will not be present unless RNA is ensalivated. This occurs in about 2 to 3% of all patients we see.

Activation of the CHEMICAL side of the triangle (using RNA) is necessary to identify problems in the PSYCHOLOGICAL side of the triangle (emotional stress overload) which further have their outward effects on the STRUCTURAL component of the patient's health (PMC weakness). Only through the ability to communicate with the nervous system that is afforded us by the body language of muscle testing and by applied kinesiology procedures, is it possible to uncover these complex patterns of health and disease. AK is the tool which makes it possible to PRACTICE holistic philosophy and holistic health care at its maximum effectiveness in the setting of the general practice office.

I had one patient call recently who was having a very, very difficult miscarriage at three months, and prior to calling me had bled through a mattress. By holding a basic contact I was able to stop the uterus from contracting, which felt like a small, very very hard cannonball, and it eventually relaxed and she went on to deliver a fine boy at eight months.

This was the beginning of a very fine relationship with this family. I got to know them very well, and I was responsible for the care of their children. Early on, the oldest developed an appendicial rupture in the matter of four hours, which is very unusual, and the signs and symptoms came and went so fast that by the time I got out there the appendix had already ruptured and many of the signs and symptoms that the child had complained of were now absent.

But as the days went on I could feel this mass accumulating, until finally what looked like a translucent egg appeared in the right hand corner of his abdomen and he eventually needed surgery, from which he recovered very well.

Another child put his hand through a glass storm door and tore his radial artery, which required immediate repair.

Another child placed a bean in his ear and promptly tried to wash it out with some water, and the bean swelled until the side of his head was about twice the size of the other side.

Another child got up into some Christmas presents that had been stored in the attic and ate some rocket fuel which was supposed to produce a foam to emulate the rocket's pattern of rising, and the foam emerging from the child's mouth, nose and every other orifice caused his mother to call me in a panic.

Another child managed to split his head open and spilled his meningeal structures out through the front of his split skull.

Another child rolled naked into a bed of poison ivy.

Each time there was a frantic call on the telephone with some type of activity, so one day after many horrendous episodes, I asked the distraught mother, "Why don't you call me some time and tell me everything's all right?" This she did promptly for the next six years, with no break in the monthly episodes. Once a month I'd hear the calm voice rather than the distraught one, and I told her that I appreciated her calling. She told me that it seemed to be working and nothing was happening, for which we were both truly grateful.

My attitude towards people was greatly influenced by many things. When my daughter, who is now thirty and the mother of a very lovely little boy, was only six she awoke late in the night or early in the morning of the day following a birthday party she had attended—and obviously she had eaten too much and had thrown up and was feeling very much out of sorts.

She was almost still asleep, standing with her hands on her crib, and half asleep half awake, looked at me and said, “Daddy, what’s wrong with me? Can you help me? Will I be all right?” I told her, “You’ve been throwing up from too much birthday cake and ice cream. I can help you. You will be all right.” She said, reassured, still with sleep in her eyes, “Thank you very much,” and promptly went back to sleep with no more episode of vomiting or any other distress.

This is what patients want to hear: What’s wrong with me? Can you help me? Will I be all right? If you can honestly answer all three of those questions, your practice is assured.

I wish to acknowledge all the help given me by Walter H. Schmitt, Jr., D.C., in the compilation of this chapter.

Chapter 14

REACTIVE MUSCLE TESTING

Why Some Muscles Cause Other Muscles to React Painfully or Weakly or Go Into Spasm, and What to Do and How to Do It.

Man, as you know, is a structural-chemical-psychological equilateral triangle, and he possesses the potential for recovery through the innate intelligence of the human structure. This recovery potential with which he is endowed merely waits for your hand and heart and your mind to bring it to potential being and allow the recovery to take place which is man's natural heritage. This benefits man, and it benefits you, and it benefits our profession.

The research material on Reactive Muscle Testing allows a new approach to old problems, and is another piece of the jigsaw puzzle which nicely fits in place, to quote the words of Dr. Sheldon Deal of Arizona.

Frequently we see a patient who exhibits a symptom pattern or a disease syndrome which would reflect itself in an acute or chronic situation which would not yield much information on ordinary muscle testing. The patient with the recurring knee problem, with the recurring elbow or shoulder problem, with the recurring lower back problem, many times defied proper analysis and frequently defied proper correction.

Every muscle has, as you know, a reciprocal muscle or an antagonist—the biceps and triceps, for example—and then, on a kinetic basis, there are many muscles which act in a mutually beneficial, antagonistic, reciprocal manner. The laws of balance of one muscle to another allows an almost endless array of possibilities.

A good example is the activity of the quadriceps, which is a hip flexor in relation to the abdominal muscles, which are hip extensors. In other words, the quadriceps muscles pull down on the anterior superior spine, and the abdominal muscles pull up. The hamstring pull down on the ischia, the sacrospinalis and the gluteus max pull up on the ischia.

The normal spindle cell and golgi tendon apparatus allows for a nicely balanced tone to exist between those muscles which, for example, pull down; and those muscles which, for example, pull up. But if there has been an injury, an accident, or a trauma, recent or ancient, remembered or forgotten, occasionally there may be an error in the muscle memory, and the spindle cell of the quadriceps, for example, will be set too high. If we gave, for example, a value of 4 to the maximum tone of the muscle, it tests strong, but there's no way of telling how strong. When you test the abdominal muscle it tests strong, but there's no way of telling how strong.

Therefore, if we can assume that each has the equivalency of 100% strength, it is with a setting of 4 in terms of strength. But if, for example, the quadriceps were to be set to a unit of 6, we would test the muscle and cause it to activate with the setting of 6, on the spindle cell mechanism which should be 4 at the time. If the abdominal muscle is quickly tested within 20 or 30 seconds after testing the quadriceps, the over-function on the quadriceps "6" setting will only weaken the rectus abdominis and will provide the basis for the postural disturbance that occurs on a kinetic basis when the patient walks or uses the muscle, as opposed to the static position when the muscle is not being used.

Muscles should be tested both in motion and against each other on a reactive basis. When this occurs,

many times you will find that one muscle, or its opponent, or its antagonist, or its reciprocal muscle, has been set too high. As a result, the opposite muscle—it should be a reciprocal muscle—will “blow” so to speak, when the first muscle is put into action. So in the case of the quadriceps, testing the quadriceps yields strength, testing the rectus abdominis, for example, yields strength.

But if one tests the quadriceps and then very quickly tests the rectus, if the spindle cell of the quadriceps is set too high, then it weakens the abdominal muscle—and attempts to activate the abdominal muscle by way of the 5-finger concept of neurolymphatic, neurovascular, neurological, cerebrospinal fluid, or acupuncture meridian connector do not suffice. But if the spindle cell mechanism is supposed to be set too high, and if the spindle cells in the belly of the muscle are pressed on by the two thumbs placed opposite to each other in the belly of the muscle, and if the spindle cell is now pressed together (if the two thumbs are pressed together), reducing the tension of the spindle, if a setting of, say, 6 down to 4—then when the quadriceps is tested it does not cause weakness in the rectus abdominis. The components in a patient's posture are then helped, especially on a kinetic basis.

This is most useful in shoulder problems, when a patient complains of pain on certain motions. The patient many times will say he cannot lift his shoulder, and those of you who are familiar with the frozen shoulder technic know that the subclavian muscle must be activated to free the clavicle on the approaching acromial process. In the absence of surgical adhesions, there is no reason why the shoulder should not come up if the deltoid tests strong.

Many times the deltoid tests strong, but the patient's arm will not come up past the horizontal. One can assume that there is no hypertonus of some of the tied down muscles, such as the teres minor or supraspinatus. Yet if one tests the deltoid in the standard fashion, with the arm flexed at the elbow and pressure applied on the elbow to bring the elbow down toward the rib cage, and the patient resists, the arm being horizontal at the beginning of the test, the strength is present in the deltoid

Quickly test the rhomboid on the same side by having the patient approximate the elbow to the rib cage and test by pulling the elbow away from the rib cage, and then quickly test the deltoid. If the deltoid is the muscle that is weakened by the hypertonic or over-reactive rhomboid, the deltoid will really weaken.

Going to the spindle cell of the rhomboid and using the double thumbs contact, pressing the thumbs toward each other at the belly of the muscle will neutralize the high spindle cell setting on the rhomboid and allow a better function of the deltoid—and the arm will go up, all things being considered.

Just as in the occasional error, like forgetting a person's name or forgetting a person's telephone number, so also can the body forget the right tone setting of the spindle cell mechanism and set the tone too high following trauma or injury. Trauma is the only random activity that takes place in the body. As has been said before, there is no random activity in the body. Body language never lies. But if trauma is interfering with the fine tuning that the body normally possesses, then too high a spindle cell setting will cause the particular muscle with too high a spindle cell setting to pull too hard, and thereby overstretch its opponent or its reciprocal muscle, and cause that muscle to function in a weak fashion when tested in the proper fashion; namely, for example, following testing of the first muscle.

The muscle proprioceptors are the neuromuscular spindles in golgi tendon elements, and both of these are incorporated, as you know, into the gross structure of the muscle itself. The neuromuscular spindles are highly specialized servo-mechanisms which are distributed along the belly of the muscles. They are found throughout the mass of the muscle, but in general they tend to be more concentrated in the

central portion. There are more muscle spindles, for example, in man's phasic muscles than in his tonic muscles—his postural muscles. You might expect this, because the former require more precise control. The neuromuscular spindle is probably the most important, and certainly the most complex, of all these proprioceptive receptors.

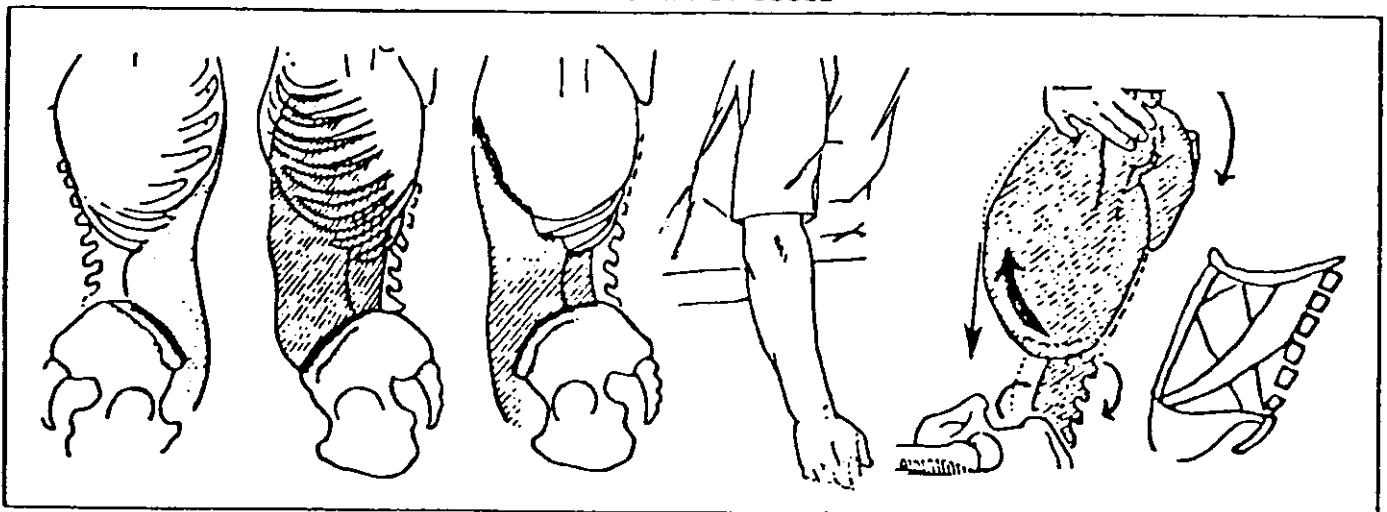
With this structural complexity we generally find functional complexity. The muscle spindle is sensitive to length, and when it is stressed it responds to both constant length as in the maintenance of a postural position, and changing length as in the movement. This firing of the sensory neurons of the spindle reflects both a change in length, which is called the phasic response, and the ultimate length which is finally achieved and maintained, which is called the tonic response.

If both of these aspects of muscle length are considered in variations in the firing frequency, we can understand the muscle proprioceptors. A very fine book called, "*Understanding the Scientific Basis of Human Movement*," by O'Connell and Gardner, was published in 1972 by Williams & Wilkins Company in Baltimore. The section you just read is paraphrased from their discussion on muscle proprioceptors. And to quote O'Connell and Gardner: Muscle proprioceptors are those we know which are stimulated by the action of the body itself. The nervous system uses these sensory receptors to modify and adjust muscle function so that peripheral automatic (subconscious) regulation will dominate in most of our so-called voluntary operational movements. The proprioceptors are stimulated by movement or position. Impulses traverse neuro chains to act upon muscles and alter their effective length, by exciting the various proprioceptors contractionally or subcutaneously to all those other muscles.

In the jargon of the electronics engineer, these reflexes operate as negative feedback loops by means of which motor activity becomes in large measure self regulating. In other words, an expected muscle movement process such as muscle tension, absolute muscle length, phasic change in muscle length, joint position, joint movement, head position, and contact with surface—will all act as stimuli to allow the body to deal with problems which present a challenge to the neural system.

There are proprioceptors that can be classified from the primary muscle proprioceptors. Proprioceptors are also present in the skin and in tendons proprioceptors. These proprioceptors are a finely tuned set of functioning nervous system mechanisms, which allow fine and sensitive muscle movement. Then, if the body has made a mistake and set a spindle cell mechanism too high, the body has had incorrect

ABDOMINAL MUSCLE



information and there is a continual war between the muscles that are set too high and the normal muscle. The principle of Applied Kinesiology rests on the simple premise that the weak muscle causes the hypertonic muscle. And experience has shown this to be eminently true and valid.

In the case of trauma, many times the body sets a spindle cell mechanism too high, and this too-high setting on the tone of the muscle, by way of the erroneous spindle cell setting, does not cause that muscle or the opposite muscle to become weak per se, but only allows the weakness to take place when the overactiveness pulls against a normal muscle. The normal muscle weakens because its ap- position is above normal. A muscle that is 100% will weaken because it is being fired against a muscle which is firing at 120%. It is this error that results from trauma that produces much of the muscle weakness which we see on testing in a kinetic fashion.

Since trauma is the only abnormal random activity that takes place in the body, the relative frequency of one reactive muscle causing a problem to another muscle is multiple and diverse, but the law of averages does yield a certain pattern of activity. The quadriceps being set too high weakens the ip- silateral, rectus and transversalis abdominis. If it is set too high, a double thumb pressure pressed towards each other on the belly of the muscle will not weaken the muscle as one might normally find in a normal muscle, but reduces the quadriceps from a setting of 6, shall we say, to a setting of 4. Then when the quadriceps is tested, it no longer weakens the rectus abdominis.

There are laws of average, as mentioned, that allow the reactive muscle testing to be followed on a certain line of principle. The quadriceps weakens the ipsilateral, rectus abdominis or transversalis. The quadriceps weakens the ipsilateral sartorius, the sartorius and gracilis are weakened as mentioned by the quadriceps, and frequently sartorius and gracilis will weaken the ipsilateral peroneus tertius.

The adductor muscles when tested in the usual fashion, or a more simple technic for this purpose— simply have the patient hold his ankles together and pull one apart from the other. The adductor muscles weaken the psoas ipsilaterally. The psoas muscle weakens the contralateral neck flexors. The neck extensors weaken the contralateral piriformis. The hamstring weakens the contralateral latissimus dorsi. The latissimus dorsi weakens the upper trapezius. The levator scapula on one side frequently weakens the opposite levator scapula. The hamstring will, on occasion, weaken the quadriceps and vice versa.

The list of reactive muscles is endless and nonpredictable, and follows no pattern. There is no set se- quence, beyond the law of averages frequency factors that have just been cited. The approach is simple. Test a muscle; test a related muscle; see if testing the first muscle weakens the second muscle, which is related to it in posture or reciprocation.

If this obtains, in other words, if testing one arm muscle weakens another, then go to the original mus- cle, contact the belly of the muscle, put a double thumb contact on the belly of the muscle, press the thumbs toward each other using about 4-6 pounds of pressure

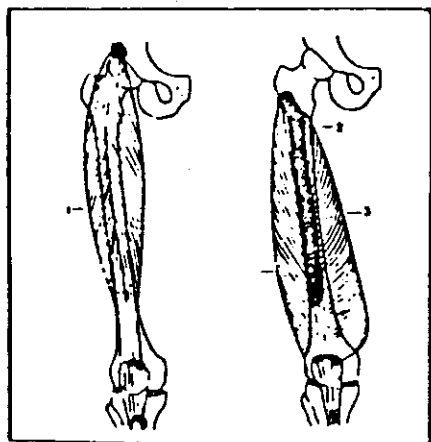
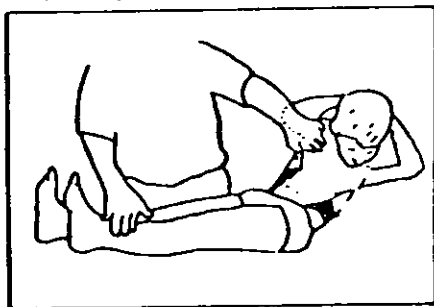
Do it two or three times; retest the original muscle to make certain you haven't weakened it; and then test that muscle against the muscle which previously weakened. You should get a good response, and it is especially useful in the case of trauma.

It is occasionally necessary to use golgi tendon organ stretch patterns as well, and in the case where the muscle continues to produce weakness in its reciprocal opponent or antagonist, in addition to measures applied to the belly of the primary muscle to affect the primary spindle cells, you may have

REACTIVE MUSCLES

MUSCLE	SPINDLE CELLS
QUADRICEPS	Rectus Abdominis Sartorius
RHOMBOIDS	Deltoid Serratus Anterior Supraspinatus
GASTROCNEMIUS (lat. head)	Popliteus
GASTROCNEMIUS	Quadriceps
HAMSTRING (lat. head)	Popliteus
HAMSTRING	Opp. Latissimus Dorsi Quadriceps
SACROSPINALIS	Hamstring
UPPER RECTUS ABDOMINIS	Lower Rectus Abdominis
RECTUS ABDOMINIS	Opp. Gluteus Medius
RECTUS ABDOMINIS	Neck Flexors, Neck Extensors
SPLIENIUS CAPITUS	Opp. Piriformis
ADDUCTORS	Psoas Tensor Fascia Lata
GLUTEUS MAXIMUS	Pectoralis Major Clavicular
LATISSIMUS DORSI	Upper Trapezius
SARTORIUS	Anterior Tibial
TENSOR FASCIA LATA	Peroneus Tertius Adductors
PSOAS	Opp. Anterior Neck Flexor Diaphragm
UPPER TRAPEZIUS	Contralateral Upper Trapezius
BICEPS	Triceps
BICEPS	Upper Trapezius
TRANSVERSALIS	Sacrospinalis
SACROSPINALIS	Gluteus Maximus
PECTORALIS MINOR	Serratus Anterior Supraspinatus Deltoid
RECTUS ABDOMINIS	Quadriceps
LOWER RECTUS	Upper Rectus
DELTOID	Rhomboid,, Pectoralis Minor
POPLITEUS	Gastrocnemius, Hamstring (lat. heads)
LATISSIMUS DORSI	Opp. Hamstring
GLUTEUS MEDIUS	Opp. Rectus Abdominis
PIRIFORMIS	Opp. Splenius Capitus
PSOAS	Adductors
PECTORALIS MAJOR CLAVICULAR	Gluteus Maximus
UPPER TRAPEZIUS	Lattissimus Dorsi, Biceps, opp. Upper Trapezius
ANTERIOR TIBIAL	Sartorius
PERONEUS TERTIUS	Tensor Fascia Lata
QUADRICEPS	Gastrocnemius, Hamstring
ANTERIOR NECK FLEXOR	Opp. Psoas
SARTORIUS	Quadriceps
TRICEPS	Biceps
SACROSPINALIS	Transversalis, Hamstrings
GLUTEUS MAXIMUS	Sacrospinalis
SERRATUS ANTERIOR	Rhomboid, Pectoralis Minor
SUPRASPINATUS	Rhomboid, Pectoralis Minor
ADDUCTORS	Tensor Fascia Lata
TENSOR FASCIA LATA	Adductors
DIAPHRAGM	Psoas
(HAMSTRING)	Sacrospinalis)

TRANSVERSE ABDOMINAL MUSCLE TEST



QUADRICEPS MUSCLE

Since reactive muscle may be in either sequence, following is a combined list of possibilities. Muscle on left may respond to spindle cell sedation on any on right.

RECTUS ABDOMINIS	Quadriceps. opp. Gluteus Medius
UPPER RECTUS	Lower Rectus
LOWER RECTUS	Upper Rectus
DELTOID	Rhomboid, Pectoralis Minor
POPLITEUS	Gastrocnemius, Hamstring, Upper Trapezius
LATISSIMUS DORSI	Opp. Hamstring, Upper Trapezius
GLUTEUS MEDIUS	Opp. Rectus Abdominis

(Continued on next page)

REACTIVE MUSCLES CHART *(Continued from preceding page)*

PIRIFORMIS	Opp. Splenius Capitus
PSOAS	Adductors, opp. Anterior Neck Flexor, Diaphragm
PECTORALIS MAJOR CLAVICULAR	Gluteus Maximus
UPPER TRAPEZIUS	Latissimus Dorsi, Biceps, opp. Upper Trapezius
ANTERIOR TIBIAL	Sartorius
PERONEUS TERTIUS	Tensor Fascia Lata
QUADRICEPS	Gastrocnemius, Hamstring, Rectus Abdominis, Sartorius
TRICEPS	Biceps
SACROSPINALIS	Transversalis, Gluteus Maximus, Hamstring
GLUTEUS MAXIMUS	Sacrospinalis, Pectoralis Major Clavicular
SERRATUS ANTERIOR	Rhomboid, Pectoralis Minor
SUPRASPINATUS	Rhomboid, Pectoralis Minor
ADDUCTORS	Tensor Fascia Lata, Psoas
TENSOR FASCIA LATA	Adductors, Peroneus Tertius
DIAPHRAGM	Psoas
HAMSTRING	Sacrospinalis, opp. Latissimus Dorsi, Quadriceps, Popliteus
RHOMBOID	Deltoid, Serratus Anterior, Supraspinatus
GASTROCNEMIUS	Popliteus, Quadriceps
SPLENIUS CAPITUS	Opp. Piriformis
SARTORIUS	Anterior Tibial, Quadriceps
ANTERIOR NECK FLEXOR	Opp. Psoas
BICEPS	Triceps, Upper Trapezius
TRANSVERSALIS	Sacrospinalis
PECTORALIS MINOR	Serratus Anterior, Supraspinatus, Deltoid

to affect the secondary spindle cells as well as the golgi tendon organs.

This can be done by pressing, as was mentioned, using two fingers pressing towards each other on the spindle cells in the belly and then pressing at either end of the muscle, away from the belly of the muscle.

Take a firm contact on the origin and insertion of the muscle and pull the thumbs away from each other, following the spindle cell activation in the belly of the muscle.

This may be necessary, especially, in the case of very short muscles such as those in the Temporal Mandibular Joint.

Fascial Diagnosis

The muscle and its surrounding and supporting fascia should both be of the same length. When the muscle contracts the fascia should do so, and when the muscle relaxes the fascia should do so. As long as the muscle and the fascia operate as a unit the body interprets the muscle and fascia organization as integrated and accepts it as a unit.

But if the muscle is long and the fascia it serves is short, this creates confusion in the body and the spinal cord accepts these conflicting pieces of information and puts the muscle-fascia organization on "hold" so to speak.

This conceptualization of muscle and fascia being of different lengths affords a method of diagnosis

using the principles of muscle testing. The initial length of the muscle, that is its length at the time of stimulation, influences the magnitude of its contractile response to a given stimulus.

This material, from O'Connell & Gardner's "*UNDERSTANDING THE SCIENTIFIC BASES OF HUMAN MOVEMENT*," continues to say: "The stretched muscle contracts more forcefully. This is true whether the contraction is isometric, isotonic, or eccentric. Within physiological limits, the greater the initial length, the greater will be the muscle's tension capability." Therefore, it would seem reasonable that if you stretch the muscle prior to testing it should contract with at least as much force as it would contract if it were not stretched.

Yet, in a large majority of individuals who present themselves as patients, stretching a muscle produces extraordinary weakness in that muscle when tested by the usual methods of muscle testing of Kendall & Kendall.

The observation made on a young tennis player who complained of weakness and pain of the posterior deltoid following two or three sets of tournament tennis, led me to investigate the problem.

Muscle testing of the young M.S.U. player revealed no weakness. Muscle testing in the usual fashion using reactive muscle diagnostic information revealed no weakness. His complaint included the observation that the weakness of the posterior deltoid occurred only after two or three sets of tennis. So, in an effort to observe it, he was allowed to play two or three sets of tennis, and then his muscles were tested at the time when the complaint was most obvious. No muscle weakness could be elicited in any of the shoulder muscles by any method of testing, including all types of Therapy Localization against the usual factors as well as stress receptors and challenges of all types. Yet the weakness was obvious when he would attempt to serve.

It seemed apparent that the muscle was weak, yet the only reason why the muscle should be weak, that is the posterior deltoid, would be when the anterior deltoid was contracting. Yet it was obvious that the anterior deltoid was not contracting, since the posterior deltoid was pulling the arm back in preparation for service.

The thought occurred to me that perhaps the posterior deltoid "thought" the anterior deltoid was contracting, and if that was so, why should it be so. And I thought, if the fascia were to be short, it would give the spinal cord the information that the fascia was short. Consequently, it would produce erroneous information that the anterior deltoid, therefore, was contracting, and this was the reason why the posterior deltoid would weaken on a reciprocal basis—because of the error of judgment that the body was producing.

So, in an effort to diagnose the problem, I carefully stretched the anterior deltoid and then tested the posterior deltoid. The posterior deltoid immediately weakened. I thought this was a new form of reactivity, but thought perhaps that it was an unusual form of it.

I "ironed out," by using a hard pressure, a deep kneading pressure, the fascial envelope on the anterior deltoid, and then had the patient attempt to serve, which he did with great ease. No longer could we elicit the posterior deltoid weakness from the anterior deltoid stretch. It was soon found that stretching a muscle or any part of it would cause a weakening in that particular muscle or in an adjacent muscle if the fascia, the covering of the muscle, were short and did not respond to the stretching of the muscle.

This seemed to be a generalized response and would localize itself to the muscle itself when it was stretched. Or if an individual portion of the muscle was being stretched, another portion of the muscle being stretched, such as the anterior deltoid, produced a weakness of the posterior deltoid.

Some muscles lent themselves to this type of revision; some muscles did not. It was soon found that stretching the muscle or any of its components would produce weakness of that component or an adjacent component. Sometimes it was only one section that would produce the weakness but what had been produced was a system of diagnosing the need for fascial technic—in other words, ironing out the fascia—or using the method of “Rolfing” the muscle, a type of massage of the fascia proposed by Rolfe as a means of structural integration.

Generalized fascial release has not produced a response, nor has generalized deep massage produced the response that might be hoped for. Therefore, a specialized approach is needed to produce the desired effect and stretching of the muscle is the key to the identification for the need for fascial release or “fascial flushing,” shall we say, of the muscle involved.

Recognizing that muscles have a division based on a variety of factors, attention was given to the observations of Ranvier. Ranvier, as you remember, discovered the bamboo-like nodes in the nerve fibers, and he made the observation that there are two types of skeletal muscles, red and white, distinguished by the speed of contraction and endurance. Almost a hundred years ago Ranvier observed that some of the muscles were rather vermilion in color, and some of the muscles contracted in a slower and more sustained manner than the remainder of the muscles of the same animal. Since then the designations of red and white muscles have become synonymous with slow and fast contractions.

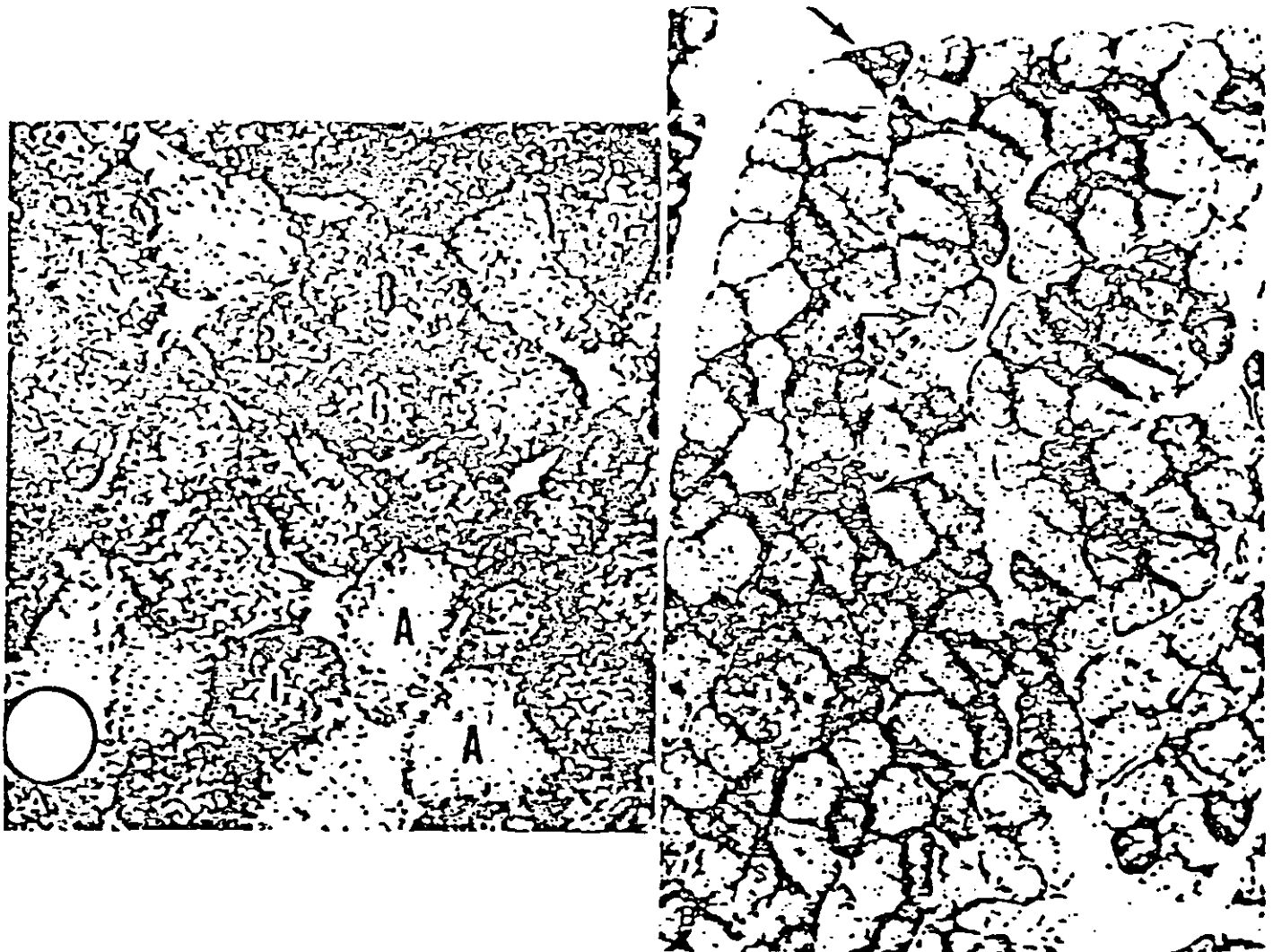
In addition to the slow contraction-relaxation cycle, red muscles have lower thresholds, tetanize at lower frequencies, fatigue less rapidly, and are more sensitive to stretch than the faster white muscles. The individual muscle fibers also reflect these differences in contractile behaviors and there is a table listing the physiological differences between fast (white) and slow (red) muscles.

We found that in those gravity muscles—muscles associated with response to gravity—for instance the psoas or the gluteus max., that a relatively slow stretch would produce a weakness response when tested in the usual fashion if there was a fascial shortening involvement.

But we found that a slow stretch in those muscles which were non-gravity, or so-called fast muscles, did not produce the expected weakness despite the evidence of fascial shortening, until we stretched the muscle in a rather rapid fashion. A good example would be the stretching of the psoas muscle done with the patient prone, elevating the extended limb, pressing the lumbar spine in a floorward direction, would easily stretch the psoas. This could be done slowly, with the patient turning over quickly, and having the psoas muscle retested.

This would obtain in a number of individuals, which could be predicted. But when the teres minor muscle, a relatively non-gravity muscle, was tested in a slow fashion, slow stretch, it produced no weakness despite tangible comparable evidence of fascial shortening. Yet, if the teres minor muscle, for example, was rapidly stretched—as fast as could be performed—a profound weakness would occur on retesting the muscle as soon as possible after the rapid stretch.

This led to a new method of diagnosis, where the muscle tested was not only fascially stretched and



Fast and slow muscle fibers. Rat muscle fibers stained to show succinic dehydrogenase activity. A, cross section ($\times 230$) of the medial head of the gastrocnemius muscle showing three types of muscle fibers: A, fast fibers (light); B, intermediate fibers (slow); C, slowest fibers (dark). B, cross section ($\times 125$) from the soleus muscle shows only fiber types B and C. Two type C (darker) and one type B (lighter) fibers are indicated by arrows. (From Stein, J. M., and Padykula, H. A., 1962. Histochemical classification of individual muscle fibers of the rat. *Amer. J. Anat.* 110(2): Fig. 5, p. 121 and Fig. 12, p. 123.)

retested, but also the muscle was then phased into a rapid stretch or a slow stretch, depending upon its relative position in gravity.

Some muscles which have A fibers fire at 70 to 120 meters per second. Other muscles which have A-beta or A-gamma fibers fire anywhere from 5 to 12, anywhere from 30 to 70 meters a second. The fiber size varies. The A-alpha fibers, which fire 70 to 120 meters a second, have a fiber size of 12 to 20 microns, whereas the A-beta and A-gamma have a fiber size of 5 to 12 microns. A-delta fibers have a size of 2 to 5 microns and fire from 12 to 30 meters a second. Those of Group 4, C fibers, fire from 0.5 to 2 meters a second and have a fiber size of 0.5 to 1 micron.

Generally speaking, extensor muscles and flexor muscles show a relatively mixed or median level—30 to 70 meters a second.

An effective stimulus for all the muscles is a stretch, and they all have a relatively low pressure threshold for stretch. But those that are firing at 70 to 120 meters a second use as an active stimulus the active contraction of the muscle. Those in Group 2, which are firing 30 to 70, or 12 to 30 or 0.5 to 2 are all involved with stretch-evoking flexion-withdrawal reflexes, and also with flexion-withdrawal reflexes on contralateral components with crossed extensor reflexes and flexion-withdrawal reflexes with contralateral components on crossed extensor reflexes.

What this really means is that muscles relate to one another, and each has its own rate of firing, and some muscles which are non-gravity must be stretched in a fast fashion, while those muscles which are gravity related can be stretched in a slow fashion. Therefore, if you rapidly stretch a slow muscle you may not evoke the fascial response, or if you slowly stretch a non-gravity fast muscle you may not evoke a fascial response.

In any event, non-gravity muscles respond to fast stretch, and they also respond in a spectacular way to the fascial flushing, the deep kneading pressure along the fascial sheath. A good example is to have the patient in a supine position and test the anterior flexors in the usual fashion with the patient's arms up, and have the patient raise the head and test the anterior neck flexors in the usual fashion. This usually produces a response which then can be treated when the muscles are weak. If the muscles are strong and the patient has symptoms that reflect patterns of activity relating to the head and the neck, eye, ear, nose or neck muscle or facial disturbances, choose another method.

Have the patient raise the head; test it against resistance. Usually you get a good strength response. Then have the patient rapidly raise the head, stretching the posterior neck extensors, and then test the anterior neck flexors. Usually this produces an extraordinary weakness of the anterior neck flexors. This, then, produces the diagnostic information based on previous observations that in various sinus problems there is a weakness of posterior neck extensors or anterior neck flexors. It also explains the more usual weakness in the anterior flexors, that is usually found. A hard, deep, kneading pressure applied to the posterior neck extensors which were stretched by the rapid flexion, (1) abolishes the stretch response, and (2) increases the symptom disappearance relating to the head and the neck.

We have found that despite the non-therapy localization to the neurolymphatic reflex and to the neurovascular reflex, that it is necessary to activate both the neurolymphatic and neurovascular reflexes to the involved muscles which are fascially stretched.

Despite the fact that the neurolymphatic and neurovascular reflexes do not therapy localize, one can readily demonstrate the reliability of using either neurolymphatic or neurovascular simultaneously or alternately in the therapy of the fascially disturbed muscle.

EXAMPLE: Test the piriformis muscle. If the piriformis muscle tests strong in the usual fashion, stretch the piriformis muscle by reversing the test. In other words, if the knee is flexed with the patient lying supine, the knee is maintained in a neutral position and a force is applied at the ankle to take the ankle laterally, and this is met with the resistance of the patient. This is a good piriformis test. If the test therefore is reversed, and the ankle is brought strongly medially, **WITHOUT** any patient resistance, this stretches the piriformis. Then if the muscle is retested, the muscle will weaken if there is a disturbance in its fascial length. This can be readily demonstrated in the instance of a fascial problem with the piriformis.

However, if a simultaneous "hold" on a neurolymphatic and neurovascular circuit was maintained, this will temporarily neutralize the fascial stretch of the involved piriformis, indicating the necessity of maintaining neurolymphatic and neurovascular therapy as well as the fascial stretch. So it is imperative that you activate the neurolymphatic and neurovascular reflexes in all fascial stretch situations.

In the instance of a weak teres minor elicited on fascial stretching in a fast fashion and the corresponding lower temperature which we so frequently find, ironing of the fascial tissue, called "fascial flushing" so to speak, will not only provide a better testing strength and better length of the fascia, but also, because of the auxiliary pump manifestation that the teres has with the thyroid, the temperature is measured on the bio feedback thermometer. The index will rise during this process of fascial flushing and many times the patient will maintain a better temperature on an axillary basis. The axilla temperature should be 97.8 to 98.2.

In those instances where the temperature does not rise in the presence of a weak teres minor on fascial stretching, quite frequently there will be a corresponding piriformis gonadal involvement, and since the gonads are inhibitory to the thyroid, one may find it necessary to do the fascial work, and neurolymphatic and neurovascular to the piriformis or gluteus medius as the case may be.

In those instances where the organ function, as measured by the temperature in the case of the thyroid, does not hold, we generally supplement and support the nutrition by the proper nutrient associated with that particular organ muscle system. We have found that the Tritrophic of Nutridyne has been excellent, as well as the Thyroid Protomorphogen and Organic Iodine, materials of Standard Process Laboratory. Quite frequently, with the use of Tritrophic we can gain another five-tenths of a degree and otherwise level it off. The response, though very welcome, may not reach the ultimate normal we are seeking.

We have found that each organ will show a response on the fascial stretch which corresponds to the nutrient relationship with that particular muscle. The prevalence of the fascial stretch pattern led us to considerable investigation, and we found in one particular instance that the patient had eight separate fascial stretch weakness indicators, and by trial and error we found that five micrograms of B-12 with stomach and liver substance associated with it, was the nutrient factor common to all fascial stretch problems and greatly aided the maintenance and recovery of patients that had this particular problem.

We have tried the 250 and 500 microgram levels of B-12 without the intrinsic and extrinsic factors, and these have not been successful, but the presence of stomach and liver accessory factors, along with as small an amount as five micrograms of B-12, seem to be the governing factor. We recommend three a day of this material.

There is an opinion that B-12 is ineffective unless given by an injection, yet it is obvious that we must absorb B-12 every day in our diet, and the diet contains anywhere from 3 to 30 micrograms. We only need between 3 and 5, and it is the lack of the intrinsic or extrinsic factor which, perhaps, prohibits its absorption. Therefore, the combination is more effective than any one of the three elements by itself. A variety of products is supplied to us and available from the usual sources.

Therefore, the modus operandi in determining a fascial stretch situation is:

- (1) Test the muscle in the usual fashion, if weak, fix in the usual fashion.

- (2) If the muscle tests strong and you suspect corresponding organ or possible muscle involvement, simply stretch the muscle. If it is a gravity muscle, stretch it slowly. If it is a non-gravity muscle, test it by stretching it rapidly. Retest the muscle. If the muscle weakens, this is the response that indicates a fascial involvement.
- (3) "Iron out" the fascial covering by hard pressure. For instance, if you had a cigar wrapper that you folded into accordion pleats and then tried to stretch it out over the cigar, there would still be evidence of the pleats, despite your efforts to stretch out the wrapper. This is what usually occurs, so therefore you "iron it out" with pressure which has no directional indications.
- (4) Restretch the muscle in the previous fashion and retest the muscle. The muscle should be strong.
- (5) Activate the neurolymphatic and neurovascular reflexes for that particular muscle.
- (6) Recommend the addition of the B-12 stomach-liver substance three times a day for at least two or three weeks.

I had a Lebanese man who brought his son to me with a very difficult calf problem that prevented him from walking without a great deal of pain—a condition called "intermittent claudication" in which there is a spasm of the blood vessels of the calf of the leg which precludes walking any distance. There was a great deal of discoloration of his leg, and there had been some talk of amputation because of the severity of the pain in this relatively young man.

However, his response to holistic treatment was very gratifying, and it was only a month or two before he was able to walk any distance, the discoloration had disappeared, and he was able to get around very nicely. His father was profuse in his thanks, and asked me what was the charge.

I said, "Well, including the X-rays it's \$140. Without any knowledge of Lebanese bargaining, he said, "I'll give you \$110." I said, in surprise, "No, it's \$140." Then he said, "I'll give you \$120." And again without any knowledge of Lebanese bargaining and the enjoyment that Lebanese people take in it, I said, "No, it's \$140." He said, "I'll give you \$125." I looked at him with rising indignation, and said, "It's \$140 or nothing." He put his hands to his face, his eyes opened, and his mouth opened, and his eyebrows elevated, and he said, "Nothing!" I said, "It's \$140."

He said, "In Lebanon we always quote the price higher and then we bargain, because it's a social custom. It's our enjoyment. You have taken away all my enjoyment on this occasion. I very much appreciate what you have done for my son, but I'd love to have the enjoyment of bargaining with you."

This was my first appreciation of the enjoyment that Lebanese people get out of this kind of bargaining, so I was able to add to my knowledge of social customs of different people.

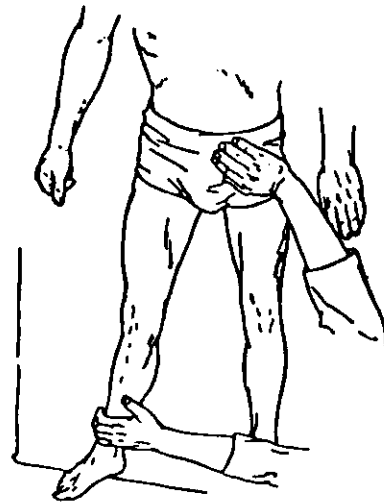
Chapter 15

THE PSOAS MUSCLE AND THE FOOT PRONATION PROBLEM

*Why Standing Is Good and Why It Is Bad—And How
Your Feet Affect Your Headache and Neck Ache.*

Many patients suffer from the effects of a unilateral or bilateral foot pronation problem. This is also a common problem personally to the chiropractic physician since he spends much time standing and sustains as well the effect of the thrusts he gives so many times a day. The problem begins fundamentally as an inward roll of one foot or another or of both, with a resultant lengthening of the foot with an automatic stretching of the plantar foot muscles. This in itself produces many reflex patterns that evidence themselves as sciatic pain, numbness, tingling and various other paresthesias, all of reflex origin. But as the foot pronates and rolls inward, it also produces an inward roll of the talus and the inward roll continues to have an inward torque on the tibia and ordinarily the fibula follows suit with the torque continuing through the knee joint and producing a sustained torque to the femur which then allows the lesser trochanter to move in a rotary fashion backwards and laterally, causing a micro-avulsion of the trochanteric attachment of the ilio-psyas.

This pattern can be proved by the simple application of the principles of muscle testing. Test the psyas as in the muscle testing diagram. If you find it weak and there is a pronation problem involved, treat the neurolymphatic reflexes at the areas one inch on either side and one inch above the umbilicus, treat the posterior reflexes at the interspinous-transverse space between the twelfth dorsal and the first lumbar on both sides. Use a rotary pressure over the lymphatic receptor areas with as much pressure as your patient will withstand, use it for approximately twenty seconds. Retest the ilio-psyas, it will be strong. Request the patient to stand and ask him to exaggerate the pronation problem by walking on the inner edges of his feet in such a way as to almost walk knock-kneed, ask the patient to again lie down, retest the psyas, it will be weak if the avulsive stimulus to the neurolymphatic reflex is still active even though it recently tested strong. Retest the neurolymphatic reflexes as before. Retest as before and you will find the ilio-psyas will again test strong. Now request the patient to assume the erect position, but this time attempt to walk by placing the weight of the body along the OUTER edges of his feet, then again have him lie on his back and again retest the ilio-psyas. This time it will have maintained its strength regardless of the pronation problem because the outer edge weight-bearing position or the literally bowlegged position stopped temporarily the inward roll that sets up this entire syndrome. The patient is impressed, first, by the rapid recovery and second, by your accurate prediction as to which foot position will maintain recovery of the ilio-psyas tone and which will not.



The patient may complain of sciatic pain or numbness and/or tingling which follows a sciatic nerve distribution pattern. The patient may complain of coldness or burning and many times the paresthesia is not

only confined to the limb or limbs, but it may affect the rest of the spine as well, for when the psoas weakens, the lumbar attachments at lumbar one through five on the weak side of the lumbar spine go posteriorly on the side of muscle weakness, while the normal but hypertonic side now allows the anterior pull of the opposite psoas to operate unopposed by the "weak" psoas.

Normalizing foot position by a traction thrust against the lateral aspect of the subluxated talus, is the first step. The patient lies on the back, the thenar eminence of the left hand, for example, contacts the distal border of the subluxated right talus; the rest of the contact hand assumes a natural grasp around the right heel tendon. The other hand encircles the volar aspect or top of the arch of the foot; both hands exert traction to eliminate all "slack" in the ankle joint and a sudden traction pull is exerted while the talus contact is simultaneously thrust medially. An audible snap is produced and the "point pain" at the lower lateral aspect of the border of the talus bone, a diagnostic feature of this pattern, is immediately eliminated. A scaphoid pad is placed at the medial aspect of the patient's shoe and a piece of 1/4 inch adhesive felt is cut oversize to fasten the scaphoid pad in place. The rubber scaphoid pad is precut and beveled and may be required in one or both shoes. (Do not confuse the scaphoid pad with an "arch support").

The scaphoid pad adds permanence to the ilio-psoas balancing and of itself will not balance the two muscles. But when added to an intelligent appraisal of the ilio-psoas pronation problem, it enhances and reinforces your eventual therapeutic result. The off-center position of the calcaneus and the talus in regard to the posterior weight bearing line of the rest of the leg, contributes to a natural "shearing" effect that predisposes the foot to an inward roll and a subsequent lengthening of the foot. The navicular bone of the foot or the scaphoid bone as it is sometimes called, has a tendency to subluxate laterally along with the talus and although the talus can be well adjusted by the previously mentioned method, the support the scaphoid pad provides is essential to prevent recurrence as well as to improve the response to therapy. In other words, it is easy to adjust the talus but it is easier to support the scaphoid or navicular.

The peripheral nerve irritation will frequently be accompanied by obvious subluxations of the sacroiliac joint as well as subluxations of the lumbar spine, but the response is lacking in permanence as well as effectiveness if the pronation is not corrected. Frequently there is a concomitant hypertonus of the peroneus longus and brevis with an associated weakness of the anterior tibial. The anterior tibial is inserted, as you know, on the plantar surface of the first cuneiform and also on the first metatarsal. The pull of the anterior tibial along with the pull of the posterior tibial which is attached to the scaphoid, literally cooperate to prevent inward roll of the foot and also literally pulls the foot together at the vital midpoint where most weight is borne. It is the weakness of the anterior tibial coupled with the peroneus hypertonus that cause the foot to elongate and roll inward. This is a specific problem with a specific solution and although foot levelers or foot postural supports are essential, it is also absolutely essential that the doctor does his job as well.

Many times treating the ilio-psoas by methods such as the method of Dr. DeJarnette, who pioneered in the research of the psoas, especially in those cases where a definite hyper contraction existed, are productive of good results. Many times treating the ilio-psoas when there is a demonstrable weakness of one psoas or both, is productive of good and lasting results. But there are occasions where the foot pronation problem seems to set up a cycle of micro-avulsion or partial pulling off of the attachment of the ilio-psoas. Along with this we are now finding more of a feedback circuit that triggers off a disturbance in the neurolymphatic or neurovascular reflex. This complicates the already existing problem but just as the gears of a watch make it run on time, so do the same gears make it run slow or fast

when there is a maladjustment of their relationship. This is also the case with the pronation problem and each gear or component of the problem must be analyzed and treated or repaired. The pioneering work on pronation in regard to skeletal problems was first done by Jones, who published the text, "The Postural Complex."

But, as is common even with orthopedically oriented authors, the subluxation complex is neglected or perhaps omitted due to lack of specific knowledge. The far-reaching structural effects of pronation often overshadow the fact that the pronation must have a cause as well. This cause may well lie primarily in a disturbance of the righting reflexes at the base of the skull. The primary cause wherever it may be, is of interest scholastically or perhaps philosophically as well as therapeutically, but attention must be directed to the local problems.

The ilio-psoas is an unerring guide to the pronation causation in this instance, and testing the ilio-psoas by the method of Kendall and Kendall is the primary starting point to validate this inter-relationship both to yourself and to the patient. The patient will be impressed by your clinical acumen and by the immediate predictable response to the different forms on weight bearing while trial walking. There should be no blind acceptance of any principle, but the cold light of reason in modern chiropractic will make an intelligent application out of a "POP and PRAY" pattern.

An interesting application of the psoas test is in the case of the common "whiplash" problem and certainly no muscle is further removed from the usual scrutiny of the structures involved in a whiplash pattern than the psoas. But regularly, time and time again, the psoas tests weak in a large percentage if not all of the whiplash cases the author has seen in the past six years.

Treatment of the psoas has immeasurably speeded up the response in time as well as symptom disappearance and if there was a previous or a post pronation problem involved, it became a definite factor not in the original traumatic causation, but in the perpetuating of the condition, and its correction offering a definite help to a speedy recovery.

A particularly distressing symptom frequently met with is an annoying ache of the mastoid portion of the temporal bone. This symptom will abate in approximately one minute if the patient assumes a "bowlegged" stance bearing the weight on the outer borders of the feet. The treatment is obvious if this relieves it. Support the scaphoid and adjust the talus. Treat the psoas if it is involved. Not every psoas case involves the pronation pattern, not every pronation case involves the psoas, but they are most frequently found together. Apply the sense of logic and testing in contrast to the blind routinism which may succeed on the law of averages, but often fails when you need a positive result.

The various shoe appliances made available to our profession are invaluable and are highly recommended as a permanent solution to the temporary scaphoid pad, but they also require the doctor's understanding of the basic problem or the patient will regard them as "just another pair of arch supports" which they definitely are not. The plantar aponeurosis and the flexor digitorum brevis are stretched by the inward roll and elongation. This of itself adds to the problem and many times there is also micro-avulsion of the narrow tendon of the flexor digitorum brevis from its attachment at the calcaneus, or at the insertion.

There are many variations of foot problems that begin with an inward roll and the subsequent lengthening of the foot. Just as a bridge supports itself and the traffic on it by maintaining an erect position, so also does the foot support itself and the body's weight when it too is in an upright position. But when the

bridge supports lose their vertical alignment and tilt, the bridge loses its function and structures that were meant to bear a vertical burden can no longer function as they were engineered to, for now there is a lateral thrust as well as the vertical component when the supports tilt. The foot functions well as a bony bridge, but poorly as a bony roller bearing.

The length increase is a common observation of many patients, and the patient may confuse the OUTER HEEL wear with a lack of inward roll. The explanation here is the oft remembered quotation, "for every action there is an equal and opposite reaction." As the foot rolls inward with weight bearing, it assumes this exaggerated inward position, but as the weight is removed, it then rolls OUTWARD just as much, and the next step begins with the contact at the lateral border of the heel. Hence, the heel wear at the lateral or outer portion of the heel of the shoe.

The elongation secondary to the inward roll may produce an infinite variety of great toe and lesser four toe positions; but as you can readily see, it is either the stretch pattern or the avulsive weakness that allows the usual positions sometimes seen.

A common pattern is the overlap of the second toe over the great toe which comes from the imbalance of the dorsal interossei, which arise like reins of a horse from adjacent sides of the metatarsals, and then insert into the medial side of the second toe and into the lateral sides of the second, third and fourth toes.

Press on the belly of the hypertonic interossei and stimulate the weakened origin and insertion attachments. Analyze the problem. Balance the total structure, support the scaphoid and watch the response to the intelligent application of the whole body concept to the foot structure problem.

ATTENTION to the ilio-psoas pronation problem is just one more way for the chiropractic physician to advance his profession as well as himself, by placing service above self and searching for the true and real reasons behind the problems of suffering humanity. Ours is a noble calling all the more ennobled by those who practice it—practice with the respect for the body's Creator whose intricate simplicity is hampered only by our straining at the gnat while swallowing a camel.

Chapter 16

GAIT AND ASSOCIATED PROBLEMS

*Why Walking Is Good and Why It Is Bad—
And What To Do About It.*

Many patients have problems associated with gait. Many doctors have gait associated problems as well.

In an excellent book, published by Lippincott, entitled "*Walking and Limping*," by DuCrouquet, a variety of gaits are depicted. This is an excellent book to have in your possession or library. But gait, fundamentally, is an automatic mechanism, and the facilitation and inhibition which normally takes place in gait is something that should be examined critically in many patients. Most patients in the average practice are part of the ambulant group that the doctor usually treats without direct gait interest.

In other words, most patients walk to the doctor's office and walk back. He may walk directly or he may ride in a car, but fundamentally entrance to, and exit from the doctor's office, involves walking. Therefore, in examination the patient's gait is important. Many patients do not realize, and many doctors do not realize, that there is a tremendous amount of facilitation and inhibition that takes place with the ordinary gait. For example, test the latissimus dorsi on the average patient with level shoulders. The latissimus should be intact. Have the patient continue standing, but advance the left foot as far forward as he ordinarily would when he is walking. Test the latissimus dorsi with the patient bearing weight evenly on both feet. The latissimus should test strong. Have the patient put the weight on the left foot, maintaining just a small amount on the right. The latissimus dorsi will test weak, because, when the left leg muscles that bring the left leg forward are facilitated, simultaneously the muscles that bring the right arm forward are facilitated, and those that bring the right arm backward are inhibited. Therefore, the normal inhibition of the latissimus dorsi that takes place with a left forward weight bearing step represents the usual pattern of facilitation and inhibition.

These facilitatory activities and inhibitory activities take place at a very rapid rate, crossfiring from left to right, crossfiring from right to left. The myriad patterns of facilitation on the left, for example, and inhibitions, represent the multiple choice combination that the body is able to take when the patient walks well.

As the patient walks, the left leg advances, and simultaneously, so does the right arm. Therefore, taking the left step, the muscles that bring the left leg forward are facilitated, and those that bring it back are inhibited. At the same time that this takes place, the muscles that bring the right arm forward are facilitated, and those that bring it backward are inhibited. This, then, quickly reverses as the patient takes a step with the right foot, and as the right foot advances, so does the left arm, and this procedure is then reversed, so there is a rapid facilitation-inhibition taking place with left leg, right arm and right arm, left leg—at the same time this facilitation-inhibition takes place contralaterally, so also is there contralateral inhibition of the muscles which brings those limbs backward. This inhibition that brings the leg and arm backward allows the facilitation which brings the limb and arm forward to take place.

This example of facilitation-inhibition can therefore be likened to a computerization at the end of a day. For example, moving the left leg and right arm forward is called a "zig" and moving the right leg and left arm forward is called a "zag." Then, at the end of the day, one should have an even number of

"zigs" and "zags." One should have, for example, 7,966 "zigs" and 7,966 "zags" to quote a figure at random. But if there is a fault in the gait, there will be an unequal pattern of "zigs" as opposed to "zags" or "zags" as opposed to "zigs," and these then produce the combined and added facilitations and inhibitions which then produce the structural distortions we so often see. This is the reason some patients feel well on leaving the office, but as they continue to move and operate in the usual fashion, deteriorate. So, in addition to the usual methods of muscle testing, testing individual muscles, or testing for fixations by testing individual muscles bilaterally, we have now evolved a system of testing gait muscles. These gait tests are not to be confused with the usual muscle tests, but are to be regarded as an individual type of muscle testing called "gait testing."

The leg is brought forward in the usual fashion that the patient walks. In other words, instead of testing in the psoas fashion, with the leg abducted and the toe turned, simply have the patient lie supine, and the limb is brought forward with the knee extended and pressure is placed upon the ankle directly downward toward the table against perhaps a 30 to 40 degree elevation of the table. This combined psoas quadriceps muscle test is performed and evaluation is made of the relative strength of the muscle. Then the muscles that bring the left arm forward in the usual walking position, a 30 degree forward movement of the extended left arm, are then also tested and evaluation made of the relative strength. Then the left arm and right leg are tested simultaneously in a 30 degree forward position, testing one against the other.

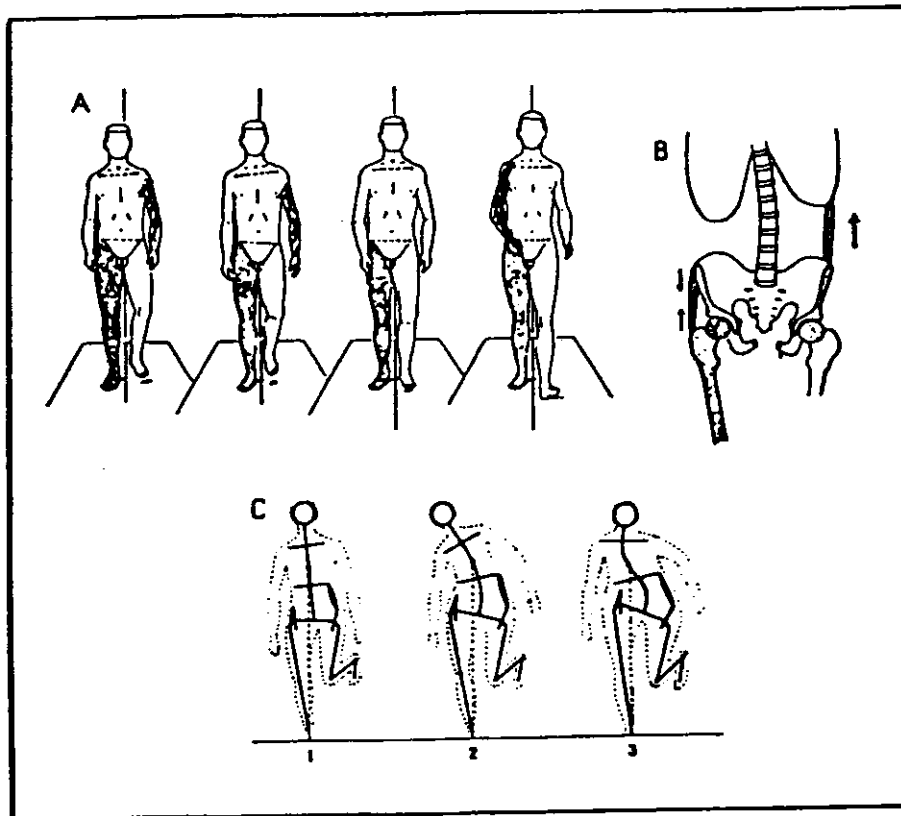
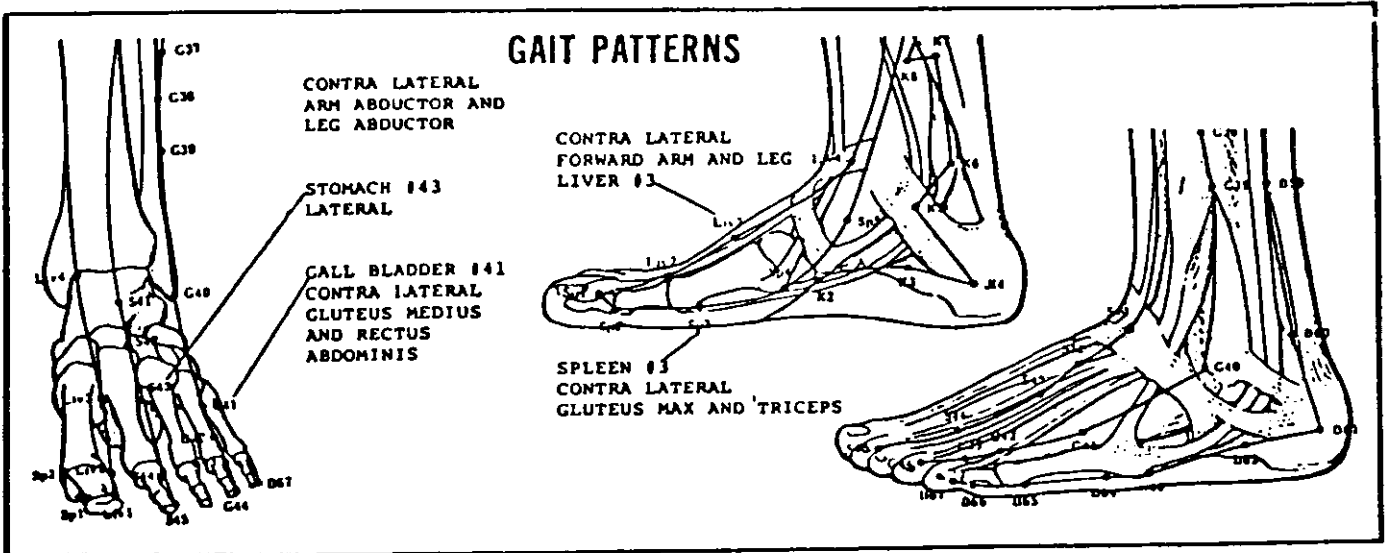
If there is a fault in the gait reflexes, there will be a weakening of the arm or the leg. If the muscle of the arm or the leg is weak to begin with, fix it by the usual pattern of lymphatic, vascular, cranial, acupuncture or Golgi tendon, or turnoff points. These muscle tests are basically gait tests, and are usually employed one against the other.

Generally speaking, one will find individually an intact muscle response, but when tested one against the other there will be weakness. So, the left leg is tested against the right arm, and the right arm is tested against the left leg, having the patient bring the arm forward, and the opposite leg forward, in about the same position as they would when they walk, except that the patient is in this position in a supine pattern. If there is weakness of the left leg and right arm in testing simultaneously, manipulate the acupuncture point on the dorsum of the foot, which is Liver 3. Liver 3 is between the 1st and 2nd metatarsal base, and in this instance if the weakness occurred with the right arm and left leg with the manipulation of Liver 3 at the base of the 1st metatarsal, between the 1st and the 2nd metatarsal, it would be done on the left foot, naturally.

This manipulation should be quite vigorous to get past the patient's pain threshold and should be done for approximately 10 to 20 seconds. Naturally, if the gait reflexes showed a weakness of the right leg and left arm, the Liver 3 would be activated on the right foot.

Although not usually observed in walking, there is a lateral gait pattern and it is much more frequently observed in a limping situation, but the muscles that take the arm laterally, such as the supraspinatus the first 20 degrees, and the deltoid, are tested against those muscles which take the opposite leg laterally, the fascia lata and gluteus medius; and the patient again is in a supine position and the arm is abducted with the hand in a neutral position, generally the thumb facing forward, and the elbow extended, and is taken out approximately 30 degrees, and the deltoid and supraspinatus are tested together and then the fascia lata and gluteus medius are tested by abducting the leg approximately 30 degrees.

Generally these tests will show a normal pattern individually, but when the arm is tested against the



Gait is a reverse reciprocation that rapidly alternately cross fires at a high rate of speed but with great precision. Failure of some component produces structural faults that persist and perpetuate patient problems.

leg, if there is a gait reflex pattern there will be a combined weakness when the right arm is tested against the left leg or vice versa. If there is weakness on lateral gait testing, this lateral gait weakness is treated by activating on the weak leg side, Stomach 43. Stomach 43 is at the base of the 2nd metatarsal, between the 2nd and 3rd metatarsal, and is manipulated vigorously past the patient's pain threshold

for 10 to 20 seconds, then the gait is retested. There should be a good response to simultaneous testing of the lateral movers of the arm and the lateral movers of the opposite leg.

Again reference is made to the excellent book, "*Walking and Limping*," a study of normal and pathological walking, by DuCrouquet. There are three of these gentlemen, all brothers or related in some way. The French translation apparently was accomplished by two brothers also, Drs. William and Jeff Hunter. This book is published by J. P. Lippincott, both in Philadelphia and Toronto locations. If one observes a patient walking from the front, from the anterior, they have both iliac and scapular markings that they use in their observation. They say, "It is the gluteus medius that maintains the relative horizontality of the pelvis." The lateral abdominal muscles of the opposite side act on the gluteus medius in close synergy. It is the action performed by the two muscular groups that permits the harmonious transfer at the thoracic center of gravity at the frontal view. This horizontality of the pelvis is essential to both good movement, and also to maintenance of good structural corrections following treatment.

Therefore, we test the gluteus medius against the opposite rectus and transversalis, and this is done with the patient seated, and the patient attempts to press his right knee, for example, against your knee, while you test the opposite, the left, rectus abdominis, by placing your hand on his left knee and your hand on his shoulder, attempting to test the rectus abdominis in the seated position. He exerts pressure against your knee with his right knee, and many time the medius will test out well, as will the left rectus against the right medius when tested individually, but when tested simultaneously many times there will be a complete failure of resistance of either the medius or the rectus abdominis.

Most usually, the rectus abdominis weakens, under these conditions, and this is usually found in the difficult or recurring lower back, which leaves your office quite straight but which returns the following day in a camptocormic or antalgic position Under these conditions, when there is a weakness of the right gluteus along with the left rectus, one goes to the right Gallbladder 41, which is at the base of the 5th metatarsal, and vigorous manipulation is exerted here. Naturally the reverse is true with left gluteus and right rectus.

A good way to remember this is simply to draw a line across the foot where the metatarsal bends when the patient steps, and these will be the points they approximate—Liver 3, Stomach 43, Gallbladder 41, and SP 3. It is the line which moves diagonally across the foot, starting in a distal fashion at the Spleen 3, moving diagonally backward to Gallbladder 41. Occasionally both left and right G-41 require activity despite the fact only one contralateral pattern of weakness exists.

Turn the patient over and have him lie in a supine position Then test the gluteus maximus on the right, test the "Triceps" on the left by having the patient flex the elbow and bring it in a posterior direction. There are other muscles, naturally, that do this.

Test the backward movement of the flexed elbow against the opposite gluteus max simultaneously. If there is a weakness of either the left "triceps" or the right gluteus max, go to the Spleen 3 on the right and manipulate Spleen 3. Spleen 3 is just posterior and lateral to the head of the 1st metatarsal, and should be manipulated vigorously for 10 to 20 seconds, and then the muscles should be retested. Naturally one should test the opposite gluteus max and the opposite "triceps," testing them individually first, then one against the other, and appropriate action should be taken if muscle weakness is found.

These points across the top of the dorsum of the foot represent gait reflexes, and many times one will find evidence of an upper cervical fault along with this pattern, but normalization of these gait reflexes

adds much permanency to your mechanical correction, and many times allows the patient to perform longer with less fatigue, within his usual working or recreational pursuits.

An attempt has been made to describe gait patterns and how they relate to structural spinal faults. Naturally structural correction of both foot and spine is also required if indicated by diagnostic kinesiological muscle testing and other diagnostic modes.

I had a Hungarian woman patient who said she was too old to learn to speak English, therefore I should learn to speak Hungarian, which I promptly decided to do. I could ask her to stand, turn around, walk, lie down on her back or lie down on her tummy, with relative ease. She had a very painful hip problem, and each time I would treat her I was aware that there obviously was an increased range of motion and increased flexibility of the affected hip joint. However, when I would ask her to stand and walk, she would look at me, put her hand on her hip, look up in aggrieved manner and say in Hungarian (and this is on a phonetic basis) "nem tu doc."

When I finally asked a Hungarian friend, what does "nem tu doc" mean, he said, "Well, you don't want to know that. It's sort of street language, and it means 'God damn it, I can't.'" I said, "Well, that's understandable, because this patient has a great deal of fear of pain. How do you reply to that in the same street language?" He said, "You don't want to learn that kind of speaking in Hungarian. Hungarian is a beautiful language." I said, "But how do you reply to that in the same manner?" He said (and here again in a phonetically speaking pattern), "Well, you say 'zee on tude' which means, literally, 'God damn it, yes you can.'"

So I went through the routine of treating her and we got along just famously, and I was using my little Hungarian language ability. After I had finished treating her with an obvious increase in range and freedom from motion restriction, I said, "Now, walk towards me," in Hungarian. She put her hand on her hip and looked up, and in the usual aggrieved tone said, "nem tu doc" meaning "God damn it, I can't." Then I emphatically, banging my fist into my palm, said, "Zee on tude!" meaning, "God damn it, yes you can!" She immediately walked with great ease, much to her surprise—and also with subsequent laughter.

Sometimes you have to neutralize the patient's fear—you have to neutralize the patient's fear of pain in an effort to achieve the end that you are striving for.



Chapter 17

STRUCTURAL IMBALANCE AND NUTRITIONAL ABSORPTION— A NEW ROUTE TO THE BRAIN.

*Why Is One Man's Food Another Man's Poison
And How To Find Which Foods Agree And
Which Do Not By Practical Quick Means.*

Many patients suffer from nutritional deficiencies. Many doctors also suffer from these results of the urbanization of our lives and our removal from the source of much of our food. The almost necessary change in the food to allow distribution to a large urban area far removed from the rural source, has altered the national dietary pattern.

Foods are processed to retard spoilage, processed to provide better shelf life, processed to prevent evidence of rancidity, artificially ripened to provide better crop processing, etc. These measures, though reprehensible when carried to the extreme, are sometimes necessary for the producer or the distributor to allow general market distribution at a fair price and profit to all concerned.

Natural foods should be eaten in their natural state; we are what we eat; these are all patently evident truisms but the admonition to eat natural foods in their natural state is difficult, if not impossible for the average urban resident. so—he supplements his nutritional balance with nutrition supplements. What could be more simple? Yet although nature or innate intelligence never makes a mistake, many are made in the field of nutrition, no matter how well meaning the intent to correct the obvious imbalance of the nutritional pattern. The nutritional pattern, after all, is the springboard we all use to obtain therapeutic results with patients.

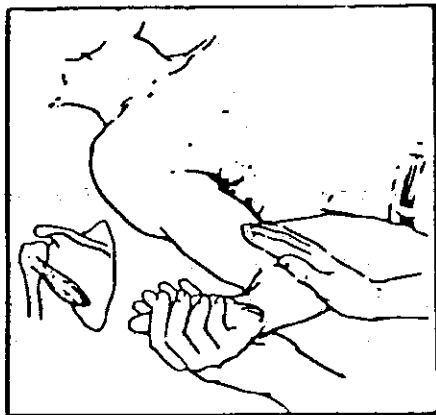
Many patients respond to a variety of therapeutic approaches in the practice of chiropractic, but in some the response is lacking or erratic or slower than the average case in the doctor's experience. Sometimes the result is at first gratifying but slows down like an old gramophone record and like a old wind-up record player, the patient requires more frequent treatment. We have all experienced these situations in our daily practice. The variability of the response has left the impression that the total response varied in different individuals.

In individuals who have suffered obstruction of their esophagus for some reason, such as a child swallowing lye contained in a bottle that might contain some frequently used beverage and swallowing it by mistake, the obstructed esophagus requires plastic surgical repair. During the process of plastic surgical repair, an artificial opening or stoma is made in the stomach and the food properly liquefied with the right number of calories and vitamins added is inserted into the artificial opening or stoma. These patients do rather poorly and develop many problems, but when these patients are asked to chew the food that they cannot swallow, there is an immediate response in their general condition and they begin to regain lost weight and cease having the problems they had originally, which would include anemia, kidney stones and arthritis. This is a well-known observable reaction in patients unfortunate enough to have this particular kind of situation.

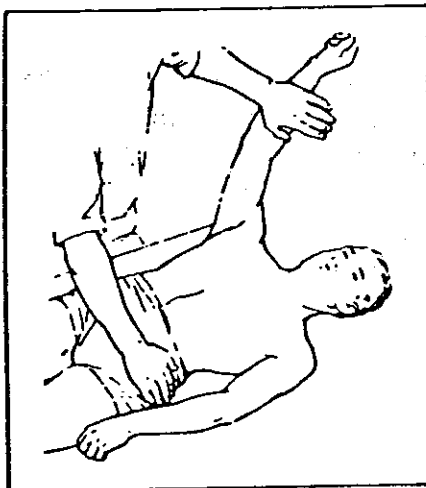
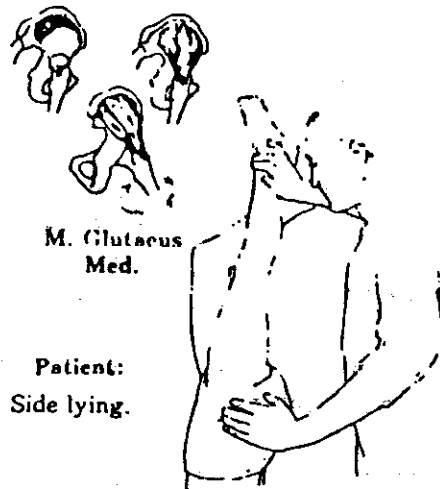
It is also well known that in individuals having a low blood sugar pattern that a recovery in symptoms many times takes place following the ingestion of food; for example, protein food, in such a short time that digestion of any state could not have taken place. Yet the response in the patient's symptom pat-

tern, such as the weakness and faintness, are immediately alleviated. We have all seen a crying child, an infant especially, stop whimpering and start smiling immediately upon the ingestion of food. The effect is immediate and could not be digestive in character. It is also a well-known observable fact that the iodine level of food is greatly influenced by chewing.

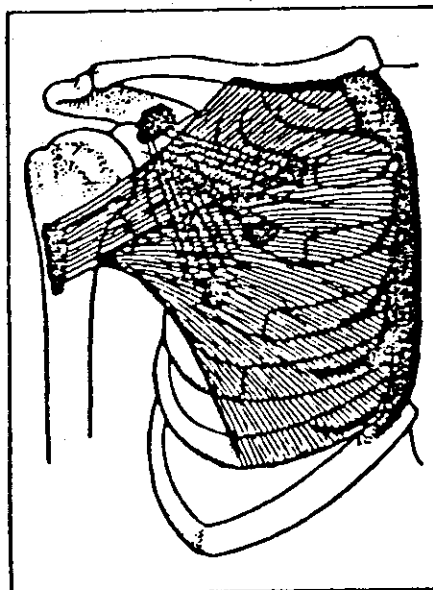
If the iodine content of a common food, such as seafood, is measured prior to chewing, and then the patient is asked to chew the food and then the iodine content of the food is remeasured prior to the patient swallowing the food, there is a great reduction in the measurable iodine content. The parotid gland acts as if it is an electronic magnet pulling the iodine out for subsequent use by the thyroid. This has been a recorded phenomenon by many biochemical observers. Using these three unrelated facts as a guide, an attempt was made to discover if absorption of nutritional concentrates by chewing could affect muscle response. A patient was selected that had responded to an adrenal disturbance with low



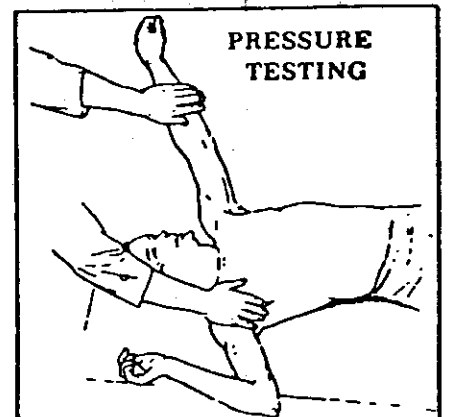
Pressure Testing. Using the forearm as a lever, pressure is applied in the direction of internally rotating the humerus.



Pressure Testing. Against the forearm, in an upward-outward direction.



Pectoralis major



Pressure Testing with the elbow extended, against the forearm, in an outward and slightly downward direction.

blood pressure, but whose response to thyroid treatment and stimulation was inadequate. There was a weakness of the teres minor muscle common in thyroid disorders.

An effort was made to determine the modus operandi of this particular phenomenon. A patient was asked to simply go through the motions of chewing, muscles were tested before and after, no response was noted. A patient was asked to chew a simple source of food material to determine if carbohydrate absorption was involved since ptyalin does start the initial stages of carbohydrate digestion in the mouth, no response was noted. The psychological pattern was ruled out by negative suggestion being given to the patient as to the effect of what the nutritional support would do upon being chewed and the patient would then say that the negative suggestion (that no response would occur) was incorrect since there was an observable response. The patient was given the same material to swallow without chewing, in a larger quantity, a sufficient period of time was allowed to elapse, and the previously tested muscle was tested again. No response was observed except in a very minor way.

It was obvious that a new fact had been discovered about the principles of Applied Kinesiology, in that chewing of a nutritional substance in the natural order, a low concentration from a natural source, could produce a phenomenal response in a particular muscle. There seemed to be a response in a particular muscle to a particular substance. This was validated, first by repeated observations of over 200 separate and distinct instances and second by the observation of other practitioners in this area to whom this information was communicated. A so-called double blind study was also done in which neither the doctor nor the patient knew the nature of the substance that the patient was to chew. The response was appropriate, immediate and highly individualized.

It soon became apparent that many individuals had more than one muscle weakness that could be observed in this particular fashion. The pectoral major muscle, for example, in its sternal division, is associated, as you know, with the lymphatic and vascular reflexes of the liver. The gluteus medius muscle is associated with the sex glands, as you know. There are neurolymphatic and neurovascular contacts for both of these muscles. There is also a means of establishing cranial respiratory assistance technic to these muscles. In other words, the patient is asked to take a deep breath, the muscle is tested, observations are made as to whether this increases the strength. The patient is then allowed to expire the air and hold the expired air out and the muscles retested. There is an observable strength increase in many cases on either inspiration or expiration. This is done first. This information is then recorded for future use.

So, for example, the pectoral major muscle is tested, and if it is weak in its sternal division, a low concentration of natural Vitamin A, 1500 units, is given and the patient is asked to chew the material. Ten seconds after the patient has finished chewing the material (this is an approximate time) the muscle is re-tested and there will be a phenomenal increase in strength of the previously weak pectoral major muscle in its sternal division. If, for example, you had already tested the gluteus medius muscle as well and found it to be also weak, there would be no response whatsoever in the previous weak muscle.

But if the patient is then asked to chew a source of natural Vitamin E concentrate as low as 2 units per tablet, following chewing there is a phenomenal increase in strength of the previously weak gluteus medius muscle. This can occur on the same side as the pectoral muscle or on the opposite side. The body has an innate, unerring sense of where the material is needed and seems to immediately respond to the particular substance in the natural order that it apparently requires. If the reverse situation in the case mentioned above takes place in a patient—in other words, if the Vitamin E is given first, the

gluteus medius responds and the pectoral major sternal division is unresponsive until the natural source of A is given. Then the pectoral major responds.

There is an apparent specific relationship of a nutritional substance to a specific anatomical muscle response. The side of muscle weakness has apparently no relationship to the speed or to the specific mode of response since the right pectoral major muscle sternal division responds to A, and a left gluteus medius responds to E, or the opposite may occur. (The opposite here referring to the side on which the muscle was found weak, namely left or right.) Efforts were made to identify specific nutritional substances with specific muscles and the response or lack of response was noted.

There was an observable definite identifiable pattern. The pectoral major sternal division is affected by small concentrations of natural Vitamin A and also responds to bile salts since, as you know, this muscle relates in its lymphatic and vascular reflexes to the liver. The pectoral major clavicular division is associated, as you know, with the stomach and this muscle is affected by concentrates in a low potency of Vitamin B Complex and also of G Complex—the B Complex being the most common nutritional substance affecting this muscle, although occasionally concentrates of the G Complex is needed to obtain a complete response in the pectoralis major clavicular division.

The gluteus medius, the gluteus minimus, the piriformis and the abdominal muscles all respond to natural low concentrations of Vitamin E Complex.

Again, as noted above, the patient chews a tablet that contains as low as 2 units of Vitamin E. An interesting fact in this regard is that the higher milligram dosage, which of necessity requires some refining of the original source, apparently has very little effect when chewed or ingested. The upper trapezius muscle responds to low concentrations of Vitamin F and Vitamin G Complex. Bear in mind that these concentrations of natural materials must be thoroughly chewed prior to swallowing. It is just as if in one instance when the person chews the substance it goes direct to where the trouble exists; whereas if the patient swallows the substance, there is a general distribution. It is something like occupant mailing, which produces perhaps a soap coupon in your mail, as opposed to a certified registered letter addressed to you personally, producing a singular response.

Here again, we have the natural order showing its effect in human physiology. The sartorius and gracilis muscles respond to natural concentrations of adrenal substance of a non-drug nature.

Test the anterior neck flexors and the posterior neck extensors. If you find a weakness, have the patient chew a concentrate of niacinamide and B-6. There should be an observable response of at least 75% after the tablet has been chewed or if the material is in capsules, after the capsule has been allowed to either dissolve in the mouth or opened and the capsule contents chewed and mixed with the saliva. The only exception we have observed in this particular situation has been the type of muscle weakness of the neck flexors and/or neck extensors immediately following a severe cervical strain or postwhiplash patterns.

A period of 24 hours apparently is necessary for recovery to take place sufficiently to allow nutritional concentrates to operate in the manner previously described.

It is obvious also that there may not be only one substance that is needed in a particular muscle organ pattern situation. In other words, a muscle may respond to, for example, Vitamin A and/or bile salts in the case of the pectoral major sternal division. There may be other substances as well in the natural

order that would cause a response in this muscle and its associated liver pattern. Further research in this area is now being conducted.

At this stage of the research in the nutritional relationship to muscle balancing, the one remaining question is the quantity and the duration of time that the appropriate material must be given. At this time we give a moderate amount, 3 a day, for example, of a very low potency natural concentrate which could only have a simple nutritional effect and not the drug effect that some high concentrates or some substances are capable of producing. Observe the response from one treatment to another, increasing or decreasing or eliminating the material as the response indicates. It is obvious that there is an immediate response in strength that is lasting and strange to say, in some instances requires only a single tablet to produce the desired response. This is the exception. In other instances, a continued supplementation is required, but the usual instance is that following 2 or 3 weeks of a natural source intake chewed, there is a sustained and observable response not only in the muscular pattern but in the general physiology of the patient.

This information was first recorded in the publication, "*Cranial- Sacral-Nutritional Reflexes and Their Relationship to Muscle Balancing*" in early 1968. In the November 4, 1968 issue of Science, Volume 163, an article entitled, "*Direct Pathway to the Brain*" was abstracted. Whole body autoradiographic studies demonstrated that, when isotopically labeled glucose is placed in the ligated oro-pharynx, there is a rapid movement of the isotope directly to the intra-cranial cavity. This passage involved nonspecific diffusion **bypassing all recognized routes to the brain.**

The one hundred year old admonition of Fletcher to chew our food one hundred times, apparently was based on good clinical observation as well as good common sense. His recorded recovery patterns were out of proportion to the foods involved. The evidence is strong that we should chew not only our food well, but that we should chew our nutritional support as well. Dr. Royal Lee was the first to consistently advocate the chewing of nutritional concentrates.

The reverse of the situation is also true. For example, the common high shoulder, weak latissimus dorsi pattern found in hyperinsulinism and diabetes is immediately made worse, much weaker on testing, when as little as one c.c. of ordinary glucose is ingested and held temporarily in the mouth. The same is true of any other toxic substance which relates to any disease pattern when ingested and held temporarily in the mouth and chewed or unsalivated.

Innate intelligence or body language never lies. There is always valid, reproducible evidence if one looks carefully enough. The language is unmistakable; the practice of muscle testing verifies what we have all known and felt about the validity of the chiropractic concept of health and healing, but now we have proof of the incredible ability of innate intelligence even in the field of human nutrition. The experiment with the radio-active carbon 14 isotope showed conclusively that "apparently the glucose or labeled fragments of it can pass directly from the mouth to the brain, bypassing the gut" and most importantly "bypassing all recognized routes to the brain." This negates naturally, the well known sublingual absorption route familiar to all of us.

The unique selectivity of the hypothalamus can be demonstrated most succinctly in the pattern one observes in the acute whiplash or its chronic state. The general response of the anterior scalene sternocleidomastoid and splenius capitis, is divided by body wisdom into two high niacinamide, low B-6 concentrates components. The sternocleidomastoid responds quite well, but the special response of

the anterior scalene is lacking. A high B-6 component with a low niacinamide quickly restores testing strength to the anterior scalene.

Naturally, the muscle testing is the key factor in the identification of material to be used in nutritional testing. Naturally again, the nutritional factor is only ONE component of the composite whole of the particular problem posed by the particular patient. The high degree of selectivity and discrimination speaks well for the original concept of innate intelligence first propounded as a philosophical principle, but is now validated, not only by this nutritional method but also by the cross-crawl method proposed by Delacato and previously described by the author.

Man is the total sum of the components of his parts, but he is endowed with more than that. He is motivated and guided by a force within that is sometimes so obscure as to make its presence unknown. But it is there, and this innate intelligence that is the birthright of each cell, functions perfectly when unimpaired and unimpeded, but when impaired and impeded, must be released in all its potential for true health and recovery to take place.

This we do, this we should do, this we can do if we but listen and look with ears that truly hear and eyes that truly see. We are privileged to deal with the pinnacle of God's creation. We should have, as Schweitzer said, "a reverence for life." Treat the body with the respect it deserves, allow it to respond with the true potential it possesses. Doing this will perform a service for mankind, for your profession, and for you.

Nutritional Factors in Every Day Practice

Many patients and many doctors suffer from lactic acid excess. It is this excess that produces the symptoms of a Vitamin B deficiency. The patient who complains of drowsiness after meals, the patient who says he must get up frequently at night to urinate a small amount but has no frequency in the daytime, the patient who says that he feels as though he has a hat on or a band sensation around the head—these are all symptoms of a Vitamin B deficiency. There is an obligatory cycle between carbohydrate and Vitamin B in that the ingestion of most modern urban available carbohydrate requires an equal amount of Vitamin B and since the carbohydrate is invariably a processed starch with only enrichment's dubious values, the average carbohydrate eater is eating his way into a Vitamin B deficiency with the associated accumulation of lactic acid and pyruvic acids, since the metabolism of carbohydrate obligates the body to come up with an adequate amount of Vitamin B whether the food contains adequate amounts or not. Just as the income tax department levies its toll whether you have the money or not, so does the body require Vitamin B for its metabolic utilization of carbohydrate. In its metabolic lack there accumulates an increased level of lactic or pyruvic acid with the accompanying acidosis type symptoms of poor breath holding (less than 20 seconds), frequent yawning and fatigue, lack of appetite and bloating due to an accumulation of fluid with the accumulation of lactic and pyruvic acids.

Sometimes these symptoms are most aggravated after exercise, where the body cannot metabolize the increased amount of lactic acid brought about by the exercise which is not vented out of the body by perspiration.

The lactic acid which is lost by the body during perspiration unfortunately is also accompanied by a measurable amount of Vitamin B, so if you are not in balance to begin with, the exercise which should stimulate the circulation also depletes the body further, so it is a good idea to stay in balance by keeping the processed carbohydrate to a minimum, delectable though it may taste.

The frequent failure of a low carbohydrate diet or a high protein diet to accomplish its purpose in weight reduction or increased energy, is brought about by the relative water excess that occurs when the body in a "stupid" body wisdom effort tries to dilute the accumulating excess lactic and pyruvic acids. This is the reason why in beri-beri the ankles swell and the patient bloats.

Earlier D.C.s accomplished miracles not only because of the chiropractic adjustment, but also because of the springboard the more natural nutritional balance some of those earlier patients had. So use the nutritional base of the patient to potentiate the normalizing effects of proper chiropractic treatment. If you have a bone out of place in the body, all the whole wheat bread or Vitamin B will not put it back unless you manage to hit the offending structural member just right with a considerable weight of the stale, hard wheat loaf, but so also, no adjustment can make up for dietary errors of the patient even though he may not be aware of these errors.

A doctor is a teacher as well as a physician, and you are derelict in your duty to the patient if you do not advise him of the need for a change in his diet. It is not necessary to use supplemental nutrition if you can change the patient's diet so as to include high sources of natural B complex. But this is difficult, as you know, so the help that natural B Complex concentrates provide is a practical method. Many patients make the mistake of using high levels of synthetic materials in order to get a fast response. This is ill advised, although there are times when the synthetics are of great use. As one who is familiar with both ends of the potency pattern in general, I find that the lower potency is best in the long run for the average patient. To get the high potency some advertise to the general public as "natural," the pill would have to be the size of a baseball and highly compressed at that, so many use a natural base and add synthetic thiamin. This is good, but as mentioned above, for nutritional—not "drug" use—the lower potencies with the natural synergists are best, as many are belatedly discovering.

Smooth muscle tone is maintained by many inherent factors, but the level of circulating Vitamin B is also an important factor. For example, the patient mentioned earlier who has no frequency during the day but experiences an exasperating frequency at night with each passage being only a small amount, shows the effect quite well of the smooth muscle-tone factor.

As you know, the bladder is never empty. It is always full, and although the patient may think he has emptied his bladder, it really has gone down from the size of an orange to the size of a small plum, for example. When the circulation is moving fairly fast, the available B goes past the smooth muscle at a fairly good pace, but with cessation of daily activity the rate flow slows down and the bladder muscle becomes relatively atonic. It receives urine but continues to dilate until a stretch reflex rather than a normal urinary reflex occurs, but the muscle is so relatively weak the amount urinated is small. The bladder quickly resumes a full position and the urge to urinate occurs and occurs and occurs all night long.

The use of as little as 125 U.S.P. units of natural B complex 3 times daily (approximately 1 mg.), quickly clears the nutritional component of this condition, and the patient is greatly relieved. Naturally, as you know, there are other reasons for nocturia and frequency, but this condition is prevalent and responds well. Sometimes an excess of lactic acid in the intestinal environment predisposes the patient to a lactic acid excess. Testing the stool pH is a good and simple method to evaluate this factor. If it is too acid, try occasional colon irrigations or simple enemas to aid in the reduction of this complicating factor—since extra B will not solve the intestinal factor. Careful attention to the lumbar spine and sacro-lumbar joints is essential in this area of the lactic acid excess.

Tenderness of the calf muscles and burning of the soles of the feet is a frequently met symptom. It

is a manifestation of the vasodilation that an excess of lactic acid produces in a high activity muscle. Much back pain is experienced by patients, especially at night, and this also is a condition that responds to an increased B level. Most of the B in the nervous system is in the myelin sheath, and it is in this storage battery that the acetylcholine formation takes place. As you know, this acetylcholine is a chemical intermediary in the propagation of the nerve impulse, so that in any interference with the nervous system, this factor should be considered, because the decrease in acetylcholine not only provides a weak storage battery, but the absence of it actually produces a thinning out or loss of the insulation on the nerve, making it more susceptible to pressure or to "crossed wire" interference as we see in "trigger syndromes."

The concentration of B is highest in the tissues. They contain twenty times more than the blood, and the heart is highest in the tissue concentration of this material, since it is such an active muscle. In this regard, many B deficient patients have as an easily detectible pattern, a slow heart beat, lowered temperature, and as mentioned before, a poor breath-holding time—for example, below 20 seconds. Many of these patients also show an increased weight, which is basically fluid, and the ill-advised high protein diet sometimes ritualistically prescribed in these people only aggravates the existing situation, since one of the factors that require an uptake in the B level is an increase in protein. So you see, God does not make mistakes, we do, and since we cannot abandon our present mode of life and food readily, attention to the quality of the food is essential to the recovery of many patients.

The use of synthetic sources many times embarrasses the system, for it is just as if you had ten children and gave only one a Christmas present. When you use high concentrates of synthetics, they often cause deficiency symptoms themselves since they imbalance by balancing. As in the case with the ten children, it is better to give each a small present and satisfy all than to give a large present to only one, thereby creating more problems than you already have. Sometimes the need for synthetics is necessary for rapid saturation, as in the case of an inveterate alcoholic, but these are the exceptions in my opinion, in general chiropractic practice.

Low concentration of natural complexes high in the water soluble, B factor have worked best over the past twenty-five years. Foods that are high in B are readily available, such as unprocessed cereals, peas, beans, peanuts and yeast, to name a few. In the East an extract of rice polishings (tikitiki) is used as a preventative of Beriberi much like quinine used to be for malaria, so unprocessed or brown rice is also an excellent food. The response to the use of natural B complex available from suppliers to our profession is truly remarkable and fast and gratifying.

When large quantities of carbohydrate, alcohol, are taken, or when the level of Vitamin B has been low for a considerable period of time, the liver fails to detoxify or inactivate estrone, and the resulting imbalance between estrone and progesterone produces many symptoms, such as spider nevi, those little dilated or broken blood vessels radiating out from a central point, found on face, chest, or often following along the lower rib line on the front of the chest.

The water loving quality of the accumulated estrone or estrogen causes the breasts to swell and body weight gain at onset of the menstrual period, as well as a long, heavy period with a short interval between periods. There are other reasons for this very common condition, as you well know, but this B deficiency factor along with specific lumbar lesions comprise the most commonly met situations.

An interesting fact is that clams and salted herring contain a strong thiaminase which destroys Vitamin B, so the lesson here is obvious.

An increased psychotic tendency, a lack of vibration sense to an ordinary tuning fork, intolerance to noise, apprehension, are all mental signs in B deficient patients, and here again is the demonstration of the weak link which undoubtedly has the structural fault of subluxation as its primary cause, but with the deficiency hitting the area which is weakest constitutionally or environmentally. Correction of the structural phase of a mixed problem is just as important as correcting the nutritional phase. One inter-relates with the other and here is where the whole body concept should guide the progressive doctor of chiropractic. If our main job is to correct any and all interferences with the nervous system, why should not the nutritional component be as much of a responsibility as the structural component, since the nerve cannot function without acetylcholine and since Vitamin B is necessary for its production and "storage battery use!"

Dietary histories of innumerable patients seen by the author and compiled by the patient as part of his original starting record, show that the average patient does not get even the minimum requirements. Why neglect the opportunity to get the patient better faster, naturally, allowing the natural forces of the body to operate in the way the Good Lord intended them to act.

The ptyalin in the saliva is a good measurement of the Vitamin B level of the body and many dental straight thinkers have observed the effects of lack of B in their patients, and some have measured the ability of the ptyalin to reduce the starch in a starch iodine solution. The solution, which is blue in color, rapidly decolorizes when mixed with samples of small amounts of the patient's saliva. After long observation of this test, a conclusion has been reached that a normal pH is necessary for salivary ptyalin to be formed and to operate. Therefore, a rapid screening test is to determine if the saliva is slightly alkaline. Extremes at either end of the pH means B deficiency in the author's opinion, and are a good index of progress and of nutritional therapy since they give an indication as to when, if needed, to increase the supplemental nutritional support, when to decrease it, or when to cease it.

As you already know, the inability of many patients to achieve a quick and fast departure to sleep is due to a lack of calcium in its diffusible form, but when the patient gets to sleep, then re-wakens and finds it difficult to resume sleep, the answer usually lies in the use of extra B; and perhaps in the more resistant cases, adrenal support, which incidentally is another function of the versatile Vitamin B, which is the nervous system's and the chiropractor's friend.

Modern chiropractic should include the concept of the whole man, since man is a structural, chemical and psycho-spiritual unit whether you believe it or not. If you neglect any one of the three components, you will fail to produce the rapid and steady response to normal upon which our profession was built, and which now sustains it. This "total concept" will continue to advance our profession to heights never before scaled.

An effort has been made to show the inter-relationship of the water soluble fraction of the Vitamin B complex known as natural thiamin or aneurin. Subsequent material will deal with the alcohol soluble fraction of the B complex, namely the G or riboflavin and niacin fractions.

Nutritional Directions

ON ARISING: Orange, half grapefruit, or 4 ounces of orange or grapefruit juice.

BREAKFAST: Choice of fresh or frozen fruit or juice; one egg, with meat of some sort, such as bacon, ham, or fish; one small slice of unbleached whole wheat bread or toast toasted for 50 seconds; plenty

of butter; beverage—milk or one cup of coffee (whole milk or fortified skimmed milk as directed). If more coffee is desired decaffeinated coffee should be substituted, or weak tea, tea ball—not brewed; no sugar.

2 HOURS AFTER BREAKFAST: 4 ounces of fruit juice.

LUNCH: A tomato juice cocktail prepared as follows: Add the following to a glass of tomato juice: 1 tsp of Brewers Yeast, 1 tsp of Wheat Germ, grated rind of one lemon, juice of one lemon. Choice of meat, fish or cheese; multicolored salad of raw vegetables if desired; one small slice of whole wheat bread or toast with plenty of butter; fresh or frozen fruit dessert; beverage—milk or fruit juice.

3 HOURS AFTER LUNCH: 6 or 8 ounces of milk.

1 HOUR BEFORE DINNER: 4 ounces of fruit juice.

DINNER: The same as lunch except in smaller quantities.

2 TO 3 HOURS AFTER DINNER: 8 ounces of milk.

Notes: unless otherwise instructed, you may have any fresh or frozen fruit or juice you desire. Because of higher carbohydrate content grape and prune juices are restricted. Eat sparingly of bananas, figs, and dates for the same reason. You may have three baked white potatoes each week, if desired. Liver once a week is strongly advised. All smoking is forbidden.

AVOID ABSOLUTELY: All desserts and beverages in which sugar is used, such as pies, pastries, cookies, ice cream, fountain drinks, pop, colas, candies, etc. Spaghetti, macaroni, and noodles are not allowed. Also avoid alcoholic beverages such as wine, cordials, cocktails, beer.

If you cannot take milk or fruit juices, substitute a handful of almonds, walnuts, etc.—raw, not roasted and salted.

The object of this nutritional regimen is to prevent blood sugar starvation by keeping a trickle of usable sugars constantly going into the blood stream. The first feeding on arising starts the body's machinery, and breakfast builds it up to speed. The midmorning juice helps maintain that speed until lunch, while the afternoon milk prevents the late afternoon slowdown, so common in hyperinsulinism. The juice before dinner acts as a governor—takes the edge off the now-ravenous appetite and prevents overeating. Since the diet requires that the patient eat more frequently, this juice feeding is important, as surrender to the untempered appetite might result in an excessive weight increase. The additional feedings between dinner and bedtime care for the bodily activities until the machinery again is at rest.

Summary on Vitamin B

As you know, there is an antagonism between the pancreas and the liver and it is also true there is an antagonism between Vitamin A and Vitamin B. When you increase the level of Vitamin B, you speed up pancreatic function, and this in turn depresses liver function. A sluggish liver doesn't absorb Vitamin A very well, therefore it is unwise to feed high levels of Vitamin B when the liver is sluggish or when the Vitamin A level is low. Seventy percent of patients surveyed in California showed a low level of A and it is perfectly possible to have a good level of A and still have low levels in the body due to poor

assimilation by sluggish liver function. Twenty-eight percent of the patients surveyed were low in Vitamin B, so in giving patients natural B Complex be sure to include small units of Vitamin A as well, perhaps 1500 units once or twice a day along with one milligram of Vitamin B daily. Incidentally, Vitamin A reduces cholesterol beautifully and aids liver function when given with liver pumping manipulation. The Ptyalin level runs parallel to the Vitamin B level of the patient and when Vitamin B is given there is always a rise in the Ptyalin level. B Complex is much more effective than thiamin of synthetic sources and wheat germ is highly efficient as is brewer's yeast. The extremes of pH seem to be indicators for low levels of Vitamin B, since the Ptyalin level acts best in a slightly alkaline media. A good test is to take a 5% starch solution consisting of 10 gms. of laundry starch (Blue Argo), 200 cc of distilled water and 26 drops of fresh Lugol's Iodine Solution, add $\frac{3}{10}$ ths of a cc of saliva to $\frac{2}{10}$ ths of the 5% starch solution, shake and observe. If the blue color does not disappear, there is a B deficiency. This is a further modification of the Oelgetz test and is a screening test which does not require the usual incubation. Another good test is the relative pH of the stool. An acid stool is an indication of lack of Vitamin B if no lactic acid products are being fed. as mentioned in this chapter, a slow pulse, a low temperature, and a poor breath-holding (less than 20 seconds) are clinical guides. The products we use are from a Milwaukee concern. Remember that a high protein diet produces an increased need for the whole B Complex. High levels of the synthetic thiamin, along with calcium in 5 to 20 mg. levels, is occasionally useful in a severe neuritis, but only for a short period, long enough to reduce the pain, then switch to the natural B Complex. The usual phosphorus content of natural Vitamin B produces an undesirable acidosis in neuritis, therefore the synthetic fraction does have value in a severe neuritis. The inability of a patient to flex the pads of his fingers to the palms of the hands with the knuckles held flat and free from flexion is a valuable hint for B-6 deficiency, which often accompanies a general B deficiency. The swelling of the hands, along with numbness and tingling and disturbances in sodium and potassium relationship, is greatly helped by 25 to 50 mg. of B-6 daily. This should be from a natural source, such as yeast, pecans or peanut concentrates. Natural nutrition provides the springboard for effective structural adjustments. Use natural low potency concentrates to obtain the good results we would all like to see in every patient. Produce a spectacular result as often as you can by "thinking" the patient's problem out on a "whole man" basis.



Chapter 18

PITUITARY DRIVE TO ENDOCRINES AND APPROPRIATE CRANIAL TECHNIC

*How Your Glands Function All Together And What
Does The Pituitary Have To Do With Breathing And
What To Do About It In Glandular Problem Cases.*

We see many patients who have a low basal temperature. 97.8 to 98.2 is the usual temperature in the armpit, and many patients have temperatures below 97.8 to 98.2. You have read occasionally that the thyroid is involved directly. Sometimes the thyroid is involved because of the relationship that exists between the teres minor's muscle flushing pattern. The fascia of the teres minor sometimes does not pump adequately and many patients may show a low temperature because of a lack of iodine, but there is still a considerable number of patients who show a low temperature and low specific gravity—lower than 1.022—that we may not explain.

I happened to have a number of patients who had diabetes insipidus, the opposite more or less of diabetes mellitus in that there is no sugar involvement in the blood or in the urine, but their symptoms are similar in that there is enormous thirst and the patient drinks large quantities of water and eliminates large quantities of urine.

The medical remedy is posterior pituitary, which is a pituitary substance which is snuffed or insufflated up the nose for absorption, and this maintains a chemical balance.

In an effort to identify where the neurolymphatic reflex for the pituitary was, I asked these patients to temporarily stop the pituitary insufflation, and we found that the neurolymphatic reflex for the pituitary was at the glabella, the area just above the nose between the two eyebrows.

I expected to see a large number of patients who showed pituitary abnormalities in terms of weight and body conformation, to now show a pattern of therapy localization to pituitary, but my hope was unfounded. I then made an effort to identify the apparent pituitary type of obesity in young males—sometimes with fat accumulation in the abdomen and on the pelvic girdle giving an almost feminine appearance to a young male. I thought perhaps if the pituitary is the "Arturo Toscanini" so to speak of the glandular "symphony," then the thyroid is the "first violinist," and I tried therapy localizing the pituitary and simultaneously therapy localizing the neurolymphatic reflex for the thyroid. I found a large number of patients who showed a positive response to this double therapy localization. I found that the double therapy localization to the pituitary-thyroid, the pituitary-ovary, the pituitary-pancreas, the pituitary-stomach, the pituitary and practically any other organ was greatly helped by taking a deep breath.

In other words, an "inspiration assist" as we call it, altered the weakness that therapy localization produced on double therapy localizing to the pituitary and the organ circuit involved.

We soon found that cranial pumping, pressing the mastoid process forward together with inspiration, along with neurolymphatic reflex activity at the glabella, caused an immediate rise of an indwelling thermometer that was placed in the armpit, and in only three or four minutes their temperature would rise about 2 degrees.

This was quite consistent, and then coupled with pituitary nutritional supports such as pituitary protomorgen or the pituitary substance available from Nutridyn, V. M. Nutri or from other suppliers to our profession such as Seroyal achieved good response.

We have used the nasal sphenoidal contacts to good extent also. Contact is made at the lateral portion of the bridge of the nose and the patient is asked to press with about 4 or 5 pounds of pressure diagonally upward toward the side of the temple, and on finding the proper direction and side there is a marked weakening which is assisted by an inspiration assist once more.

This, coupled with the neurolymphatic reflex and the pressing of the mastoid processes forward together with inspiration with about 4 or 5 pounds of pressure coincident with the patient's inspiration, produced rapid rises in temperature which held and caused immediate balancing of not only the glandular circuits involving the pituitary but also the glandular circuits involving the ovary and some of the other organ circuits that apparently played a part in keeping the temperature at a low level.

The bottom line in terms of glandular function (especially valid) is: What is the temperature?

In the chapter that discusses Thyroid Function, there is the evidence for the type of symptomatology that occurs under thyroid deficiency conditions when there is a low temperature.

Jamming of the cruciate suture of the hard palate also contributes to cranial respiratory faults. Have patient therapy localize with both thumbs inside mouth, and placed against alveolar process of lateral teeth. Check for muscle weakness. If present it is a local dental problem. Treat it appropriately, but if therapy localization is negative, have patient spread thumbs so as to spread upper jaw apart, about 5 pounds of force, exerted by thumbs inside mouth, against sides of hard palate as if to separate the midline cruciate suture of the hard palate.

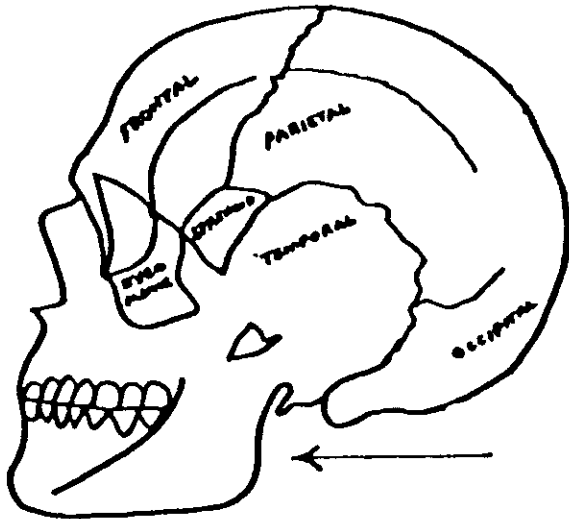
Test muscle. If weak, check against respiration. Usually inspiration assist neutralizes this weakness—or occasionally from our experience it may be expiration. Proceed as follows: Remove patient's thumbs from his mouth, insert your fingers and place them so as to spread the hard palate apart. Spread the hard palate maxillae apart with approximately 5 pounds of force coincident with the phase of respiration that abolished initial test pattern.

A good screening technic for general cranial fault and especially this cruciate suture jam is to request the patient to swallow with the mouth wide open. About half the population I have seen cannot swallow with the mouth open. Dr. Sutherland mentioned this many years ago. The posterior pharyngeal muscles are attached by a median raphe to the basilar portion of the occiput near its junction with the sphenoid. Tension here restricts swallowing with open mouth and indicates cranial problems. Following proper correction of appropriate fault, the patient can swallow with mouth open.

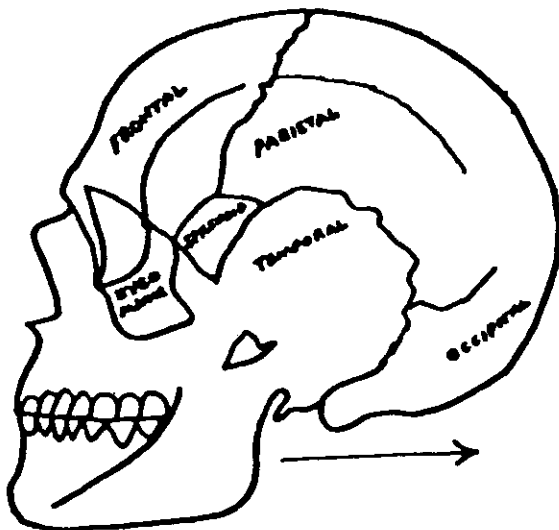
During correction by spread or nasal sphenoid, or simple inspiration or expiration mastoid process movement, request patient to place tongue in the relay-reset position. The tongue is placed against rugae of upper palate just behind teeth during this correction phase. The relay-reset tongue position, although not necessary, speeds correction of cranial faults.

Use temperature monitor technic if patient's temperature is low at axilla (norm 98.2 to 97.8). These newer cranial approaches again speed response. Some bridgework may need to be reworked if restriction of suture movement results from good dentistry but poor cranial mechanics.

CRANIAL TECHNIC

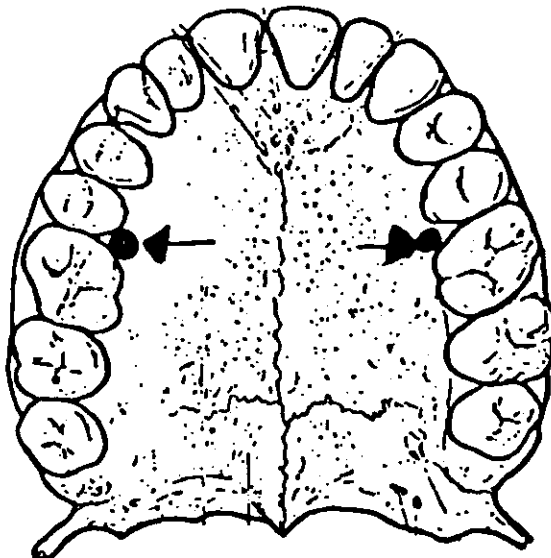


If weak muscles become strong on inspiration, MOVE MASTOID PROCESS FORWARD WITH INSPIRATION. Use thenar pad of hand using 2 pounds of pressure. Do this 4 or 5 minutes.



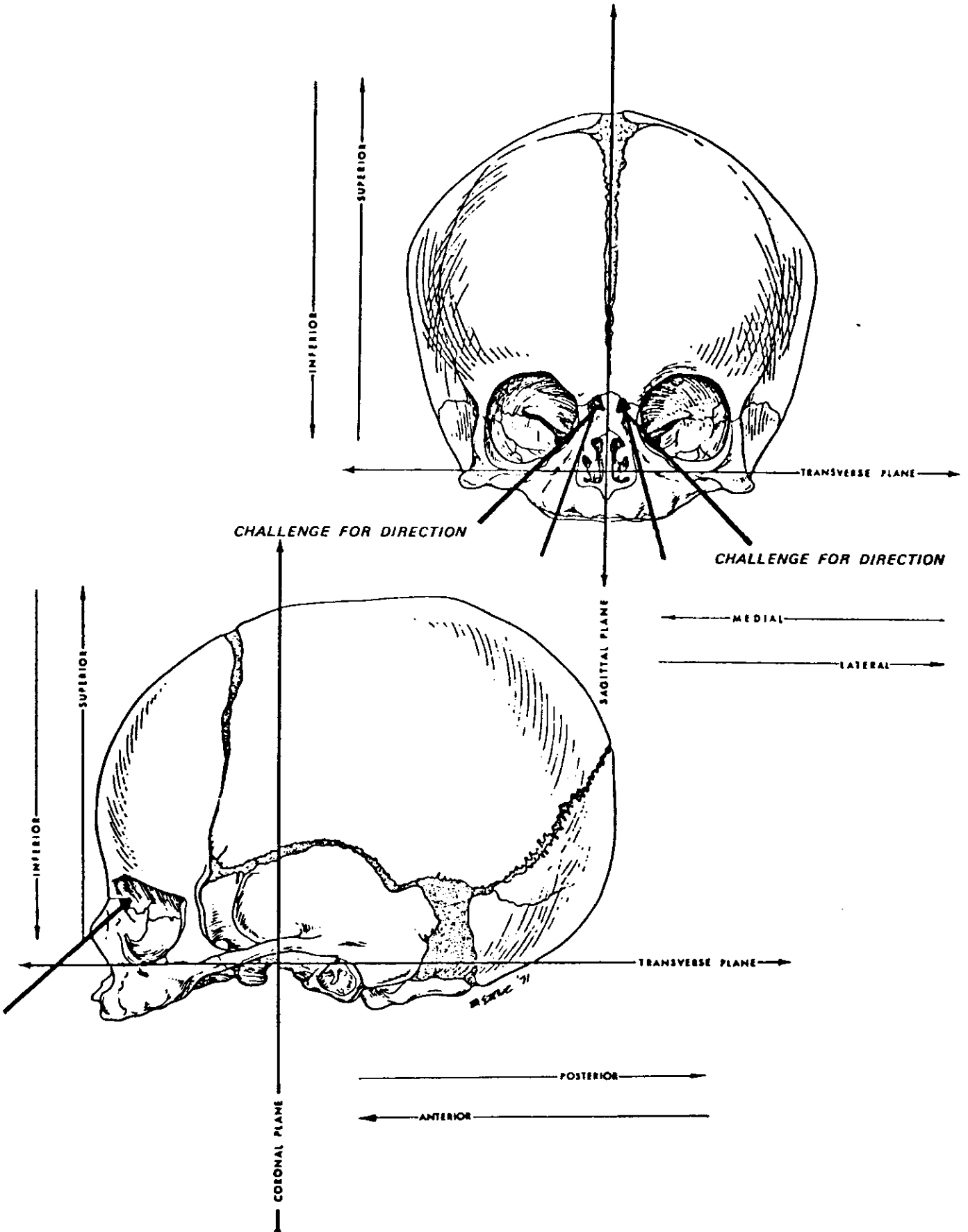
If weak muscles become strong on expiration, MOVE MASTOID PROCESS BACKWARD WITH EXPIRATION. Use thenar pad of hand using 2 pounds of pressure. Do this 4 or 5 minutes.

CRUCIATE SUTURE SPREAD



NASAL SPHENOID

Schematics of cranium with indications of anatomic directions and planes, frontal and lateral views



I had an elderly patient who complained of a great deal of difficulty with her neck, and in an effort to rule out the possibility of osteoporosis, a leaching out of the calcium that frequently occurs (more often in elderly females), I requested that some films of her neck be taken.

The necessity of removal of dentures is imperative in taking X-rays, so I asked her to remove her false teeth if she had any, and she said she would.

It was late at night, and I was taking the X-rays myself instead of having the usual associate perform this function, so after I placed her in the proper position I asked her to open her mouth—and there was a set of teeth in her mouth.

I said, “You mentioned that you had some dentures and you would remove them,” and she said, “Well I have.” Then I said, “Oh, I see, you have another set. Maybe you’re a little vain—your cheeks fall in when you take your teeth out?”

When she answered, “No,” I said, “Well, if you removed your teeth, where are they?” and she pointed to a set of dentures on an adjacent shelf.

I looked at the set of full dentures, upper and lower, and then I looked again at her open mouth with a full set of teeth, upper and lower, in bewilderment. She smiled and said, “You’re sort of surprised, aren’t you? You see, I had ground my teeth down to where they didn’t meet and I couldn’t chew anything. When I went to the dentist he wanted to pull all my teeth, and I said nothing doing, make a set to fit the old ones—which he did.”

Much to my surprise, this is what had been done, and was the basis for the unusual response I saw with her teeth.



Chapter 19

THE LYMPHATIC SYSTEM

*How Muscles Are Pumps For Their Own Waste Product,
And Also Act As Visceral Or Organ Auxilliary Pump
To Maintain Organ Function.*

Quoting from H. S. Mayerson in the *SCIENTIFIC AMERICAN* for June of 1963, published by the W. H. Freeman & Co., 660 Market Street, San Francisco, California 94104: "The fact that the lymphatic system is an evolutionary newcomer encountered only in the higher vertebrates is significant—as the organism becomes more complex the blood system becomes more specialized. The system develops increasing hydrostatic pressure until, in mammals, there is a closed high pressure system with conduits of diminishing thickness carrying blood in an extensive branching bed of tiny capillaries.

"At this point, a snag was encountered. The high pressures made the capillaries leaky with the result that the fluid and other substances seeped out of the blood stream. A drainage system was required, and lymphatic vessels evolved from the veins judging by embryological efforts, to meet this need.

"In man, the lymphatic system is an extensive network of distensible vessels resembling the veins. It arises from a fine mesh of small thin-walled lymph capillaries that branch through most of the soft tissues of the body. Through the walls of these blind end capillaries the interstitial fluid diffuses to become lymph, a colorless or pale yellow liquid very similar in composition to the interstitial fluid and to plasma, the liquid component of the blood.

"The lymphatic capillaries converge to form larger vessels that receive tributaries along their length, and joined become terminal ducts emptying into large veins in the lower part of the neck. The largest of these great lymphatics, the thoracic duct, drains the lower extremities and all the organs except the heart, the lungs, and the upper part of the diaphragm. These are drained by the right lymphatic duct.

"Smaller cervical ducts collect fluid from each side of the head and neck. All but the largest lymph vessels are fragile and difficult to trace, following different courses in different individuals, and even, over a period of time, in the same individual. The larger lymphatics, like large veins, are equipped with valves to prevent backflow."

Warwick & Williams, in the 35th British Edition of *GRAY'S ANATOMY*, W. B. Saunders & Co., indicate in their discussion of the movement of lymph, that several factors are concerned in propelling the lymph through tissue spaces through the lymph nodes, and into the venous system.

First we will consider the drainage of tissue spaces, generally by negative filtration pressure of the fluid from the blood capillaries and contractions of the surrounding muscles. The lymph moves in the direction determined by the valves—the lymph flow naturally being very increased when the limb is moved, as opposed to the small amount of flow when the limb is rendered immobile. Respiratory movements, the negative pressure of brachiocephalics, are factors in promoting lymph flow. Muscle contraction, blood vessel pulsations and intestinal contractions also aid.

The smooth muscle in the walls of the lymphatic trunks is most marked just proximate to the valves, and stimulation of sympathetic nerves accompanying the trunks results in contracting these muscles.

But most primarily, the intrinsic muscles of the vessels probably aid the flow of lymph—LYMPHOLOGY 8-1975, 49-56, copyright Georg hieme, Verlag Sturtgart. The valves are of considerable importance for determining the direction of the flow of lymph.

The thoracic duct drains the major part of the lymph into the venous system. It is the common trunk for all the lymph vessels of the body except those on the right side of the head and neck.

The right lymphatic duct drains the right lung and the right side of the heart and part of the upper surface of the liver. The thoracic duct is about the size of a soda straw and it varies in length from about 38 to 45 centimeters including the cisterna chyloae, and extends from the 2nd lumbar vertebra to the root of the neck. The duct begins at the upper end of the cisterna chyloae and enters the chest thru the aortic opening of the diaphragm, and then ascends thru the posterior portion of the mediastinum, with the aorta left and the azygous veins on the right; then opposite the 4th thoracic vertebra the thoracic duct inclines to the left, enters the superior mediastinum and ascends to the thoracic outlet along the left side of the esophagus. Then it crosses anteriorly by the aortic arch that lies behind the commencement of the left subclavian vein in close contact with the mediastinal tissue of the left side of the neck.

Passing at the neck it arches laterally to the left transverse process of the 7th cervical vertebra, rising about three or four centimeters above the clavicle. Here the duct runs behind the first portion of the left subclavian vein and passes in front of the medial border of the anterior scalene and is separated from these by the thin vertebral fascia.

It descends in front of the first part of the left subclavian artery and ends by opening into the junction of the left subclavian and internal jugular veins. Sometimes a duct joins the adjacent parts of subclavian or internal jugular vein, and sometimes it breaks up into a veritable number of small vessels just prior to its termination.

There are many anomalies, and Gray's can be consulted for the variable degree of this situation.

The Pickering Pick and Robert Howden edition of *GRAY'S ANATOMY* cites that the thoracic duct has numerous valves throughout its whole course, but that they are more numerous in the upper part and lower part and at its termination they are provided with a pair of semi-lunar valves, the free borders of which are turned toward the vein so as to prevent the passage of venous blood into the duct. The thoracic duct is composed of three coats which differ in some respects from those of lymphatic vessels. There is an internal coat consisting of a single layer of endothelial cells; and a subendothelial layer similar to that found in arteries; and an elastic fibrous coat, the fibers of which run in a longitudinal direction. The middle coat consists of a longitudinal layer of white connective tissue with elastic fibers external to which are several laminae of muscular tissues, the fibers of which are for the most part disposed transversely, but some are oblique and longitudinal and mixed with elastic fibers.

Later editions of GRAY's indicate that the thoracic duct has a pulsation of 12 to 18 times a minute. Recent information from Russian sources in Obninsk indicate that in the test animals examined, with cessation of diaphragmatic respiration, heart function and muscular action, there continued to be regular pulsations of the cisterna chyloae, or the receptaculum chyloae as it is sometimes called, or the reservoir or cistern of Pequet.

Our health depends to a great extent upon the complex lymphatic system. In contrast to the blood stream which operates under pressure and follows a closed circuit from artery to capillary to vein and back

to artery, the lymphatic system flows in only one direction. The initial lymphatics which are very small originate in intercellular spaces. The material gathered here passes along, ever increasing the ducts, until it reaches the lower neck region, where it empties into veins leading to the heart. The ducts are so fragile and so small that they are invisible and many of the ducts have cell walls of only one cell thickness and the fluid that they carry is almost as clear as water, except after a fatty meal it appears white. X-ray film will occasionally demonstrate the lymphatic circulation when injected with a dye and sometimes radioisotopes have been used to discover the track of the lymphatic system in the body. *RADIOLOGICAL EVIDENCE OF LYMPHATIC DRAINAGE OF BONE MARROW CAVITY IN LONG BONES*, 10-1977 4—Copyright, Georg Thieme, Verlag Stuttgart.

The lymphatic network provides an all important drainage system or sewer system which is absolutely necessary to our function. To nourish the cells, the capillaries leak out many materials—fats, vitamins, minerals, and so forth, along with other fluids and proteins, and much of this fluid passes back through the capillary wall to be carried away by the veins. The majority of this material is carried by the veins but not all. A percentage of the material is carried off by the lymphatic system; especially in the case of blood protein, the loss of non-retrievable proteins thru the capillary walls would be disastrous.

Recently they have tagged blood proteins with radioactive iodine and they measured the rate at which they passed into lymph vessels. Half of our blood protein is lost in the blood every 24 hours, as was found in this survey, but prompt retrieval of the protein of the lymphatic system neutralizes this constant loss. *SCIENTIFIC AMERICAN*, June 1963—*THE LYMPHATIC SYSTEM*, by H. S. Mayerson, published by W. H. Freeman, San Francisco, California.

The route of retrieval return is well known. A system of minute capillaries, lymph capillaries, collects fluids and passes it along until it reaches the thoracic duct. This is the largest vessel in the lymphatic system. It is about the size of a soda straw and passes upward to the center of the body, emptying into subclavian veins.

The lymphatic streams of fishes and reptiles have lymphatic hearts, so-called, to move the fluid along—man does not. APPARENTLY lymph is propelled mainly by breathing, walking and intestinal activity and muscle action. As the muscles tighten, lymph vessels are squeezed and lymph is pushed along and backflow is prevented by valves located at regular intervals. Spaced along these lymph channels, bean-shaped masses of tissues from the size of a pinhead up to almost an inch long serve as filters. These lymph nodes are very numerous, so that when one is not working another one further along will do the job.

The filter system traps anything that is potentially harmful. Lymph node infections, for example, in an infected finger, can cause pain and swelling in the armpit; or an infected toe can similarly affect the groin, as there are concentrations of lymph nodes in these areas and the swelling and the discomfort here announces that a battle is being fought against the lymphatic system invaders.

The lymphatic system transports many things, especially hormones. It also transports dietary fats. Most fats are not directly absorbed, and with good reason—heavy concentrations of fat destroy red blood cells. The lymphatic system solves this serious problem by absorbing fats in the intestine and then metering it into the blood stream in amounts that can be easily handled. The complex lymphatic system also produces antibodies, and as a matter of fact produces at least about a quarter of the white blood cells that circulate in the blood stream. *APPLIED KINESIOLOGY—THE NEUROLYMPHATIC REFLEX AND RELATIONSHIP TO MUSCLE BALANCING*—3rd Edition, 1965—Steiner Publications, Detroit, Michigan.

There are times when the system lacks reserve capacity to handle activity that was due. In the lungs, for example, blood vessels may use fluids faster than the lymphatics can carry them away, such as in pneumonia and certain kinds of heart disease, or when irritating chemicals can bother lung tissue. The edema that is caused by this is very serious and unless the lymphatic system can increase its function many literally drown.

There is a definite link between the lymphatic problems and serious kidney disease, and this is something that we have found also—that the most commonly found lymphatic pattern is a psoas reflex which is associated with the lymphatic blockage to the kidney. *APPLIED KINESIOLOGY—THE NEUROLYMPHATIC REFLEX AND RELATIONSHIP TO MUSCLE BALANCING*—3rd Edition, 1965—Steiner Publications, Detroit, Michigan.

The thoracic duct can very easily bring a part of lymph into the blood. It's the common trunk of the greater lymph vessels of the body except those on the right side of the head, neck and the chest and the right upper extremity and the right side of the heart.

It varies from about 40 to 45 centimeters and extends from the 2nd lumbar vertebra up to the root of the neck and, as mentioned, it is about the size of a soda straw, and it begins by a triangular dilation called a cisterna chylo which is situated in front of the body of the 2nd lumbar vertebra, slightly to the right and behind the aorta. It enters through the crux of the diaphragm, and opposite the 5th dorsal it goes slightly to the right, passes behind the aorta, and it forms an arch in the neck which rises slightly above the clavicle and crosses anteriorly to the subclavian artery. This anatomical review is repeated for therapeutic potential emphasis.

It sometimes divides into two vessels of equal size which reunite onto several branches, which forms a plexus. It occasionally divides its upper part into a right and left, the left ending in the usual manner in the left subclavian vein while the right one opens into the right subclavian vein. The thoracic duct has several valves at its termination. There are some semilunar valves which are turned towards the veins to prevent leakage of the veins back into the duct.

The cisterna chylo receives the lumbar lymphatic trunks right and left and the intestinal lymphatic trunks. The lumbar trunks receive the lymph from the lower limbs in the walls of this or the pelvis. The intestinal trunk, as you would assume, receives lymph from the stomach and intestine. In the neck the thoracic duct is met by the left jugular and the left subclavian trunks where it then enters the left subclavian and occasionally the internal jugular vein, quite often at its angle junction with the right internal jugular vein.

There is twice as much lymph in the body as there is blood and there are twice as many lymphatic vessels as there are blood vessels. The anatomical location of the lymphatic glands does not seem to correspond to the neurolymphatic reflex locations.

There are intercostal lymphatic vessels arranged in a regular fashion between the ribs, but apparently these are not the actual Chapman or neurolymphatic reflexes.

Since the direction of the lymphatic system is fundamentally retrograde with the exception of the head and neck, it seems reasonable that the retrograde flow of lymph would be enhanced by placing the patient in a slightly head down position, in the so-called slant board position.

A patient who had a severe non-responsive anemia, who had been treated by a hemotologist in our

city, was referred for additional care. His hemoglobin would seldom rise above 9 grams. With proper nutrition and chiropractic treatment, there was a slight elevation in the hemoglobin from 9 to approximately 10 grams, but all efforts on our part and that of a hemotologist did not elevate the patient's hemoglobin level above this 10 gram maximum.

Kinesiologically, we find a bilateral weakness of the tensor fascia lata which is associated with the large bowel, lymphatic reflex activity in patients who show an 8 gram or lower hemoglobin level. This patient showed that particular pattern, and efforts to improve the lymphatic reflexes for the large bowel and the fascia lata were successful, but there was no rise in hemoglobin above the previously mentioned 9 to 10 grams. Since the long bones are associated with some hemopoietic effect, it seems reasonable that perhaps, if there is a grievous lymphatic problem, retrograding the patient with the head lower than the feet might facilitate lymphatic drainage because of the natural upward flow of lymph.

When this was attempted in this particular patient, not only did the fascia lata muscles weaken, but every other muscle showed a strong weakness on testing, contrary to what one might expect.

In an effort to identify possible causes, an effort was made to induce pectoral traction after the manner of Zinc and Lawson, as mentioned in the *OSTEOPATHIC ANNALS* of November, 1978. This caused an immediate strengthening of the fascia lata and other muscles, but only as long as the pectoral traction was maintained.

In an effort to understand the modus operandi of this particular situation, it was soon learned that there was a stretch weakness of the pectoralis minor muscle, in this instance on both the left and right side.

Kendall and Kendall show the pectoralis minor to have an origin on the superior margin in the outer third of the 3rd, 4th and 5th ribs, and their cartilages from the fascia over the surrounding intercostal muscles, where it inserts into the medial border, superior surface of the coracoid process of the scapula.

It has a tendency to assist in a forced inspiration, according to Kendall and Kendall, but also, as you would imagine, tilts the scapula anterior, and rotates it about a forward axis.

Fundamentally, it is a rib suspension muscle, and when the stretch weakness is found, due to a variety of causes, it impinges upon lymphatic trunks from both the arm and the thorax, and alters pressure gradients into the subclavian insertion of the thoracic duct.

Both subclavian lymph trunks and lymph trunks from the anterior and lateral thoracic walls are directly below the pectoralis minor, which is superficial to the rib cage.

Pressure was exerted on the coracoid process golgi tendon organs of the pectoralis minor in a caudal direction, while simultaneous pressure on the golgi tendon organs at the rib attachments of the 3rd, 4th and 5th ribs near the cartilages, was exerted in a central direction, with a hard pressure being exerted simultaneously on both origin and insertion, and the retrograde position was then repeated. The neurolymphatic reflex and the fascia lata, and all the muscles, remained strong. Four days following this episode, the hemoglobin jumped to 13 grams and has remained there ever since. The patient has made a good clinical recovery and his hemoglobin remains between 12½ and 13 grams, with very little hemotological support.

This procedure of diagnosis by retrograde position was then made a part of our diagnostic survey on

patient entrance, and we found a high percentage of patients who showed a failure of muscle function on assuming a 20 degree head down position.

We found both left and right pectoralis minor muscles to have a stretch weakness consistently, and attention to the golgi tendon organs normally produced a retrograde position response, but also made an excellent clinical response in some of the clinical conditions mentioned earlier in this chapter, such as limb swelling, and infection, and other evidences of lymphatic embarrassment.

There was an associated weakness of the serratus posterior superior and associated hyper contraction of the serratus posticus inferior, and attention to the golgi tendon organs of both of these muscles, along with vigorous rib adjustments to assume a more normal position, resulted in continued clinical improvement. Neurolymphatic reflex for pectoralis minor is found just above the xiphoid process on the manubrium. Manipulate until all pain on pressure has ceased.

Patients can be instructed to have pectoral traction exerted by members of their family so that patients will have an increased movement of fluids during illness, but this is a finger in the dike action which is only a temporary holding pattern, and requires implementation by direct action on the golgi tendon organs of the muscles involved. Sources of natural vitamin A—1500 units tablets (S.P.), or emulsified A—(V.M. Nutrifood) T.I.D. is also recommended. Three per day of 1500 unit amount is recommended.

The retrograde flow of lymph, along with the tilting of the patient with his head lower than his feet by 20 degrees, is an excellent diagnostic maneuver to elicit embarrassment of the lymphatic system. Normally the lymphatic system empties into the subclavian vein, but if something obstructs the entrance of the thoracic duct or changes pressure gradients, the additional lymph flow produced by the negative gravity position embarrasses the lymphatic system, the lymphatic system allows the accumulation of lymphatic waste in peripheral tissue spaces of muscles and viscera, producing a marked weakening on testing by the standard methods of muscle testing of Kendall and Kendall.

Normally the tissue flows from interstitial spaces are siphoned into the lymphatic system and then the lymphatics are eventually siphoned by the flow of venous blood into the angulosa venosa. Correction of the muscles involved increases the volume of the thorax in three dimensions, and it helps to establish, along with other technic, better diaphragmatic respiration and promotes the venous return from the rest of the body to the heart.

Frequently, stretching of the pectoral fascia by quick backward movement and also quick forward movement of the arms, produces marked muscle weakness on previously intact muscles, indicating that the fascia itself is shortened and cannot stretch rapidly enough. This is also a factor, since the fascia of the body is both contiguous in one plane, and continuous in the deeper planes.

Pectoral traction, effected by the pectoralis minor activity, affects not only the chest but also the neck and upper extremities. The fascia surrounds muscles and many times requires literally "ironing out" of the fascia, which has assumed a shortened position. The fascia and the muscle normally have a one to one relationship and stretching of the muscle normally increases its tone, but when the fascia is short, stretching the muscle reduces the muscle tone, and therefore this is a very useful diagnostic device.

The fascia becomes a framework network for the neurovascular bundles. It forms conduits for arteries,

veins, lymph vessels, glands and nerves. One of the main functions of fascia is to keep these channels open.

Many factors produce a drag on the fascia and attention to the muscle structure as well as the bony structure maintains the normal balance of flow. Blood in large veins, which usually has a pressure of 6 to 9 millimeters greater than the right atrial pressure, which ideally is at zero, may be compromised by pectoralis minor pressure at subclavian areas.

Attention to the pectoralis minor, and if necessary the major, sternal and clavicular, helps restore the patency of the large veins and allows a greater volume of blood to enter the chest, making the linear flow greater and making it easier to fill the heart.

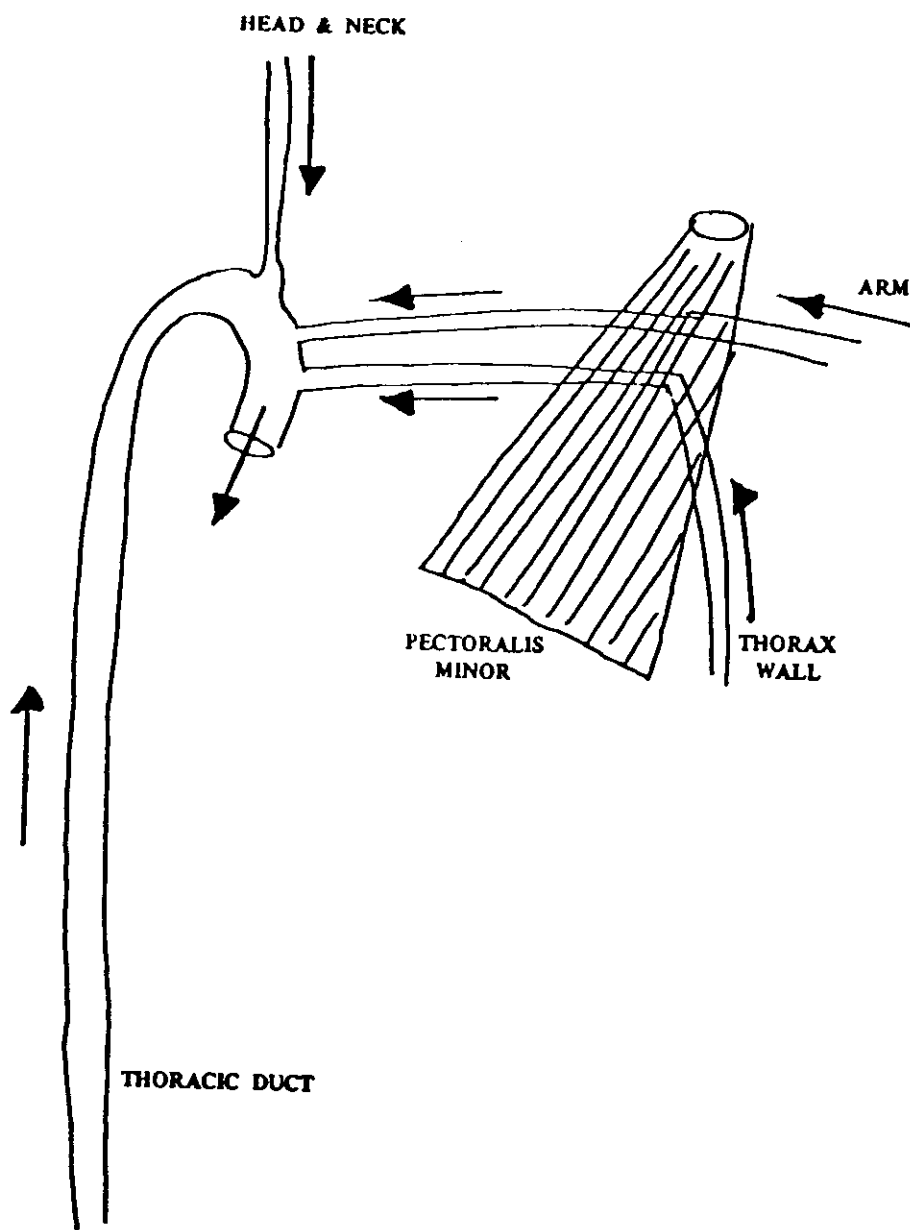
Structural and nutritional correction of the pectoralis minor and associated structures is a simple procedure, the diagnostic requirements for implementation of this activity are simple, it is easy to accomplish in a short period of time, and its therapeutic results are measurable and adequate. We have used it with great success in our practice and it has received a good response from members of the ICAK and other interested groups to which it has been shown.

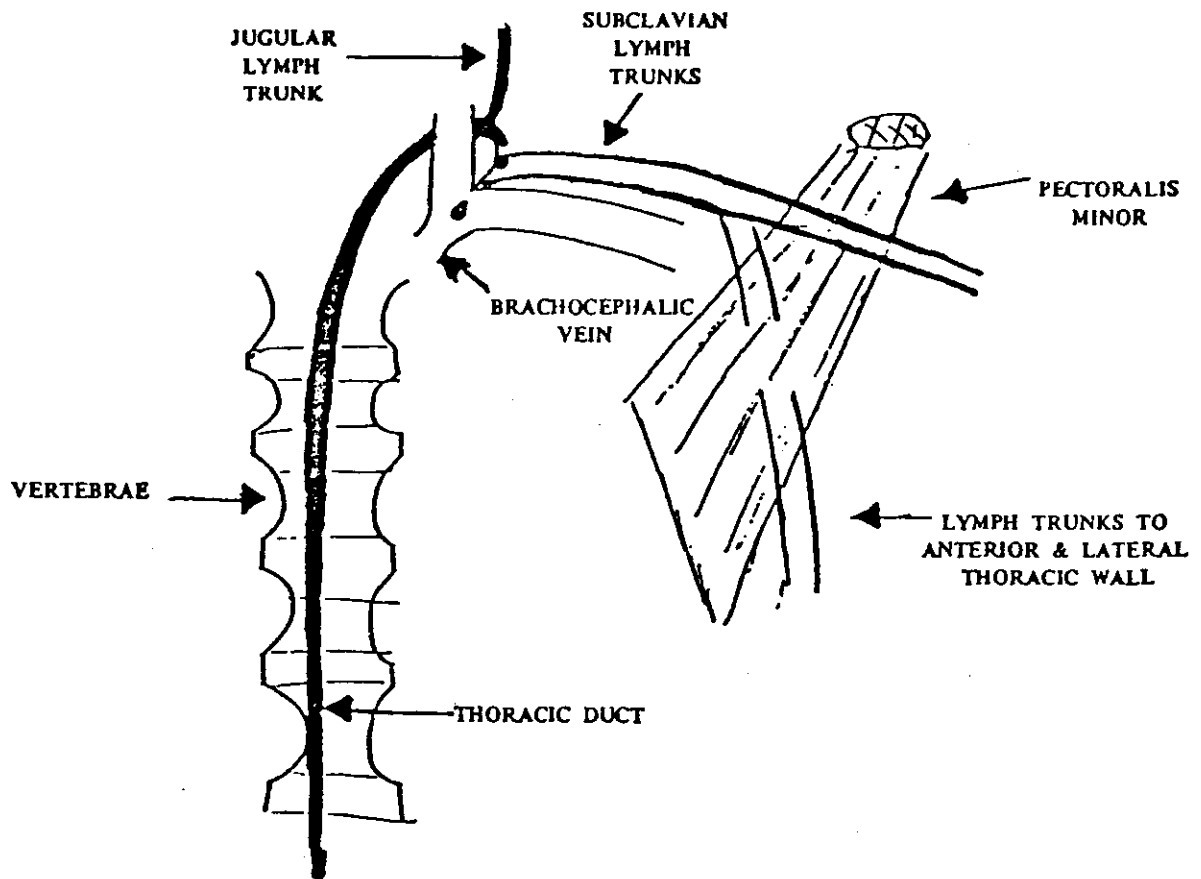
Experience has shown that the neurolymphatic reflex for the pectoralis minor is located just above the xiphoid process on the manubrium and requires vigorous manipulation for approximately two minutes to achieve a good response. It is not necessary to treat the patient in the retrograde position, and in fact this seems to slow down the relatively good response that occurs when the patient is treated in the horizontal position. Therefore, the retrograde position is recommended for diagnosis but not for treatment, and then merely reapplied to be sure the treatment has been adequate.

A simpler method of showing the patient that a great deal of the lymphatic drainage occurs at the left subclavian vein can be demonstrated when patient is in a retrograde position. When the muscles weaken in the particular area you are concerned with, have him elevate the left arm directly above his head when he is in the head down 10-20 degrees retrograde position. The muscle weakness that you find in that position is obviated by the left arm being above the head. This occurs about 90% of the time. About 10% of the time the right arm will also produce this effect, and in a relatively small percentage it requires both arms elevated above the head to produce the effect.

Dr. George V. Kroll, an osteopathic physician and surgeon at 177 Hollywood Avenue, Fairfield, New Jersey, noted an article by Gordon Zink, D.O. and William B. Lawson, Ph.D., *OSTEOPATHIC ANNALS*, November 1978, on the role of pectoral traction in the treatment of lymphatic flow disturbances. In the article they talked about upper respiratory infections, sinus and ear infections, eustacian tube, nose and throat problems, common colds and tonsillitis, lower respiratory infections such as bronchitis and pneumonia, and refractory tennis elbows, sprained ankles, low back ache, and even nocturnal frequency of urination, and the response that occurs from simple pectoral traction. In other words, pulling in a cephal direction on the tissues of the armpit, or in other words, axillary traction. As was mentioned previously, this is a finger in the dike technic, but it can be taught to patients to help themselves along while you're treating them.

The retrograde position is especially useful for therapy localizing to vertebral faults, and upon the correction of the structural subluxation, another element may be required. Therapy localization in a retrograde position certainly will be negative, but if the therapy localization hands are placed with one hand over the original area and one hand below the original area there often will be a positive response.





THE THORACIC DUCT EMPTIES INTO THE BRACHIOCEPHALIC VEIN.

McMinn Color Atlas Human Anatomy, Page 191

Gray's Anatomy, Pages 727-34.

NOTE – HOW PECTORALIS MINOR CROSSES TWO LARGE BODIES OF LYMPH DRAINAGE.

- (1) Subclavian lymph trunks
- (2) Lymph trunks from lateral and anterior thoracic wall.

For example, if it was 3rd lumbar area and you made an adjustment on the left of the 3rd lumbar, have the patient place both hands on the 3rd lumbar and it will be negative in a retrograde or horizontal position. If the patient places his hands over the lateral portion of the sacroiliac joint it will be negative, but if he had one hand over 3rd lumbar and the other hand over the contralateral sacroiliac joint it would be positive. It requires vigorous manipulation of the contralateral area below the adjusted subluxated area discussed previously. This is a useful measure in producing a response in many, many patients, and seems to be a characteristic of much structural disturbance, and is especially useful in the treatment of our ever-present and ubiquitous chronic, clonic, tonic, intermittent torticollis.

The rule is: identify the subluxation, correct the subluxation, therapy localize contralaterally an area immediately below the subluxated area, manipulate the most inferior portion while you hold and reduce in tests to reduce pain or sensitivity or tension in the uppermost area.

I recall a German woman who at 85 developed a gall bladder problem in the middle of the night, and her son, a very well known gentlemen's tailor and a tenant in the office building where my father and I practiced, had me come in the middle of the night. The diagnosis was very obvious. She was having a very bad gall bladder attack.

In an effort to explain to her what I meant to do, I said in very poor German that "Der schmerz ist in der gallblasser." She placed her hands on her abdomen, nodded, and said, "Yah, yah, der schmerz ist in der gallblasser." And she asked, "Vas vils du mit der gallblasser?" And I attempted to say I was going to empty the gallbladder because I felt there was a constriction, and the effort of the gallbladder to empty itself was causing the difficulty, and I said, "Rausch mit der gallblasser," which literally means, "I'm going to rip out your gallbladder."

She started to scream at the top of her rather elderly voice, placed her hands over her abdomen in a gesture of protection, and cried out for other members of her family to come in and protect her, much to my surprise. I attempted to calm her and I said, "Fraulein, nix rausch mit der gallblasser—rausch mit in der gallblasser." In other words, I said "I'm going to take out what's IN the gallbladder." Her hands dropped from their protective position, the crescendo in her voice dropped, and she stopped screaming and lay there placidly, and said, "Yah, yah, mit IN er gallblasser rausch—das is besser." Language is both a barrier and a means of communication, and the wise doctor will use it wisely.

Chapter 20

COLOR THERAPY

*What Effect Color Has And How To Effectively
Understand Color And What To Do With Color
Therapy Without Expensive Color Machine Purchase*

Dr. Honus Hendrickson quoted several out-of-print books by C. W. Leadbetter on the chakras. One, entitled "*MAN, VISIBLE AND INVISIBLE*," is a London Theosophical Publishing Society's Edition of 1902; a second more recent edition is "*THE CHAKRAS*," a monograph by C. W. Leadbetter, 1958, Theosophical Publishing Society, Adyar, Madras 20 India.

As you know, there are many attitudes and ideas about color and many attitudes and ideas about color therapy. Recent problems involving the placement of material of a nutrient nature on the surface of the body and then testing muscles has produced a great deal of controversy. Most A.K. individuals are aware of these observations but there is no scientific basis for the evaluation of nutrient material except by the lingual receptors, for which we have a sufficient and valid scientific basis.

The work of Morley, Kare, Roth, et al, from *SCIENCE*, Feb. 1968, is good evidence for the capacity of the lingual receptors to identify nutrient material, and coupled with accurate muscle testing is a valuable aid in the nutrition management of patients.

In an effort to identify the basis by which a substance could be placed in close approximation to the body and muscles being tested and responses being listed, we soon found that it was not the nutrient quality of the material which affected the outcome, but fundamentally the spectroscopic color of the material rather than its essential nutrient capacity.

Several rather involved legal situations which have threatened the ongoing continuity of A.K. in different parts of the country have prompted my constant repetition of the fact that nutritional testing should only be done by the lingual receptors. But the serendipitous observations of color led to an interesting development. There are as many theories on color and its relationship to the human body as there are books on the subject. Most of them are contradictory, and many follow the "recipe" pattern on therapy, such as one sees in recipe acupuncture.

The pre- and post-ganglionic technic we have discussed in the past has a useful place in the treatment of some patients. It was found that the chakras or ganglionic centers would respond to color, and it was also found that the acupuncture alarm points would respond to color.

The body apparently, by way of its energy modulations, can be divided into the simple acronym for the colors of the spectrum—R.O.Y.G.B.I.V. The head, anteriorly, being the beginning of the ROYGBIV configuration, with the violet area ending at the symphysis pubis area. This pattern is reversed on the posterior, the buttock area being the red area, the lumbar spine being the orange, the lumbar dorsal junction being yellow, the dorsal spine being green and blue, the cervical dorsal junction being indigo, and the upper cervical and head being violet.

The work of Rawls and Davis, which we have discussed in the past, also indicates that the body has a positive pattern on the right anteriorly and a negative pattern on the left anteriorly, with the reverse

being true on the posterior. Therefore, there is a general pattern of blue on the right for positive energy anteriorly and red on the left for negative energy anteriorly, with the reverse being true on the posterior aspect of the body.

This also, then, has additional relationship of the meridians having their basic color. The meridians, along with the relationship of color to the spine, are superimposed on the ROYGBIV acronym for color on the posterior portion of the body. In addition, the bladder associated point at the level of second sacral foramen is blue, the small intestine at the level of the first sacral foramen is red, the large intestine at L4-L5 is white, the kidney at L2-L3 is blue, the triheater at L1-L2 is red, the stomach at D12-L1 is yellow, the spleen at D11-D12 is yellow, the liver at D9-D10 is green, the heart at D5-D6 is red, the circulation sex at D4-D5 is red, and the lungs at D3-D4 is white.

These colors—first, fundamentally, of the front and back of the body; second, superimposed over the pre- and post-ganglionic areas, and third along the meridians as well as the associated points, make for a very complicated but integrated color relationship, thereby giving sum and substance to the massive contradiction which apparently underlies much color therapy.

An interesting observation was made on several patients who exhibited a negative therapy localization to themselves at any level of the spine. The hamstring muscle was tested and found to be negative to therapy localization on the patient's touching various levels of the spine, and then several doctors were allowed to therapy localize certain areas of the spine and weaknesses occurred at different levels following the doctor touching the patient's spine areas at different levels—the same doctor producing the same weakness in the same area, whereas the next doctor not producing the same weakness in the same area as the previous one, but producing one at a different level.

This explained the relative difference that some patients seemed to exhibit toward care by one doctor or another in a multi-doctor associate-type clinic, and readily allowed us to then penetrate the basis for this particular reaction.

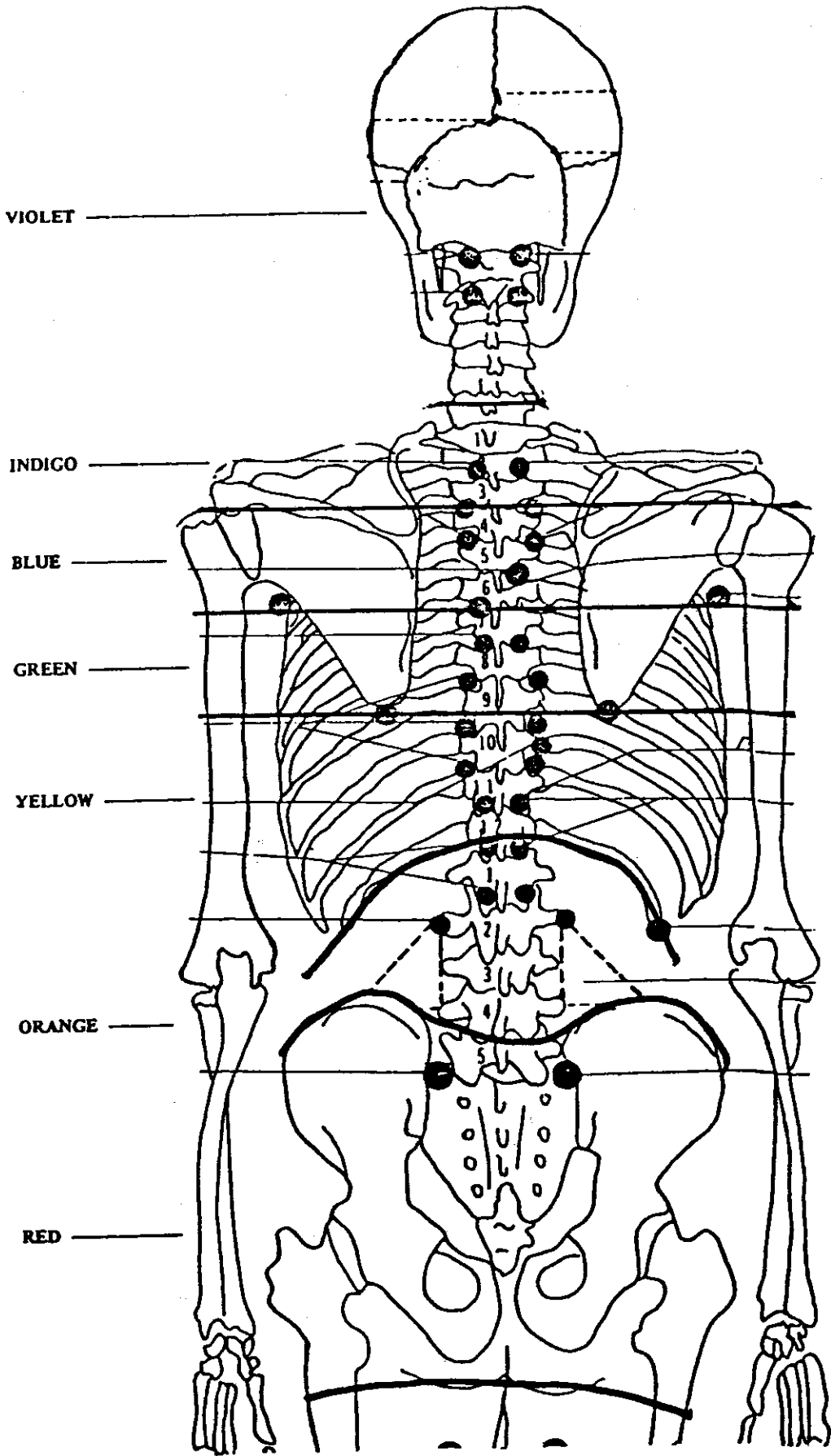
Each of us produces color, and in the properly integrated individual his color production is normal, but in some individuals who lack energy in certain areas, their energy production along that particular color rate is diminished, and they in turn do not have the same effect on a patient that someone else who happens to possess that color energy vibration expression may have.

The key to proper therapy of patients when this pattern is involved, is to simply have the doctor mentally note the area he is on, and then mentally project the color into that area, be it the associated level of acupuncture, the general spinal level for the ROYGBIV acronym for color, or be it therapy localizing or treating an acupuncture meridian pattern, or whether he is simply therapy localizing neurolymphatic or neurovascular on the front or the back of the body, on the right or the left.

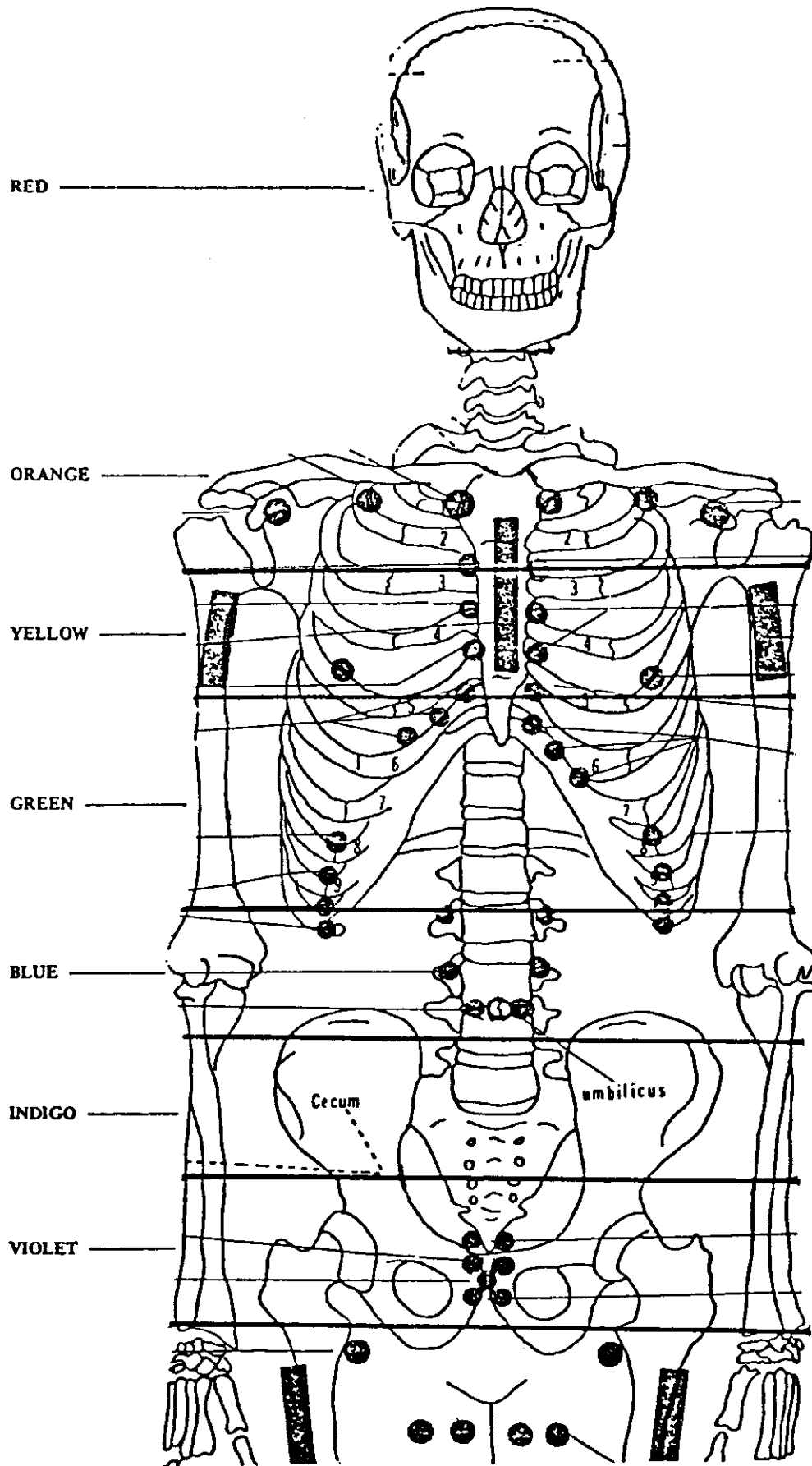
This makes sense and logic out of the morass of contradicting information that exists in color therapy, and although this may smack of some metaphysical connotations, it is readily demonstrable and effective technic when added to proper musculo-skeletal appreciation of the body structure.

It does not require any color therapy equipment, although there is no harm in the production or use of this material instrumentation. One can readily demonstrate by the use of sources of ultraviolet light placed at the wrong areas of the spine, that this will produce immediate muscle weakness, and the

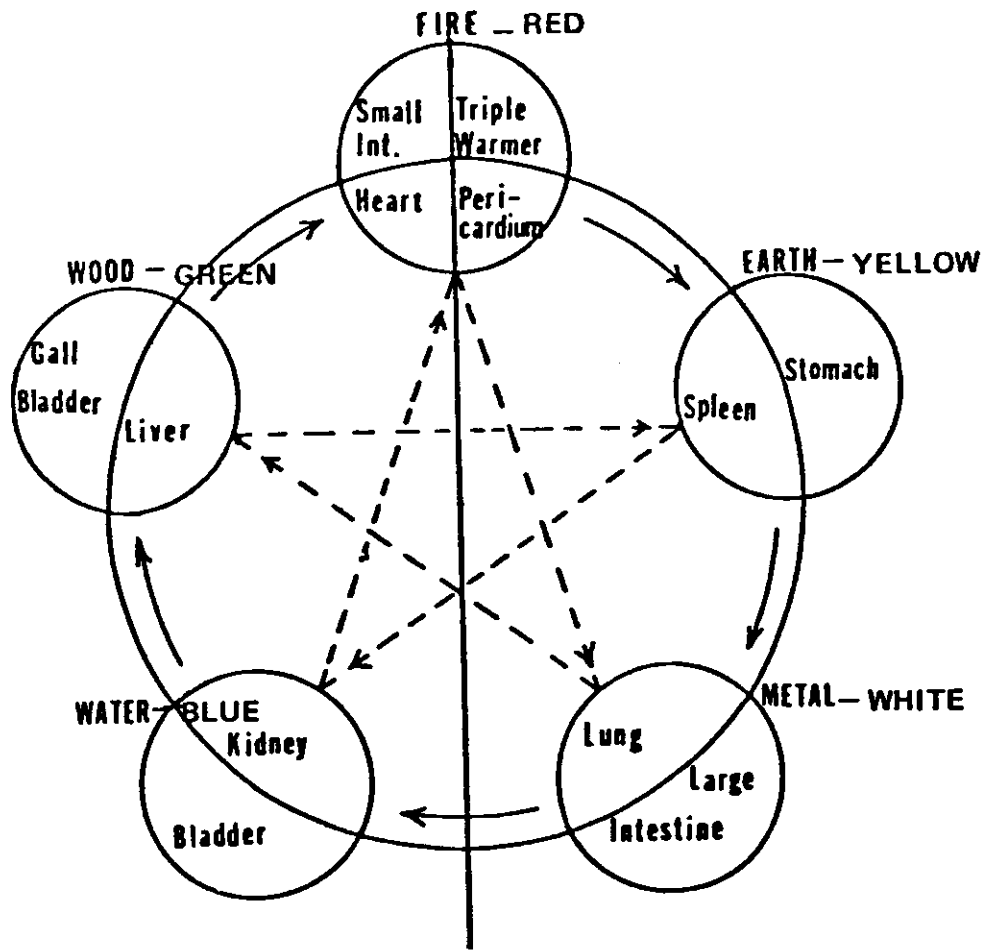
COLOR THERAPY - Figure 1



COLOR THERAPY - Figure 2

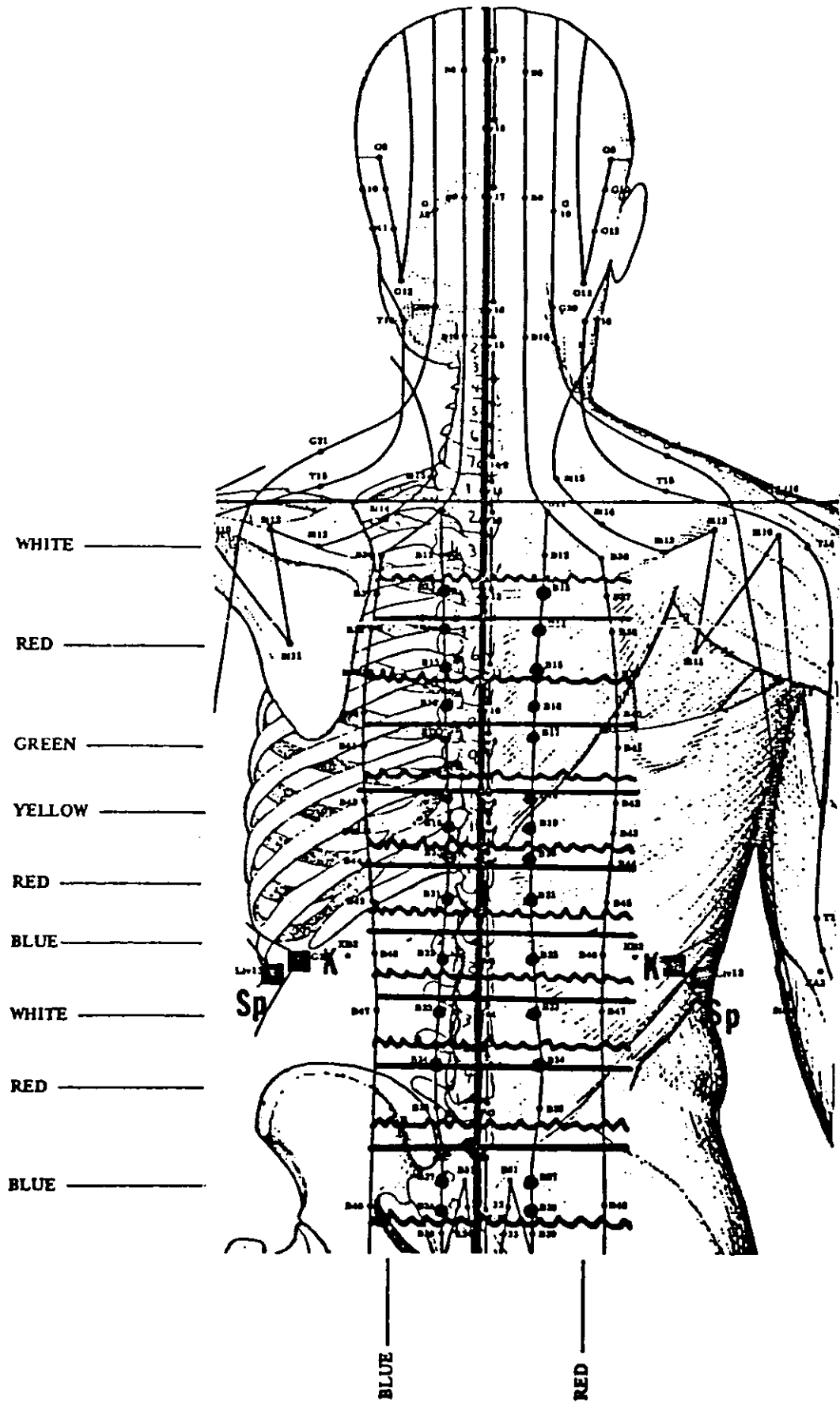


FIVE ELEMENTS

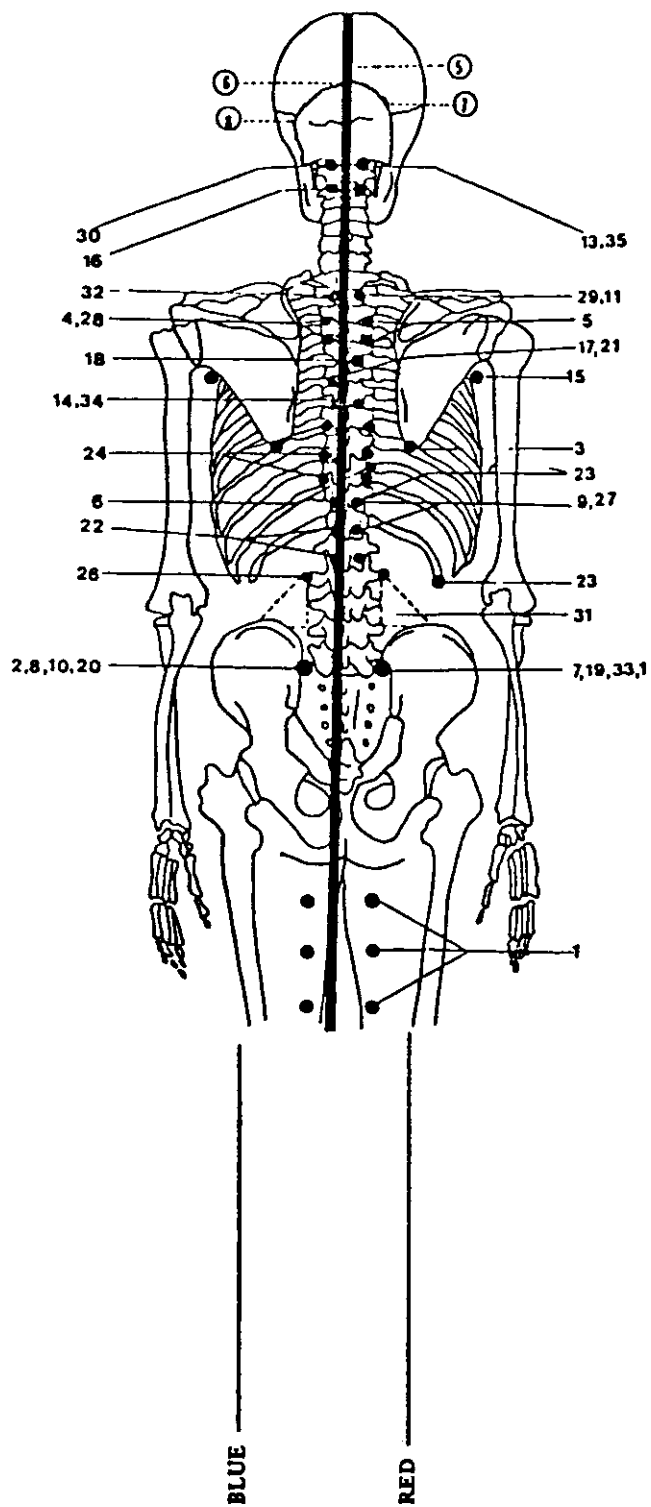
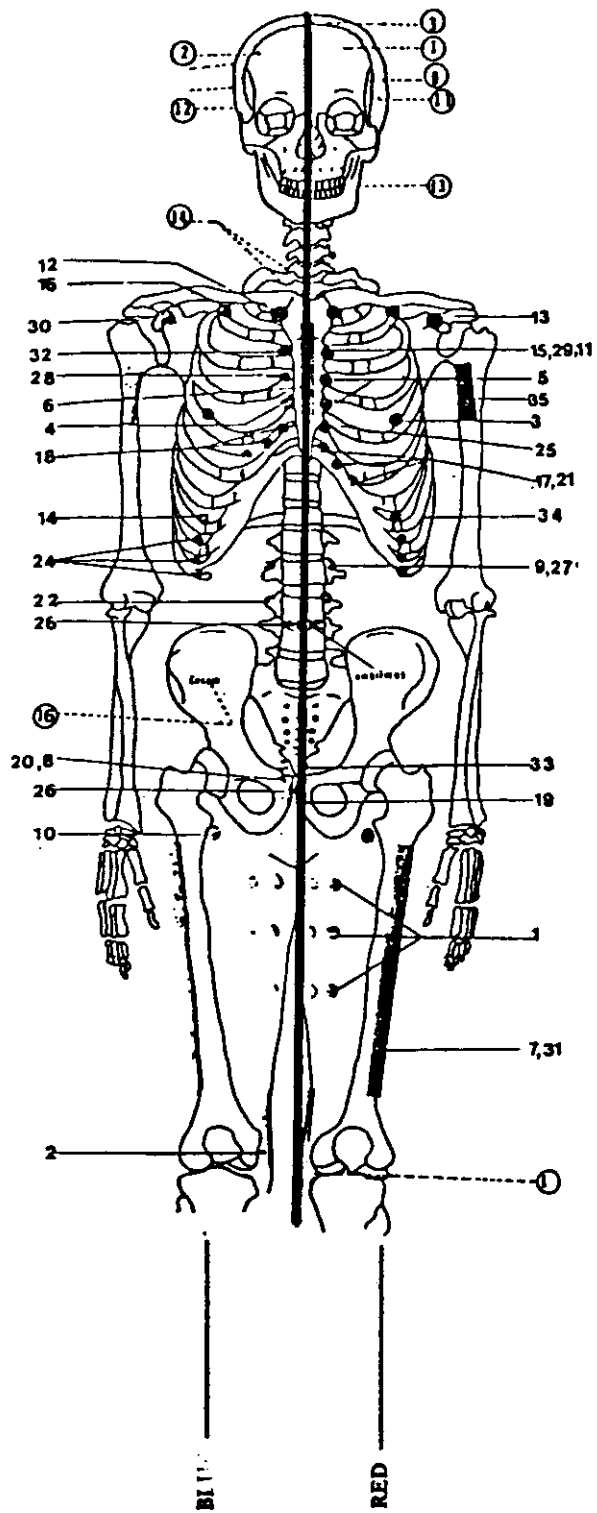


ACUPUNCTURE COLOR

COLOR THERAPY - Figure 4



COLOR THERAPY – Figures 5 and 6



COLOR THERAPY

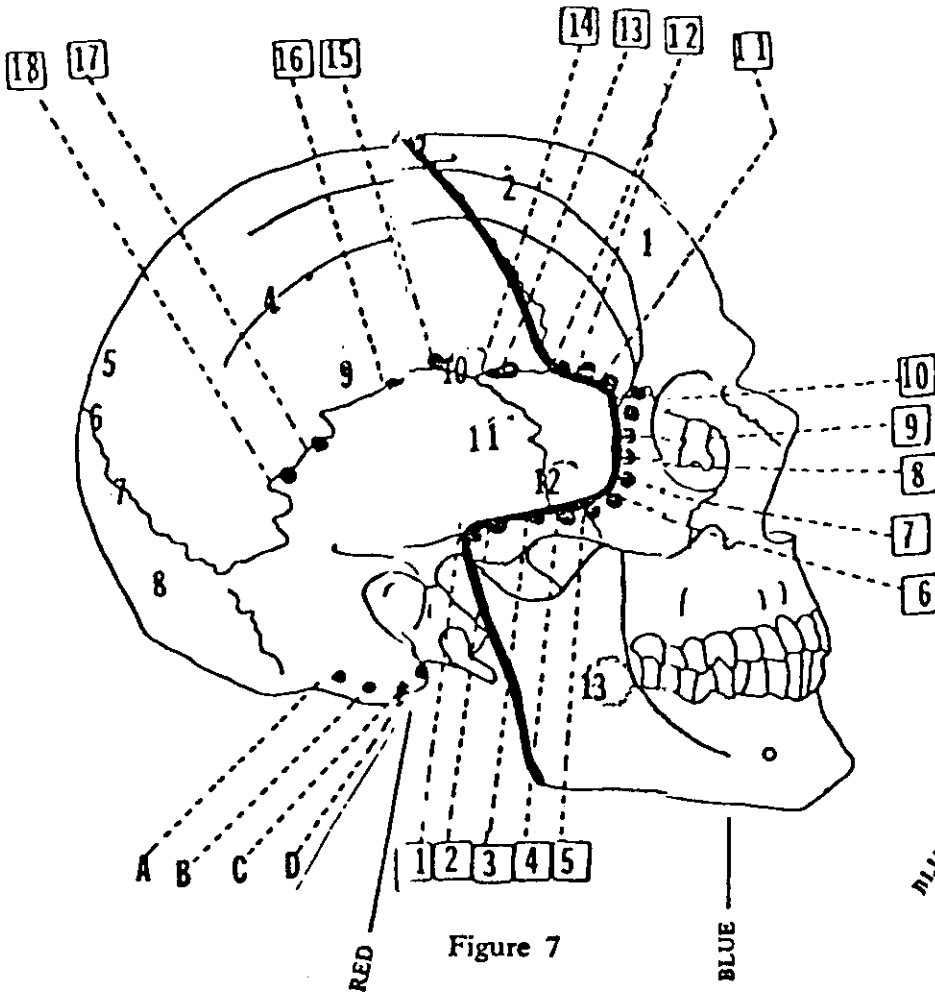


Figure 7

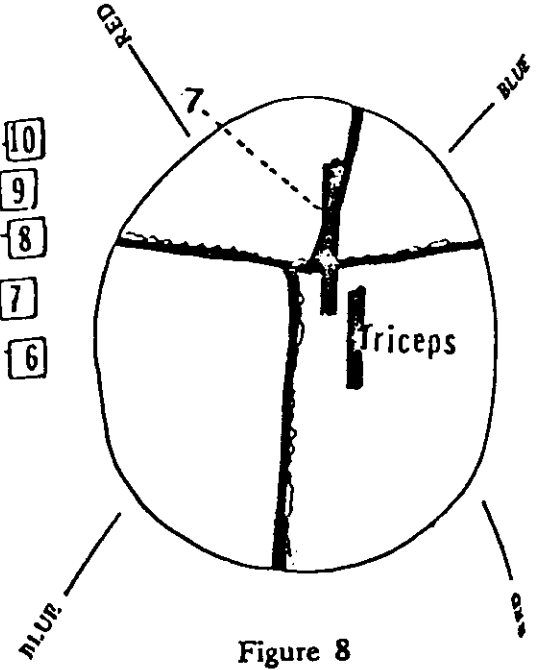


Figure 8

Biceps

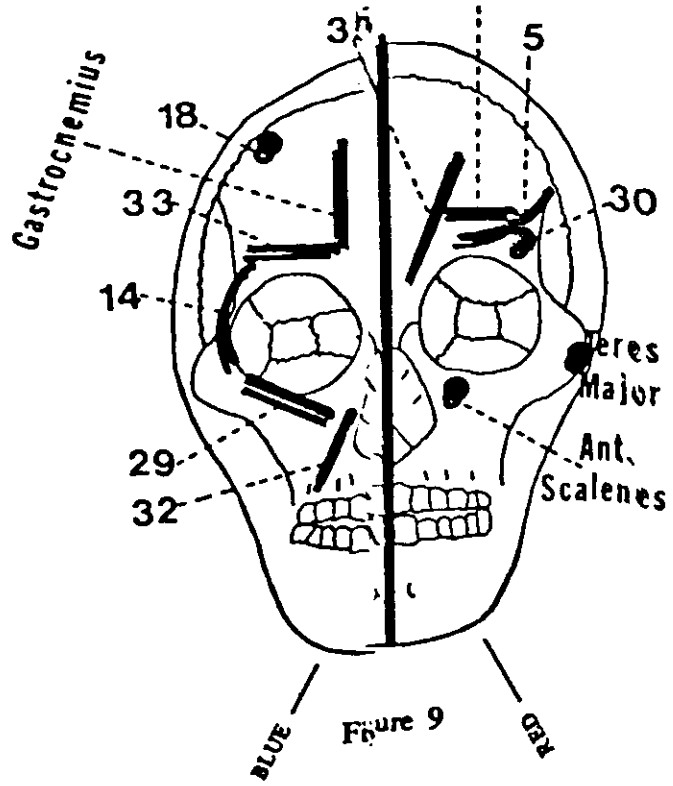


Figure 9

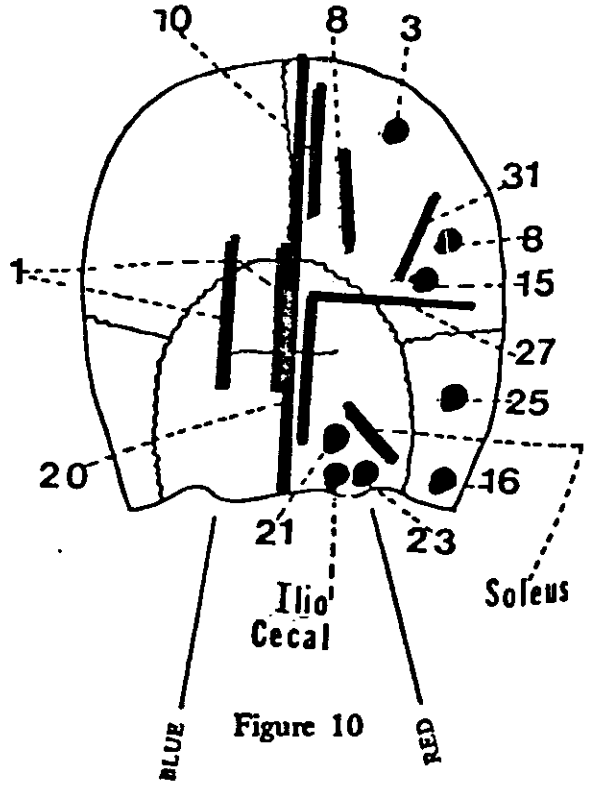


Figure 10

same being true in the converse, the proper color projection by the therapist produces a muscular response which otherwise would not be forthcoming.

The diagrams which are reproduced on the following pages show the relatively complex inter-relationships of color and allow you a better therapeutic control of difficult patients, especially in a multi-doctor clinic.

Multiplying the previous activity of pre- and post-ganglionic technic, and in addition just simply holding the contacts previously indicated, projection of the color into the area adds effective measure to an already useful technic.

I had to make a housecall in a very fashionable apartment in Detroit, and when I entered the doorman showed me to the elevator and the elevator operator brought me to the correct floor. As I knocked at the door—it was late at night—the door opened and my patient greeted me standing beside a life-sized statue of St. Francis of Assisi done all in grey stone, standing alone in a room quite bare of other ornaments except for some rather garishly decorated wrought iron pears which were hanging on the wall. She escorted me to another room full of plants, peeking through which was a color television set, and the sound of rushing water was everywhere. I looked up at the ceiling and there was a waterfall which was framed and surrounded by the plants. The situation was unique to say the least.

It was a cold night, and my patient asked me if I would like a little ginger brandy to warm myself, and I said, "No, perhaps later," and I proceeded to ask to be shown the bedroom where I would treat the patient, and also to wash my hands in the bathroom.

As I entered the unfamiliar bathroom, something seemed to strike my head before I had a chance to turn on the light, and there were dangling fish skeleton mobiles of plastic hanging from the ceiling, and in each corner of the rather large, almost swimming pool type of bathtub there were preserved octopi in glass bricks, and in the transom were Japanese Samurai dolls approximately three feet high with long mustaches hanging down, and the fierce visage commonly seen on the Japanese Samurai dolls—which all combined to provide a little unusual atmosphere.

My patient was reclining on a bed with satin sheets, and required a small ladder to ascend to it. I perched myself on the ladder and was proceeding to treat the patient for a very painful problem, when all of a sudden a group of six poodle dogs burst into the room wearing white pants—black poodle dogs wearing white pants—and proceeded to jump all over the bed. A companion of my patient entered the room and remonstrated with the dogs, who were leaping about in abandon, saying, "Ladies, ladies, ladies," and shaking a malted milk tin at them, at which they promptly followed her when she left the room. My patient mentioned the fact that all the dogs were in heat, hence the white pants, and that they were very fond of malted milk tablets and this was the way to get their attention.

I proceeded to treat the patient, and was again greeted by the "leaping ladies" as I left, again with "Ladies, ladies" admonition accompanied by the shaking of the malted milk tin. Somewhat shaken, I did accept the proffered ginger brandy, which promptly blew a blow torch on my mucous membrane, and I went down to my car much bewildered by the unusual turn of events.

I had told my patient I would return the next evening to treat her again because of her multiple painful situation, but I was delayed on the other side of town making a house call, so not wanting to inconvenience her, I called to tell her I was delayed and would make it the following evening.

My patient had a familiar Irish name, which I looked up to make the call, and a rather airy voice said to me, "Any time, Doc, any time." I said, I really am sorry, but I'm here on the other side of the town making a house call on some very small children who are quite ill, and afraid I will be delayed, but I can make it tomorrow." And she again said, "Any time." I rechecked, saying, "This IS 'so-and-so' isn't it?" And she said, "Yes, it is." Just to make conversation, I said, "Do you have all the 'ladies' in bed? They were very interesting last night." She said, "Yes, they are. Glad you enjoyed it. Come any time." I said, "I'll see you tomorrow night," and hung up.

I then came the following evening and the patient greeted me at the door standing next to the St. Francis of Assisi statue, and she said, "I thought you were coming last night." I said, "Well, I called you and mentioned I would be here tonight." And she said, "You didn't call me." I said, "Well, I did. You must have been asleep or something, because I talked to you." She put her hand to her mouth and said, "Oh, goodness, you didn't call HER did you? I have my name in the telephone directory backwards because my name in the correct fashion is the name of a 'house of ill repute' which is quite popular."

It was an interesting experience, and one which I still remember with a good deal of reflective humor.

Chapter 21

THE R.N.A. MERIDIAN RELATIONSHIP TO APPLIED KINESIOLOGY

*How To Practice Holistically The Whole Time
By Using Body Language All The Time.*

Many patients suffer from many chronic complaints. Many doctors also are unwilling heirs to many chronic complaints. Sometimes these conditions elude the usually successful types of chiropractic care and pose a problem to patient and doctor alike. The release of nervous energy accomplishes miracles in the problems of both acute and chronic patient care, but when the expected result is not forthcoming, it may be a combined problem of cellular reception of the long awaited proper nerve impulse and the proper cellular response.

Occasionally the cellular response may be lacking due to a disturbance in the cellular memory or in the ribonucleic acid metabolism at the cellular level. The concept of R.N.A. in relationship to memory is by no means a new idea. Cameron and others have reported memory changes in geriatric patients for some time, but the concept of cellular memory is a relatively new idea. Cellular memory has come into prominence recently with the R.N.A.—D.N.A. hypothesis.

Ribonucleic acid is the basic crude raw stuff of memory. Memory is chemical as well as neurological and the chemical material of memory is as important as spinal fluid in the overall function of the nervous system. The now famous planaria experiment done at the University of Michigan is the basis for much conjectural analysis regarding many clinical situations.

Planaria are earthworms, and two groups of earthworms were kept under similar conditions, but each time one group of earthworms was fed, a small electric shock and a light went on, whereas when the other group of similar earthworms was fed, the electric shock and the light were not allowed to relate. In other words, the other group was given the electric shock and light, but in no connection with feeding, so that no conditioned reflex took place in these relatively primitive earthworm participants in this interesting experiment. Following a learned response, the one group of earthworms who were given the conditioned reflex patterning, in other words each time they were fed they were given the slight electric shock and the light was turned on—following the learned response, these animals who had learned this response to food by way of electric shock and light were sacrificed, as were their companions who did not learn the relationship of food to the electric shock and the light.

At one stage of their existence, planaria earthworms are cannibalistic, and the trained earthworm material was used for food for another group of earthworms who were divided into two sections. The first section was fed the trained earthworm material as food, whereas the other group, only the untrained earthworm material was used as food. When the conditions of the experiment were allowed to take place, in other words the electric shock and light, a significant number of the new earthworms who had eaten the trained earthworm food rapidly moved to the site where food was provided. In other words, they had eaten the memory; whereas the earthworms who had been fed the untrained earthworm food saw no relationship.

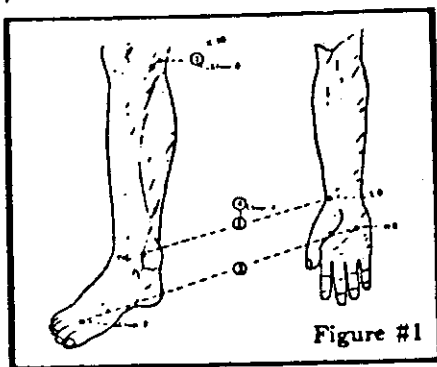
This experiment has been repeated in many different fashions by researchers all over the world and it is now an established fact that memory is chemical. This Ribonucleic acid molecule is a long molecular string shape with a configuration similar to that of a spiral staircase or twisted ladder, in that there is

a spatial relationship of the ladder sides and the ladder rungs in more or less a corkscrew type configuration.

These molecules are ordinarily quite extraordinarily long. For example, one could have a ladder of 176 molecules long, shall we say. Each ladder rung, of which we have an inexhaustible supply, has for example a different color, and the color combinations are the key to the particular memory for the particular situation for which this particular chemical substance is used.

As this memory chemical structure must eventually divide as part of the cell division, this cell as it goes into bi-division, must then have only half of this spiral ladder. A template R.N.A. chemical is then used

*To strengthen or tonify a weak muscle make double contact at points 1 then double contact at points 2.
To reduce residual hypertonicity or sedate a contracted muscle, make double contact at points 3 then double contact at points 4.*



*NOTE: Points 3 & 4 should be used routinely on hypertonic side as well as points 1 & 2 on weak side.
On foot or leg hold for pulsation. On hand forearm use contact only; pulsation not required.*

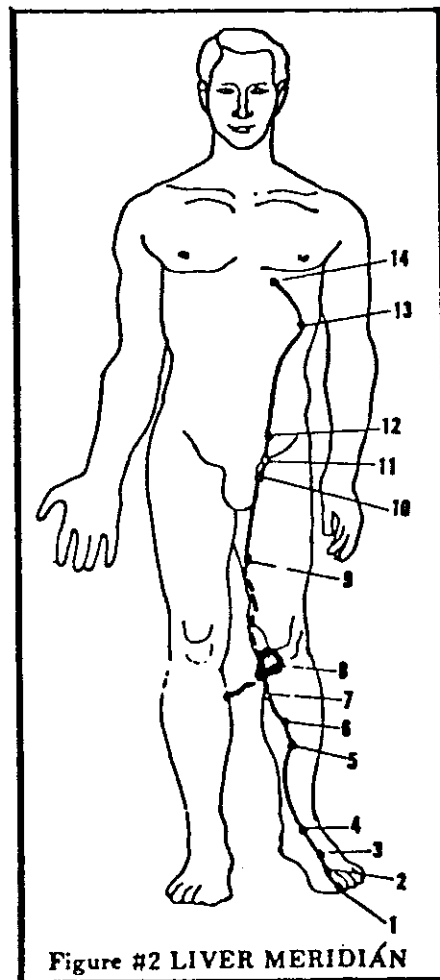


Figure #2 LIVER MERIDIÁN

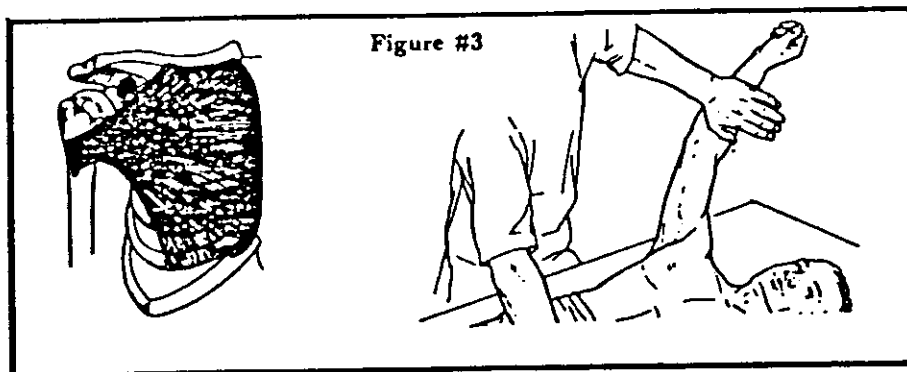


Figure #3

to organize the search for a particular ladder of, for example, 176 rungs with a particular color coding and with a particular male-female two-pronged, three-pronged, four-pronged sequence cycle, for the ladder rungs to combine with another of appropriate nature. This is how memory reproduces itself, and it is a fascinating subject.

Perhaps therein lies the reason we can understand why our geriatric patient cannot remember where he left his glasses, yet can remember when his cousin fell into the haymow and the ensuing disturbance that resulted.

It's the reason why older people have poor memory of recent events and a relatively good or perfect recall of ancient events. They literally have enough ladder rungs, but have run out of ladder sides, and the body is faced with the situation of either breaking down old established ladder patterns or going without, since new ladder sides are not available. Ribonucleic acid from yeast and other sources in our food provide an inexhaustible supply of ladder sides as well as ladder rungs.

Our body chemistry is continually producing vast quantities of ladder rungs in a never-ending store, but ladder sides are another matter. Yet in this particular discussion one can recall forgetting a particular or a familiar telephone number, or a particular individual's name, or some fact that needs to be remembered but somehow was forgotten, and the idea of a lack of perfect recall is familiar to all of us. The thought of memory is generally related to a cerebral or a thinking state. But there is a cellular memory, as one can readily imagine, and the concept of a failure of cellular memory is just as valid as the appreciation of a lack of thought process involving memory.

In many instances when one has accomplished what one should in terms of correction of the original primary subluxation, correcting the fixation, clearing the neurolymphatic, neurovascular and cranial sacral spinal fluid patterns along with proper nutrition, sometimes the clinical result is still not forthcoming in terms of the patient's response. Naturally these cases are at a minimum, but they do occur, and there is a reason for their occurrence.

An effort was made to try to evaluate memory as a clinical subject and it was extremely difficult to equate memory, other than the ability perhaps to retain a recall of the printed page, for example, until it was observed in many individuals that in doing the Romberg Test there was an unusual pattern in a number of the individuals. The ability to stand on one foot is a combination of many factors involving proprioceptive impulses, but the visual pattern in those individuals who are cited is a strong and determining factor. However, when one attempts to stand on one foot after one has learned the trick of balancing and then closes the eyes, there is only one element which produces a stable one-footstanding pattern, and this is relative clinical memory of where one's ankle is.

This can be performed on one foot or the other, and we generally ask the patient to stand on one foot with the eyes open and attempt to balance. He is then asked to stand on the other foot and is again asked to try to balance, and an effort is made to time the relative period during which the patient can remain relatively stable in the one-leg-balancing position. Some individuals are unstable even with the eyes open, standing on one foot or another.

One factor in this particular equation is that one must make certain that one has cleared any upper cervical fixation or structural distortion, because this does disturb the righting reflexes, and the righting reflexes must be in a relatively stable position for this particular segmental pattern to take place. The patient is asked to literally stand on one foot and then on the other, and then the eyes are closed, and quite frequently in the difficult patient there will be a failure to maintain the upright position when standing

on one foot or another. Then the patient is asked to chew a source of ribonucleic acid from yeast, and the R.N.A. is in a relatively low dose form of approximately 180 micrograms.

The patient is requested to chew this material and to retain it in the mouth without swallowing any, but is cautioned that this swallowing will not cause any harm. He is then requested to try again, standing on one leg with the eyes open, then the other leg with the eyes open, then the eyes are closed and there should be an increased increment of time during which the patient can remain standing on one foot with the eyes closed.

If this does not occur, the patient is then asked to chew one or more of the R.N.A. tablets until such time that a definite increase in the one-leg-standing-eyes-closed pattern time is observed. If on the ingestion of the single R.N.A. tablet, instead of an increase in the duration of time during which the one-leg-standing-eyes-closed pattern is observed, and if instead of an increase, there is a decrease, this indicates a need for a relatively homeopathic amount of the R.N.A., and a very, very small amount is given. Apparently some people are extremely sensitive to this particular substance and require frequent but very small amounts to re-establish cellular memory. If some evidence for either respiratory or cardiac function is used, or if some evidence is used such as a postural distortion or some other pattern, one should see a definite change in the perimeters which one has used as a guideline.

If you are using a measurement of vital capacity, there should be a change from the increased R.N.A. in these particular patients. If you are using a patient's weight as an index of cardiac function, loss of weight indicating better fluid balance and so forth, there should be a loss in weight concomitant with this.

Some patients remark that there is an increase in memory. It is recognized that Cameron and others have recommended an extremely high level of R.N.A. as opposed to the relatively low unit of dosage which we are discussing, but other researchers do not have the benefit or the advantage of treating the other elements of this particular equation such as the neurolymphatic or neuro-vascular, cranial, sacral or other patterns.

This particular observation can very well be made with other researchers who have used relatively high levels of a variety of nutritional support. This was the only substance used and therefore further effort was made to enlarge one side of the equilateral triangle to make it take the place of any deficient structure or chemical pattern. Sometimes they succeeded and sometimes they failed. It is wiser to pay attention to all three sides rather than maximize on one, and either to forget or minimize the other two.

Sometimes when this test is attempted the patient will increase his ability to stand on one foot, but many times will start to move in an effort to stay stabilized. This still constitutes an adequate response and the patient will actually change his foot position, rapidly moving it in a switching motion, but he continues to stand quite well even though he is going through periodic oscillation, and he continues to stand well with his eyes closed. When there is a definite falling off in one direction or the other, generally there is a disturbance of the righting reflexes and there is an upper cervical fixation which has been neglected or perhaps has failed to respond due to a variety of reasons.

The concept of cellular memory has been thoroughly advanced by Dr. Frank, who discussed it in his book "*NUCLEIC ACID THERAPY AND AGING AND DEGENERATIVE DISEASES*," which is really a metabolic approach with D.N.A. and R.N.A. and related metabolites. This is published by Benjamin S. Frank, Psychological Library Publishers, 175 Fifth Avenue, New York, New York 10010. An earlier book of the basic essentials of Dr. Frank's discoveries is outlined in "*A NEW APPROACH TO DEGENER-*

ACTIVE DISEASE AND AGING," published in 1964 by the same publishers, Psychological Library Publishers.

In this regard it is also wise to be familiar with the fact that there is another system in the body. There is a system of its own structurally as complete as the vascular, the nervous and the lymphatic system. Its discovery is equally as important as that of the others. The presence of this fourth complete system in our body will affect and revise some of our anatomical and histological knowledge, and our physiological considerations.

This system, the acupuncture system, consists as you know of groups of small oval cells surrounding the capillaries in the skin, but not only in the skin. They are also deeper within the body, around internal organs and blood vessels, and can be demonstrated to be a structure just as a nerve ending, lymph node or any other structure can be identified by microscopy, dissection, or by staining and so forth.

The puncture, or acupuncture point, has now been called the Bonghan corpuscle in honor of its discoverer, Dr. Kim Bonghan. With an ingenious system of radioactive phosphorus, he demonstrated that these acupuncture meridians can be differentiated from other structures or tubes such as capillaries, lymph ducts and so forth. They do not contain any cells at all, nor lymphocyte, nor blood cells. They do contain a liquid which is free-flowing, non-cellular and it has been determined by radioactive tracers using isotopic phosphorus 32, to be a slow free-flowing liquid actuated by the heart, and it is unidirectional. It has been shown when a radioactive phosphorus is injected into a Bonghan corpuscle or an acupuncture point in the superficial ducts, that the path traced by this radioactive phosphorus is more or less the path of the meridians and the classical works on acupuncture.

Now this is quite an extensive subject matter, but the reason it is brought to your attention at this time is that Bonghan, in his thesis published in 1962, states that the pale colorless non-cellular fluid which circulates in this acupuncture system through the meridians, just as the blood circulates through the vascular system, consists of a large quantity of D.N.A. and R.N.A. Until recently, it was known only that the D.N.A. existed in the nucleus and the R.N.A. existed in the cytoplasm and not in the nucleoplasm of the cell body. But now both D.N.A. and R.N.A. are found free flowing in the Bonghan ducts.

Until now it has been taught that the nucleus of the cell with the D.N.A. was in control of heredity and development. This process whereby a single cell which is the start of every human being, splits and differentiates again and again into millions of cells with the various complex tissues and organs of the human body, is supposed to be organized by the genetic material and the nucleus of which D.N.A. is the chief agent.

The discovery of free circulating D.N.A. is going to mean a restudy of the basic assumptions of genetics and cell differentiations. The scientific evidence for acupuncture is by Hans Suyen, from the "EASTERN HORIZON," VOLUME 9 NO.1 published in April 1964. Those of you who are familiar with the article written by the author entitled "CHINESE LESSONS FOR MODERN CHIROPRACTIC," have an appreciation of the idea, at least, of this fourth system, and it is just recent information that the R.N.A. and the D.N.A. circulates throughout these meridians.

THE RELATIONSHIP OF ACUPUNCTURE TO APPLIED KINESIOLOGY

When testing the muscular balance of a patient either by the T.S. line, by postural observations or by x-ray evidence and a muscle is found weak, the obvious respiratory assistance that can be used, the

origin insertion, the neurovascular, neurolymphatic, cranial, vascular or sacral contacts, as well as nutritional organization and/or the emotional patterns, certainly are necessary and expedient to perform. In addition to these previously mentioned methods, utilization of so-called fourth system of the body, the acupuncture circuits, is occasionally valuable in certain patients and the article "*CHINESE LESSONS FOR MODERN CHIROPRACTIC*" is well to review.

We have found that the utilization of the measurement of the pulse to identify the particular weakness is rather difficult to teach and difficult to comprehend. As a result we use the idea of basic muscle testing. When a muscle is found weak we generally recommend, along with the other previous N.L., NV. and so forth, that the acupuncture circuits be contacted as well.

Once the muscle weakness is found, for example the pectoralis major sternal division is found to be weak (see Figure #3), the standard method of testing with a T.S. indicator, for example, prior to the application of any treatment technic, it is wise to ascertain if there is any cranial fault. Be that as it may, however, proceed by contacting the acupuncture points for the pectoralis major sternal division, for example, which are the same as those for the liver. These points are located on the drawing that accompanies this chapter.

The points for the liver are called Liver 8 K 10, Liver 4 L 8 and they are located as you can see on the accompanying diagram. Liver 8 is contacted, for example, with the right hand and K 10 is contacted with the left hand, and this is done on the same side of the body as the particular pectoral sternal muscular weakness is found. Wait for a pulsation to occur and hold for perhaps a period of 20 seconds, longer if you wish, but a minimum period of 20 seconds, and then remove your hands and contact the next two remaining points for the liver—liver 4 L 8.

Again, contact them on the same side as the muscle weakness was found originally. Hold for a pulsation and you will find an extraordinary increase in the relative strength of the previously weak pectoralis major sternal division muscle. The pectoralis major sternal division is your indicator but this does not mean that you have automatically turned on the neurolymphatic, neurovascular, cranial or nutritional response. However, what it does mean is that there is a fourth system which requires activation as well, in some difficult patients. This, coupled with the provisional use of R.N.A., if needed, if the one-leg-standing test with the eyes closed is positive, should aid in the recovery of certain patients.

For all practical purposes the word acupuncture is poorly used in that it indicates that puncture is necessary, whereas in our opinion, since the acupuncture points can be readily demonstrated as electromagnetic in character, the use of puncture is not needed, although it is sort of a present reproduction in a minor degree of what perhaps originally happened from an accidental injury with an ensuing accidental response.

The original injury, which was perhaps a puncture, was observed by the ancient Chinese and the series of punctures that occurred from trauma or war wounds and so forth was catalogued by the early observers. This is the reason why, in the author's opinion, the present system includes actual puncture, yet the acupuncture meridians and the acupuncture points are clearly and logically magnetic in character.

The electromagnetic character of the acupuncture points can readily be demonstrated by simply taking the pole of a magnet, a common household magnet, then marking one pole and applying it to the previously mentioned acupuncture points. Be careful to apply just the marked pole, for example, to the previously mentioned acupuncture points, and then retest the muscle. If the marked pole augments or main-

tains the strength of the muscle that you have just previously treated, all is well, but if it happens to be the wrong pole it will immediately neutralize all the effort that you previously put forth. However, if you use the opposite or unmarked pole you will then restore the muscle to normal.

This is not a method of therapy and should not be construed as such. It is merely a simple method of demonstrating that the acupuncture points are fundamentally electromagnetic in character and as a result can be influenced by very simple methods of electromagnetism. There are several instruments on the market which are capable of producing ion charges and definite magnetic forces, but it is not necessary to use these instruments unless one cares to do so, because the simple application of the hands is more than sufficient stimuli to these particular circuits for their particular function to begin.

It is our observation that even though there is a response to the electromagnetic stimulation of the acupuncture point of the Bonghan corpuscles by the simple hand-to-hand contact as previously discussed, activation of the neurolymphatic reflexes is necessary to relieve the so-called acupuncture alarm points.

Nerve tracing was an early attempt to trace nerves both to and from the spine and enjoyed a popularity with early chiropractic practitioners that was well deserved. It has faded out of use for a variety of reasons, but there was and is a sound basis for its use.

The well established observation of muscle to organ relationship has allowed the use of muscle testing to allow tracing of meridians of the body for therapeutic muscle balancing. It has been regularly observed that tracing a meridian from its beginning to its end will restore strength in a phenomenal fashion to the muscle found weak on muscle testing. The reverse is true in that tracing the meridian from end to beginning, will release a hypertonicity in that particular muscle. Naturally it is a tenet of Applied Kinesiology that most muscle spasm simply does not exist but is merely a hypertonicity due to weakness of its opponent or its antagonist.

This observation is true of all the twelve regular meridians. There are differences in functional relationship of some of the eight extra meridians which will be discussed later. The technic is simple. Merely trace the course of the meridian related to the organ or muscle involved. For example, in Drawing #2, trace the liver meridian from toe to chest. This activates the liver circuit or meridian. An interesting fact may be observed at the knee point Liver 8 (circled). It will palpate cool if the liver circuit activation is needed. It will palpate warm if this liver circuit or meridian needs to be traced in reverse—that is, from liver 14 to liver 1. There are cool and warm spots for all meridians which can be observed. Use two to three pounds of pressure, with both hands. If pain is encountered, hold the painful point and manipulate the point immediately above or below it. This not only relieves pain quickly but also aids in basic muscle balancing at the same time. This meridian tracing is to be used in addition to the regular four acupressure points advised in the original article published in 1966 by the author. The utilization that meridian activation provides is similar to the analogy of a fifth stave of a barrel that already possesses the first four. The addition of the fifth stave allows the therapeutic barrel to now hold water and function as it should. The other four staves of Circulation, Lymphatic drainage, Nerve energy, and Spinal fluid flow are also equally important.

An attempt has been made to relate chiropractic to the ancient art of Chinese healing. An effort has been made to correlate this with the R.N.A. hypothesis. It is well to remember that the founder of our profession was sometimes derisively labeled as a "magnetic healer." Perhaps the appellation was correct, but history and science is now putting the derision shoe on the other foot. There is a profound electromagnetic quality to the meridians and their therapeutic use. This use is simple, it is done by

hand with one's hand and one's mind and one's heart. This violates no law, breaks with no tradition but rather links tradition with modern knowledge adding to the patient's benefit and the doctor's ability.

Language occasionally presents a problem, a barrier, and also a means of understanding.

I had quite a few Hungarian patients, and as I understand it, the salutation in Hungarian, when drinking, is "eggishegera" or something of this nature (again phonetic spelling), whereas, "Up your backside" is "Eckishegera."

I was at a Hungarian home at Christmastime and had a Christmas drink, raised my glass and said "Eckishegera," and the sophisticated, cosmopolitan Hungarians said, "Doctor, we appreciate your effort, but be sure you pronounce the 'g'."

Language is both a barrier and a means of communication, and many elderly patients of European or other foreign lineage greatly appreciate the effort on the part of the doctor to even attempt to use part of their native tongue in explaining or allowing them to understand their problem.

Chapter 22

POSTURE—ITS EFFECT ON STRUCTURE, FUNCTION AND SYMPTOMS

Why Jogging Alters Posture To Its Detriment And What To Do About It.

Most patients, and many doctors, stand on their feet. This is not a statement of the obvious, but an observation of a common error. People should stand on their heels, NOT on their feet. The weight bearing line you are all familiar with travels through the malleoli, not the metatarsals. If it were necessary to walk home on your hands, you would bear the weight of the body on the "HEELS" of the hands. Yet the lessons of postural weight bearing so ably set forth so long ago by F. M. Alexander have largely gone unheeded, although it was Alexander's work that greatly influenced the second Palmer to appreciate the unique relationship of the upper cervicals. It was Alexander's work that prompted Dewey, the great educator, to recommend changing the then prevalent physical education programs in the public schools. It was changed, as was chiropractic, with far reaching effects.

The present PHYSICAL FITNESS program is the effort to catch up and fill the void left by Dewey's failure to replace the existing program with something better. Chiropractic has fared somewhat better, but still there was, and is, a decisive force which need not be, if all understood the true effect posture has on structure and function—and most important, on symptoms that patients have every day in our offices.

Alexander found that there was a powerful postural reflex. This was corroborated by the well known research biologist, Magnus, who also found this same central control in animals of all kinds. This control exists in the complex of muscles where the head joins the neck. This vast treatise was published in 1924, Alexander had discovered it not in animals by dissection, but by observation of living human beings.

In 1926 Professor Coghill of the Wistar Institute in London also found in living animals that all movements were governed centrally from the place where the head joins the neck.

In 1937 Dr. Mungo Douglass in his book "*REORIENTATION OF VIEWPOINT UPON THE STUDY OF ANATOMY*" said the stupendous importance of these discoveries cannot be realized.

So much for the historical background of Alexander's discoveries. Are you beginning to see why the late B. J. Palmer was so interested in the upper cervical area? The president of the British Medical Association said of a case of flat feet that he sent to Alexander: "Please note that Alexander was not interested in the foot. What he did was to teach the patient how to use his brain and muscular mechanism, and in the process not only the disabilities associated with the dropped arches disappeared, but **THE DROPPED ARCHES ROSE.**" Now these were not the words of B. J. Palmer, as you might suspect, but of the president of the British Medical Association in his presidential address in 1926.

This is not being written in defense of, or in opposition to, the upper cervical approach. It is an exposition of the facts that relate to posture, not the myths that are commonly offered when this subject is discussed. To give you an example of the poor use that most people put the body to, ask the next patient you are having difficulty with to open his mouth. If you watch from the side, you will see the vast

majority will tilt their heads back sharply instead of merely dropping the jaw. In other words, they open their heads instead of opening their mouths. Again, looking at these patients from the lateral view will invariably show the plumbline passing through the occiput, indicating the head to be too far forward. Recognize here though that the total structure is too far forward, not just the head. Watch the next patient yawn, or ask him to yawn and watch the head tilt backward, and if he puts his hand over his mouth politely, watch the upper lip slide by and slide upwards past the politely held hand. These are postural and functional indicators. The body must be balanced both by structural adjusting of osseous faults and by muscular balancing, but also by simple, easy, practical, quick and workable postural technics. Patients that need postural correction often can be detected by observing the lateral posture. The plumbline should line up with the auditory meatus or the lobe of the ear. Line up with the center of the glenoid fossa, fall through the center of the femoral head, pass through the center of the knee malleoli. These patients that fail to line reasonably will often complain of "tightness of the upper trapezius, neck tension, and so-called disc and root syndromes," involving the upper and lower extremities with symptoms of sciatic neuritis and brachial neuritis, as well as a numbness or tingling of the affected extremities. Correction of the obvious osseous subluxations, using a Gonstead or a DeJarnette analysis, is advised following x-ray indications and using indicators for osseous follow-up as so ably devised by Dr. DeJarnette, but incorporating a rehabilitation and re-educational technic to maintain corrections and prevent recurrences. Why should you be responsible for the faulty postural habits that the patient has, or why jeopardize your reputation by failing to instruct the patient in simple demonstrably correct postural technics that you can prove to the patient while he is in your office will relieve pain and allow him to get up from a chair when he says he or she cannot without much assistance? Prove to these patients that palpatory pain can be made to disappear by a few simple alterations in the patient's posture that you can initiate and they can maintain without unnecessary braces or postural correction garments, even though these very often serve a very useful purpose when indicated.

The average patient, or the average doctor for that matter, has not had any training in posture, or how to sit down and how to get up from a chair, or how to walk or how to stand. Yet these vital patterns form the basis for our bodies' mobilities and structural functions. They form the basis for the start of many problems and the perpetuation of many more. It is as if you called the fire department to put out a fire in your home from the improper use of some electrical appliance, and then continued its improper use. The necessity for extinguishing the fire is paralleled by the need for fire prevention, granted we understand the principles of fire prevention.

The following instructions are given to many patients and have been furnished without cost to many doctors who have inquired about them.

Use of the posturometer, as devised by Dr. Lyman Johnson, or Dr. Masters' postural instrument is greatly advised, since these instruments are a credit, as well as an asset, to our profession and its public image. They help you to help the patient, and in so doing, help you to help yourself and your profession.

"The weight of the body should rest chiefly on the rear foot—in other words, on the heels. Put the hips over the heels; the movement starts at the ankle and the hips should go back as far as possible without altering the balance effected by the position of the feet and without deliberately throwing the upper body forward." Assist the patient to understand the heels-hips position by placing your hands over the anterior iliac spine and pressing gently backwards. Tell the patient to try to line up the trouser seam vertically in line with the ankle malleoli. Do not allow them to "stick out the rump." Merely instruct them to keep the hips over the heels without altering the position of the upper body deliberately. Continue to tell them to keep the hips back while you move up to the chest for correction there.

"In standing, the feet should seek a normal base. The most perfect base is obtained by setting the feet at an angle of about forty-five degrees to one another. Defects become exaggerated as this angle decreases, the back hollows and the stomach protrudes."

"Breathe naturally so as to allow the chest to WIDEN at the bottom of the rib cage. In other words, widen the back at the lower ribs, lengthening the spine at the same time."

Assist the patient to understand the instructions by placing the palms of your hands against the lateral lower borders of the chest and tell the patient to widen his chest by breathing in such a way as to spread your hands apart with his chest expansion while breathing. Many people breathe deeply, they think, by heaving the chest up. This accomplishes very little, if anything, in increasing vital capacity. The hips over heels pattern draws in the lower abdomen automatically, the side expansion of the chest draws in the upper abdomen automatically. The abdomen should come in, not be drawn in.

"Let the shoulders hang DOWN like a couple of old wet raincoats hanging from a couple of hooks. DO NOT throw them back. You will find the hanging position brings your shoulders down as far as they will go, which is their proper position."

"Dangle both arms. Let your forearm dangle from the elbow, the hand from the wrist, and the fingers from the palm."

"Don't forget to allow the lower part of your chest to expand largely sideways. Do not sniff. We live at the bottom of a sea of air. You need not think about your breathing. Think only of expanding and contracting your ribs. Let the air in."

"Now comes the most important part, the position of the head. Let the head be forward and up. This may sound complicated, but just imagine putting your head about a fourth of an inch forward of the position it normally occupies, not down, not back, not up, but forward. Do not crane your neck but merely PUT it ever so slightly ahead of its usual position."

The head position should be that position which when assumed by the patient will allow an easy opening of the mouth with no observable movement of the head backwards. It is easy enough to understand the need for a slight forward movement of the head when the head is behind the plumbline at the ear lobe, but is most difficult when the reverse is true. In other words, when the head is already ahead of the plumbline, as mentioned earlier, but the point to bear in mind is that the whole structure is off, not just the head; and by placing the head ahead of its usual position, the rest of the body will line up underneath it. This, in essence, is the secret of the Alexander discovery. The control operates when the head is in proper relationship to the neck.

It is as if you had your fingers in your ears, and complained that you could not hear very well. All you have to do to hear successfully is to take your fingers out of your ears. So, also, will you or your patients stand and be properly structurally oriented when you take advantage of something that is already there for your immediate use. It only remains for you to tell the patient about this remarkable postural control.

A dramatic method to demonstrate the existence and power of this God-given control is to have the patient assume his usual stance following treatment. He usually feels better following treatment, but tell him that some pain you will now find is his fault or concern, since you have done your part. Palpate deeply across the left or right pectoralis major at its fleshiest part just about the breast at the third or

fourth rib at the mid nipple line. This will prove painful. Press hard and move deeply back and forth across the sacrospinalis at the area just lateral to the third lumbar left or right or both if convenient. Press deeply into the fleshy part of the gluteus maximus, left or right or both. All of these areas are always painful in a patient with poor posture. Put the patient into the correct postural pattern and then repalpate. The pain will either be gone completely or markedly reduced. This method impresses the patient with your skill and knowledge, and assists him in following the right postural patterns. A lot of pain is subjectively caused by poor or faulty postural patterns that the patient is not aware of, and it is our duty and our professional function to provide the patient with this information and instruction.

“The properly coordinated person stands with the back of the hands facing forward, the thumbs inward, and the elbows slightly bent outward. Where the human machinery is concerned, nature does not work in parts, but treats everything as a whole, so now you must coordinate all these parts by a mental resolve. This allows your body to stand naturally as the good Lord intended, and like having good mental and moral habits, these new BODY habits quickly can become a part of you with better health and better appearance and better function as a reward.”

Sitting down and standing up require a few more bits of advice. As you go to sit down, follow your usual inclinations, but press the knees together as you lower yourself into the chair or seat. Reverse the procedure as you rise. Press the knees slightly outward.

Many people ask about posture—but you don't choose your posture, your posture chooses you. It is a doctor's job to treat and adjust any and all departures from normal of your body, back to normal position and function. You can help by observing a few simple rules regarding the proper use of your body. Poor use of your body produces many ills, perpetuates many others, and prevents full recovery from many conditions.

At the back of the head and the upper part of the neck there exists a vital region which controls the brain and the body as a unit, much as the central exchange controls the telephone system. This area is “the primary control.” Good postural patterns can become a “conditioned reflex pattern” that “brain-washes” for a good purpose, since no one has ever taught you to stand, sit or walk.

1. The weight of the body should rest chiefly on the rear foot. In other words, on the heels. Put the hips over the heels. The movement starts at the ankle and the hips should go back as far as possible without altering the balance effected by the position of the feet and without deliberately throwing the upper body forward.
2. In standing the feet should seek a normal base. The most perfect base is obtained by setting the feet at an angle of about forty-five degrees to one another. Defects become exaggerated as this angle decreases; the back hollows and the stomach protrudes.
3. Breathe naturally so as to allow the chest to WIDEN at the bottom of the rib cage. In other words, widen the back at the lower ribs, lengthening the spine at the same time.
4. Let the shoulders hang DOWN like a couple of old wet raincoats hanging from a couple of hooks. DO NOT throw them back. You will find the hanging position brings your shoulders down as far as they will go, which is their proper position.

5. Dangle both arms, let your forearm dangle from the elbow, the hand from the wrist, and the fingers from the palm.
6. Don't forget to allow the lower part of your chest to expand largely sideways, do not sniff. We live at the bottom of a sea of air. You need not think about your breathing, think only of expanding and contracting your ribs. Let the air in.
7. Now comes the most important part, the position of the head. Let the head be forward and up. This may sound complicated, but just imagine putting your head about a fourth of an inch forward of the position it normally occupies—not down, not back, not up, but forward. Do not crane your neck, but merely PUT it ever so slightly ahead of its usual position.
8. The properly coordinated person stands with the back of the hands facing forward, the thumbs inward, and the elbows slightly bent outward. Where the human machinery is concerned, nature does not work in parts but treats everything as a whole, so now you must coordinate all these parts by a mental resolve. This allows your body to stand naturally as the good Lord intended, and like having good mental and moral habits, these new BODY habits quickly can become a part of you, with better health and better appearance and better function as a reward.
9. Sitting down and standing up require a few more bits of advice. As you go to sit down, follow your usual inclinations but press the knees together as you lower yourself into the chair or seat. Reverse the procedure as you rise; press the knees slightly outward.
10. For example, sit in an ordinary chair with a straight back. Place your feet lightly on the floor, a few inches apart, calves as near to the edge of the seat as possible, but not touching it. Let your back rest against the chair, hands relaxed in your lap. Think—"Head forward and up, neck relaxed, spine lengthening, back widening." The rib widening straightens your back. Now tell your hip joints to bend your torso forward in the chair, let your knee joints go forward and away from each other, bend your hips and ankle joints, and the next thing you know you are on your feet.
11. The movement of sitting down is the reverse of getting up. Give yourself the four orders in quotes above: let your knees go forward and come together, let your hips go back and your ankles forward, and you will find yourself lightly as a feather seated well back in the chair with your torso bent forward from the hip joints. Keep this position for a second, think for a split second of those four orders, and then order your hip joints to bend and you will find yourself gracefully seated upright. All good actors and actresses sit down and get up this way, that's why they're such a delight to watch. It is the power of movement that makes the great actress or actor, not just static good looks. This kind of attractiveness of poised and controlled movement makes those that have the secret stand out from others. Use gravity to help you, not harm you.
12. Walking can be a pleasure if it is done properly. Stand in front of the first step of some stairs, place your right foot on the first step with the weight of your body on the left heel as is normal in standing. As you transfer the weight from the left heel to the left ball of the foot to go upstairs with your left foot, you must spring forward on the ball of your foot. Walking is like going upstairs but on the flat. In other words, you spring forward slightly on the ball of your foot while you walk, and your heel lifts as you walk. This produces a beautiful movement which is never fatiguing and is literally a treatment for your circulation and your spine.

I received a telephone call from an elderly patient who was much bent with spinal arthritis and in a great deal of pain, who asked me to make a house call in her home. She said she would leave the door open for me.

She lived in a very well-guarded apartment, so when I arrived I opened the door, announced my presence, and I heard just a low groan from within the apartment.

I entered the apartment area and found that my patient apparently had fallen and broken her arm, and was wedged in a very, very narrow doorway in such a way that there was no way to move her. Because of the peculiar pattern of her spine and the peculiar way she had fallen, and also because it was impossible to move her, there was no way to splint her arm except from above especially because of the very narrow corner position that this doorway assumed and because of the position of the furniture.

As I said, the only alternative I had to splint her arm was roughly from above, so I used a chair, climbed up, and tied my ankles around the framework of the transom of the door, and hung suspended upside down while I put on a temporary splint so we could move her, so we could examine her more properly. She went on to a good recovery despite her age and her previous disability.

She was an airbrush artist well known in our area for her skill, and each Christmas I used to receive a carefully done Christmas card showing a Santa Claus with a stethoscope and other doctor's paraphernalia hanging from a transom, attempting to do something appropriate at Christmastime, since that was the season.

People are delightful and do many delightful things.

HIATUS HERNIA, THE GREAT MIMIC

Many patients suffer from the effects of a diaphragmatic hernia, yet these patients are treated for many different conditions, since the hiatus hernia can imitate the presence of an angina, or an impending heart attack. Frequently the patient volunteers the information that he thinks he must have an ulcer and sometimes the diagnosis is "gall bladder trouble." Most of the time the complaint is heartburn, and this is genuine enough, for the irritated gastric mucosa will often voice its discomfort with the existing arrangements in exactly this fashion.

The anatomic disrelationship produced by the "sliding" variety of the hiatus hernia predisposes to regurge of the acid peptic contents of the stomach while the "rolling" variety predisposes to obstructive symptoms. These occur often at night and create much pain which can radiate into the chest or down an arm with eventual relief coming after an hour or more of acute distress.

The sliding variety preserves the integrity of the cardiac sphincter of the stomach and represents only a slight elongation of the esophageal opening of the diaphragm and the esophageal gastric junction with a portion of the gastric mucosa herniating up through the relatively large elongation of the diaphragmatic opening trapping part of the upper portion of the greater curvature of the stomach.

The frequency that one sees a patient with hiatus hernia depends upon many things including which authority you read. Wolf says there is an increasing incidence of hiatus hernia from 32% at age 50 to 89% at age 90. Stein and Finkelstein detected hiatus hernias in 50% of the patients referred to the hospital of the University of Pennsylvania. Regardless of authorities, the problem of hiatus hernia is

frequent and one which lends itself beautifully to intelligent application of chiropractic principles of body mechanics and the whole man concept that must govern our approach to the whole patient that we see in our practice daily.

Obvious postural faults such as kyphosis have been cited, even by non-structure oriented investigators, as a source of hiatus hernia, but again a closer look would reveal the lumbar and pelvic rotations which change the relationship of the tendons of the diaphragm. The shoulder girdle changes that latissimus dorsi imbalances produce are a part of the structural problem that needs the close scrutiny only our profession can provide. The crura of the diaphragm, as you know, arise from the anterior surface of the bodies of the lumbar vertebrae. The right, which is longer and larger, is attached to the upper three lumbar, while the left arises from the upper two lumbar vertebrae.

The diaphragmatic esophageal hiatus is a button shaped opening running in an A.P. direction from front left to rear right. The right diaphragmatic crus and tendon cross their medial fibers to the left, forming the left side of the hiatus. The hiatus is at about the level of the tenth dorsal. Naturally, the excursion of the diaphragm (about 30 mm. on the right and 28 mm. on the left) changes this level. The diaphragm is at its highest level when the patient is lying down on the back, the usual position for commencement of sleep, and the position that the patient says frequently seems associated with his digestive trouble. Sometimes the patient makes the observation himself, or he may have been told by some professional, to sleep partially propped up in a Fowler's position. This lets the gravity drop of the gastric area to take place, pulling the herniation out of the enlarged opening and temporarily freeing the patient of his distress. The use of antacids completes the orthodox approach to this problem, and to say the least it is inadequate enough to drive some patients to ill-considered surgery, which even at the Mayo Clinic is reserved for severe disability from hiatus hernia.

The management of the acute problem is relatively simple. Contact the left epigastric area with both hands with outstretched fingers. Contact the gastric area with a downward pressure and literally try to pull the stomach down out of the hiatal trap. This may require repetition until successful, but will provide immediate relief. Contact anterior and posterior fontanel with a stretch reflex, held with a slight tugging pressure until pulsations are felt, then held for at least 20 seconds or longer if desired. This has a tendency to normalize the neurovascular reflexes of the diaphragm. Test the psoas muscle by the method described in the "PSOAS AND PRONATION" chapter. Usually it will be found weak on the left in the average hiatus hernia patient. Activate the neurovascular reflex as well as the neurolymphatic reflex to the psoas, which as you know is related to the kidney lymphatically and vascularly.

There is an intimate relationship between the diaphragm and the respiratory function of the skull, as has previously been described. Proper diaphragmatic and, for that matter, proper spinal function, is inter-related to proper skull position and function. Weak skull muscles cause a corresponding hyper tonus in the opposite or antagonistic muscle. This has been proven many times in the principles of Applied Kinesiology. These skull muscles, the occipitalis, the frontalis, the temporalis, the epicranium, do become imbalanced; and by so doing jam skull sutures so normal respiratory function of the skull is impossible.

The weakened psoas allows the opposite psoas to contract unopposed and as a result the vertebrae go posterior on the weakened psoas side—the normal psoas going into hypertonus as a result of the relative lack of antagonistic muscle pull. Depending on the anomalous psoas attachments that anatomical authorities cite (40% do not have psoas attachment to fifth lumbar) the lumbar rotate and tip, allowing the crural attachments to rotate as well. The motor units, as Bunyon calls each lumbar with the interspace of the disc, then operates in a manner discernible on x-ray—the spinous processes of in-

involved vertebrae moving away from the fixed side, which may be an occluded or an increased disc space. This in turn forces compensation of the pelvis to this abnormal factor in lumbar bony mechanics, creating pelvic rotation and pelvic tilt. This complicates and further intensifies the hiatus hernia problem and certainly such segmental inter-relationships are not corrected by a regime of antacids and sleeping propped up in bed, any more than taking a pain killer would manage the problem of a stone in one's shoe.

The compensatory reverse cervical rotation (the cervical vertebrae rotating in reverse rotation to lumbar rotation in inverse order) then conceivably add to the confusion in normal body mechanics by altering the relationship of C.3, C.4, and C.5., which are the source of the phrenic. This then alters skull position, which in turn provokes "righting reflexes," which vainly try in a stupid body wisdom effort to correct the problem, but which only serves to perpetuate the problem by the eventual involvement of the skull muscles. The same gears that make the watch run on time, make it run slow or fast when they are disturbed. Fix the right thing at the right time in the right way and the body will solve any problem, be it hiatus hernia or a medial meniscus.

Occasionally the patient may have deteriorated to such an extent that esophageal bleeding or significant esophagitis may continue unabated. These particular patients may require consideration for surgery, but in our experience careful persistence will help most if not all of the difficult hiatus hernia problem cases. Avoiding the constriction of tight abdominal garments is a reasonable precaution, as is a preliminary elevation of the head of the bed. Intelligent application of the principles of Applied Kinesiology and body mechanics will lead to a favorable response in this troublesome condition.

The detection, correction and prevention of hiatus hernia is just one more way for the doctor of Chiropractic to advance himself, his practice and his profession. There are many neurological and physiological relationships that have a common origin in disturbed body mechanics. We as a profession should be just that: "*BODY MECHANICS.*"

The privilege of understanding the work of the Master Creator is uniquely ours if we but try to fathom the marvelous segmental inter-relationship of the body. It is just this inter-relationship that crowns our efforts with success even when this success occurs more by accident than by intent. How much better to understand the relationships placed in the body and use them to our consistent advantage and make the practice of Chiropractic an intelligent application of the natural forces inherent to the body from birth and before. Just at the Safety Slogan says, "Safety is no Accident." Neither is success in the field of healing.

One of the stories I tell to other chiropractors, is that there was once an old wise man who was well known for his wisdom, and some young people decided to try to make a fool and a mockery of him.

They decided to take a bird and hide it behind them and ask him, "Oh, wise man, is the bird we hold behind us alive or dead?" If the wise man said the bird was alive they would proceed to wring his neck and throw the dead bird at the wise man. If the wise man said the bird was dead they would then let him fly away, in an effort to confound the wise man in his wisdom.

So when they asked the wise man if the bird behind them was alive or dead, he looked at them keenly and said, "It is all in your hands."

This is the advice I give to young D.C.s. "It's all in your hands."

Chapter 23

FAT OR FIT

*An Effective Method of Weight Control and
Simple Parameters of Measurement to Insure
Prompt and Continuing Weight Loss*

Fast and Slow Muscles, Aerobic and Anaerobic

There are slow and fast muscle fibers, and as you recall, we mentioned that Ranvier, who discovered the Nodes of Ranvier of the nervous system, observed that there are two kinds of muscles—the originally designated “red” and “white.” These have become synonymous with “slow” and “fast.” (On Page 384 you will find a Table showing a comparison of fast and slow muscle fibers, and on Page 385 you will find Charts picturing these fast and slow muscle fibers.)

The slow muscles are basically aerobic and the fast muscles are basically anaerobic. In other words, the slow muscles burn fat and oxygen to provide energy and the fast muscles burn glycogen that utilizes A.T.P.ase activity and this is the difference between the two.

There have been differences made now between “slow twitch” and “fast twitch,” and different subheadings of the “fast twitch.” Most of the muscles that man has anatomically contain both types but in different proportions, which then determines the “color” of his muscle. The color of “red” muscles is formed by myoglobin, or as it is sometimes called, muscle hemoglobin, which is the pigment of muscle that resembles blood hemoglobin and its function. It acts like an oxygen reservoir within the muscle’s fiber, which tides the muscle over from one contraction to the next. Interestingly enough, it has a higher oxygen affinity than has blood’s hemoglobin and it can combine with oxygen and disassociate with great rapidity, in less than 1/100 of a second.

The myoglobin starts giving up its oxygen at the instant the muscle contracts and its oxygen still is unreplaced during the resting stage.

These red “slow” fibers have a sensitivity to stretch and that results in sort of a mild tonic activity even at rest, and is why it is said that the postural muscles are hooked up with a tonic neuron in the spinal cord—our postural muscles, the muscles we walk with and the muscles we stand with. You could stand all day, but you couldn’t hold your arm out all day.

The postural muscles continue to have electrical activity during body support and at rest. Other muscles, predominantly “fast” fibered muscles, are phasic muscles, as they are called. Those are the ones that produce the quick changes in the body by rapid movements, and at rest those that are electrically silent.

As mentioned earlier, the slow red fibers are further divided on the basis of enzymatic activity into two subcategories. Therefore, muscle fibers are classified into three types which have been designated A, B and C. Type A fibers represent the classic fast, white, or phasic fibers; whereas types B and C represent the two types of slow red fibers.

We are born with a certain proportion of slow and fast, and as a result some people will find themselves being long distance runners and others will be sprinters, but this can be changed with training, and

COMPARISON OF FAST (ANAEROBIC) AND SLOW (AEROBIC) MUSCLE FIBERS

Histological, Physiological, and Biochemical

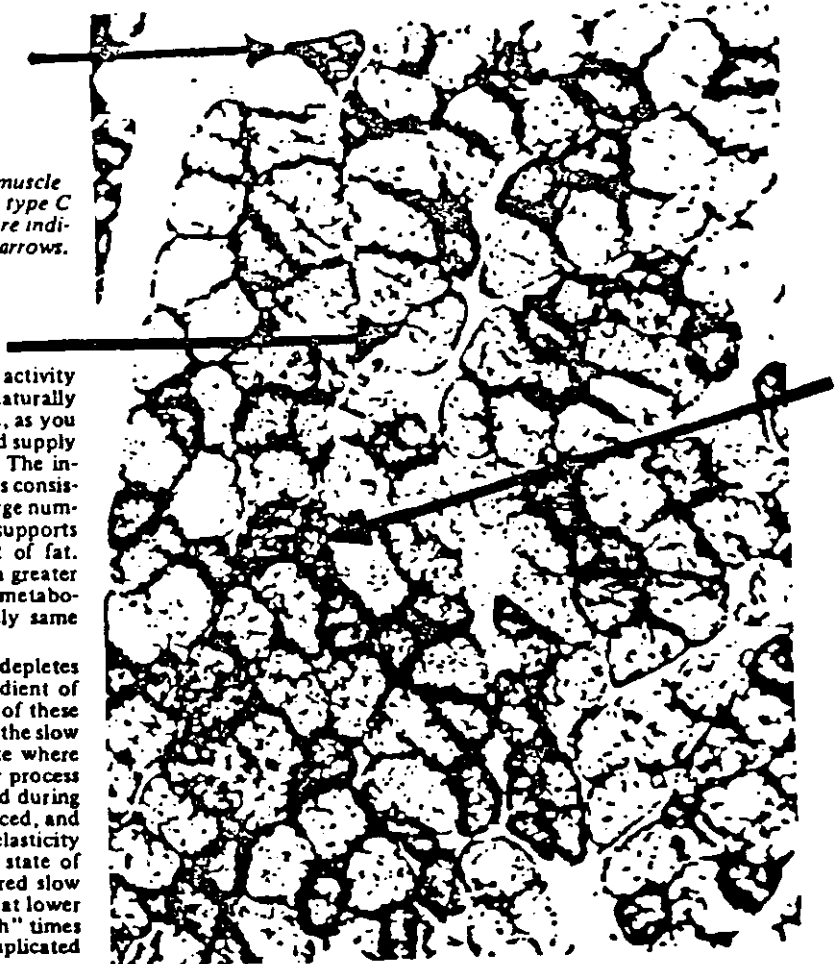
	FAST	SLOW
Histological Differences:		
Size and color	Fibers large and pale	Fibers smaller and redder because of greater myoglobin content
Sarcoplasm	Agranular sarcoplasm	Granular sarcoplasm
Fibrils	Many fibrils	Fewer fibrils
Mitochondria	Large mitochondria but few in number	Numerous small mitochondria
Z discs	Narrow Z discs	Wider Z discs (about 2x)
SR and T system	Sarcoplasmic reticulum abundant and well-developed; T tubules (and triads) at A-I junctions	SR sparse and rudimentary; T system, when present, is found at the Z lines
Innervation	Single innervation by large somatic motor neurons with fast conduction rates	Innervation by small, slow-conducting somatic motor neurons; multiple innervation in some species. Some autonomic neurons
End plates	Discrete (<i>en plaque</i>) end plates with many sarcolemmal folds	Diffuse (<i>en grappe</i>) end plates with few or no junctional folds
Blood supply	Few capillaries except those shared with adjacent slow fibers	Dense capillary supply, located at the interstitial angles between fibers
Physiological Differences:		
Contraction cycle	Rapid contraction-relaxation cycle	Slower cycle (2-3x); graded contraction in some muscles
Tetanus	Rapid onset of tetanic fusion but only at high frequencies and short-lasting	Slower onset of fusion but at lower frequencies and of longer duration
Potentials	Higher resting potential Larger end plate and action potentials	Lower resting potential Smaller end plate and action potentials, latter often graded
Active state	Rapid initial decay of active state	Slower initial decay
Endurance	Rapid fatigue	Greater endurance
Tension capacity	Higher tension which develops rapidly	Lower tension and slower development
Elasticity	Lower coefficient of elasticity	Greater elasticity
Biochemical Differences:		
Metabolism	Metabolism primarily glycolytic (as indicated by high ATPase activity) - Hi Phospho-Fructo-Kinase	Oxidative metabolism (as indicated by high succinic dehydrogenase activity)
Myoglobin content	Low	High
Glycogen	Large glycogen storage	Variable glycogen storage
Na ⁺ and K ⁺	Less Na ⁺ and more K ⁺ ; rapid loss of K ⁺ during stimulation	More Na ⁺ and less K ⁺ ; rate of K ⁺ depletion diminishes with continued stimulation
Amino acids	DIFFERENCES IN CONCENTRATION OF VARIOUS AMINO ACIDS	

FAST AND SLOW MUSCLE FIBERS
Rat Muscle Fibers Stained to Show Succinic Dehydrogenase Activity



A. Cross section (X230) of the medial head of the gastrocnemius muscle showing three types of muscle fibers: A, fast fibers (light); B, intermediate fibers (slow); C, slowest fibers (dark).

B. Cross section (X125) from the soleus muscle shows only fiber types B and C. Two type C (darker) and one type B (lighter) fibers are indicated by arrows.



Heavy glycogen stores and the high ATPase activity in the white fibers, or the fast fibers, will naturally favor speedy response but a quicker fatigue, as you might imagine, because of the lessened blood supply in the fundamental glycolytic metabolism. The increased endurance of slow fibers, red fibers, is consistent with their rich blood supply and the large number of mitochondria which, as you know, supports the essentially oxidative mechanism, that of fat. The smaller diameters of the cells provide a greater surface for the exchange of gases, ions and metabolites than those provided by the relatively same mass of the larger white fibers.

The rapid loss of potassium progressively depletes the tissue that progressively alters the gradient of some ions and ultimately limits the ability of these fast white fibers to perform work. Whereas the slow fibers, the red muscles, reach a steady state where the potassium gain resulting in the recovery process is in equal agreement with the loss suffered during contraction. As a result endurance is enhanced, and as has been well established, the greater elasticity in the slower initial release of the active state of contraction which is characteristic of the red slow fibers accounts for their mechanical fusion at lower frequencies and for their prolonged "twitch" times as sometimes evidenced by rather complicated physiological experiments.

recent work indicates that the percentage of fibers can be changed by physical activity.

Einar Ericksen, at the Post Olympic Conference of the American Orthopedic Association, discussed the Bergstrum needle for doing muscle biopsies, and much of the data concerning the capability of change came from his observations.

Fundamentally there is a difference between the two—slow and fast—red and white—which is very critical.

There used to be, in the early '30s, a controversy between the Starling hypothesis that not much blood left the blood capillary, and then Drinker of the Harvard Medical School challenged his concepts. These ideas are discussed in "THE LYMPHATIC SYSTEM" by H. S. Myerson, from the *SCIENTIFIC AMERICAN* reprint of June, 1963, available from the W. H. Freeman Company, 660 Market Street, San Francisco, California 94104. Drinker believed that protein and fat are continuously filtered by the blood and the plasma protein level is maintained only because the lymphatic system picks up protein and fat and returns it to the blood stream. Unfortunately, Drinker had no definitive method by which to prove that protein and fat had leaked out of the blood and was somehow not originally in the cells. Perhaps for this reason his conclusions were not generally accepted, and most teachers and writers of textbooks continued to maintain that healthy blood capillaries did not leak protein.

Patients who were being given large quantities of blood seemed to be retaining the cellular complements of the blood quite well but were losing "the plasma." The loss was clearly into the tissue spaces, not by way of excretion from the kidney. If the blood capillaries did indeed leak plasma along with protein and other large molecules like fat, then Drinker felt he could be correct.

If the protein entered the interstitial fluid, it stayed there—since the earlier measurements of Starling, the physiologist, and Drinker's findings also made it clear that large molecules could not get back into the blood capillary unless they were picked up by the lymphatic system.

Myerson injected blood proteins, albumin and globulin into patients to whom they had coupled radioactive iodine items. These patients were anesthetized dogs, and they were injected into the femoral vein. Proteins immediately began to leave the blood stream, and by calculation it was found that 65% of the proteins leaked out of the capillaries.

Extensions of this kind of experiment were also done in man, and showed similar rates of leakage. In the course of 24 hours, 50% or more of the total amount of proteins circulated in the blood and it was lost from the capillaries and returned to the blood stream via the lymphatic system.

There is about 40 millimeters of pressure in the blood capillary, for example in the toe, and the recirculation by the lymphatic system is not limited just to protein. Any large molecule can leak out of the capillaries, and since it cannot get back in the blood stream except by way of the lymphatics, it can be easily seen that all the plasma lipids or fatty substances which have been identified in the thoracic duct lymph leak out of the blood stream and are picked up and recirculated to the vascular system by the lymphatics. In fact there is evidence that they leak out even faster than proteins. This may suggest that atherosclerosis, which is a hardening of the artery, may be due to infiltration of the walls of the artery by lipids which get stuck there because something interferes with their removal into the interstitial tissue and causes it to accumulate in the blood vessel wall.

It is well known that even the high capillary infiltration rate that accompanies hypertension might in-

crease that leakage of lipids from the capillaries to a level exceeding their rate of removal from the interstitial tissue, which could then bathe even the outer circle of the arteries in lipids.

Experiments with deuterium, heavy water, shows that blood is unquestionably the chief source of the fluid of lymph. The amount of lymph returned to the blood stream via the thoracic duct in dogs alone in 24 hours is roughly equivalent to the volume of blood plasma. Canalizing the thoracic duct and venting the lymph outside a dog's body showed that in 24 hours' time, 60% of the plasma volume and half the total plasma proteins circulating in the blood were lost. Under these conditions, it shows that the return of lymph plays an essential role in maintaining blood volume, and also the normal removal of fat.

The transportation of certain fats from the intestine to the blood stream by way of the thoracic duct is one of the lymphatic system's major functions. They have labeled fatty acids with radioactive carbon and it shows that the capillaries of the intestine absorb short-chain fatty acid molecules directly with other digestive substances and pass them on to the liver for metabolism. The lacteal vessels of the small intestine absorb also the long-chain fats such as stearic and palmitic acid and carry them to the blood stream via the thoracic duct.

The lymphatic system is also the main route by which cholesterol, the principal steroid found in tissues, makes its way to the blood.

Certain enzymes, including histaminase and rennin are present in greater concentrations in the lymph than in the blood.

Samuel N. Kolmen of the University of Texas Medical School in Galveston has done an interesting experiment on the rennin concept. He produced hypertension in dogs by removing one kidney and constricting the arteries supplying the other. When he shunted the thoracic duct flow in such a way that it was allowed to escape and the hypertension diminished, which indicates that the renin was being kept out of the blood stream. When the lymphatic flow was returned to the system the hypertension returned.

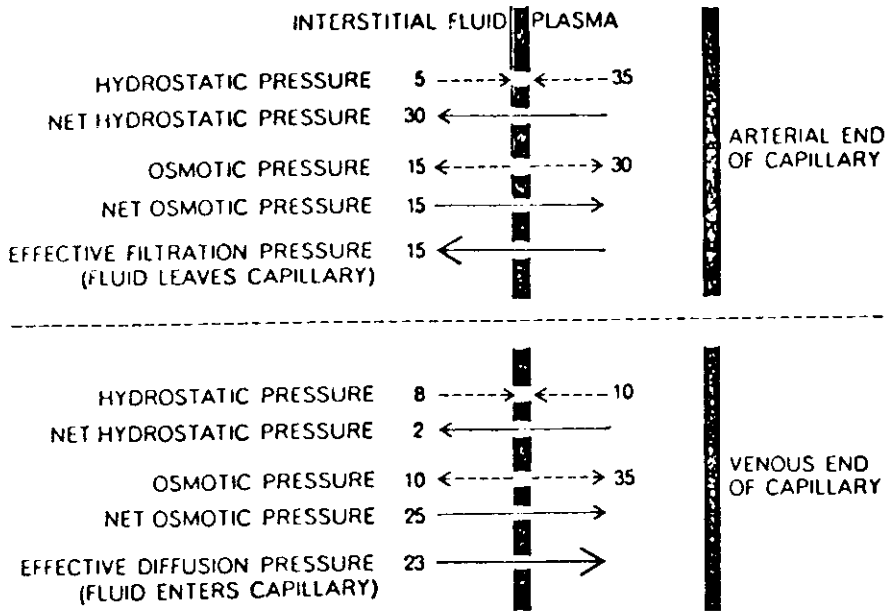
Please note the two drawings on Page 3A showing Fluid Exchange, and the three drawings on Page 3B showing the rate at which Albumin and Globulin disappear from the blood and appear in the thoracic-duct lymph.

At the 1980 Winter Olympics at Lake Placid, as the first chiropractic physician on the U.S. Olympics Sports Medicine Team, my first patient was a champion World Cupper, Dave Irwin. Dave had an injury following his winning the World Cup and had been treated by a good colleague of mine, Dr. Dan Gleason from Thunder Bay, Ontario, and as a result was familiar with chiropractic care.

He had extraordinarily strong hamstring muscles, but was having difficulty with his "tuck" in the latter portion of the very intensive high-speed suicide-type thing called the giant slalom. The "tuck" problem had occurred during the latter portion of the run, and as a result I checked the muscles that would normally hold the knees together—especially the right one, which he complained of. I found my problem difficult since all the muscles tested were strong, against all circuits tested.

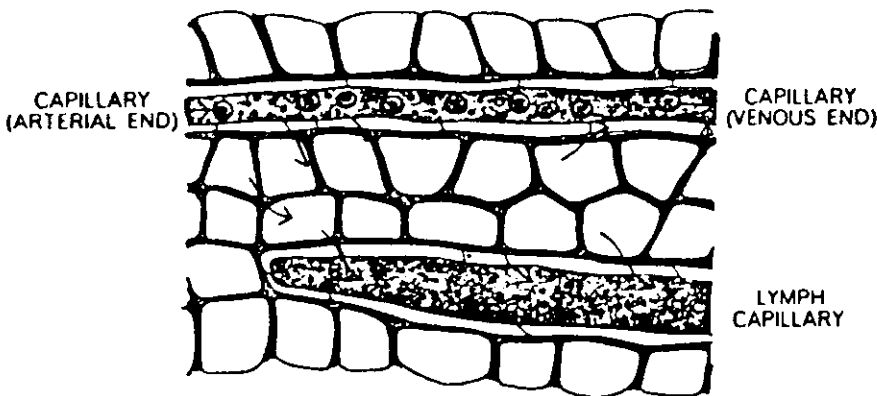
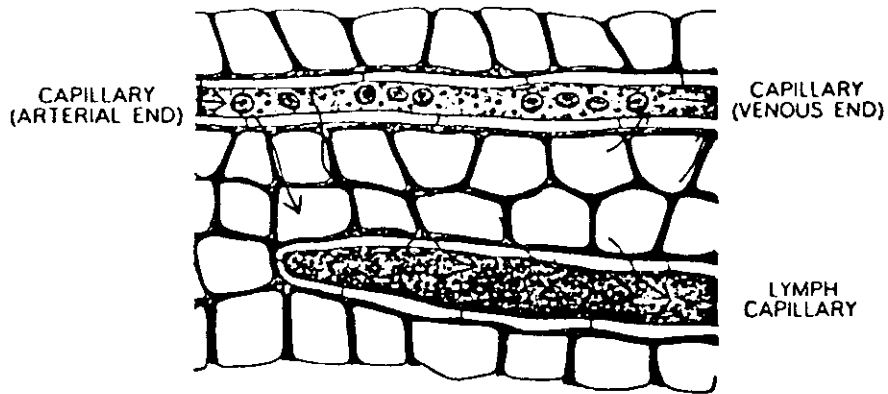
Since the history indicated that it occurred only towards the latter portion of the run, I checked the hamstring muscle repeatedly on the side which he did not seem to complain of too much. It was intact after 20 tests. I was impressed with the strength of his hamstrings, but when I tested the right hamstring, the medial hamstring, repeatedly, after 4 or 5 tests the muscle weakened. I now had an answer for

FLUID EXCHANGE



STARLING'S HYPOTHESIS explained the exchange of fluid through the capillary wall. At the arterial end of the capillary the hydrostatic pressure (given here in centimeters of water) delivered by the heart is dominant, and fluid leaves the capillary. At the venous end the osmotic pressure of the proteins in the plasma dominates; fluid enters the capillary.

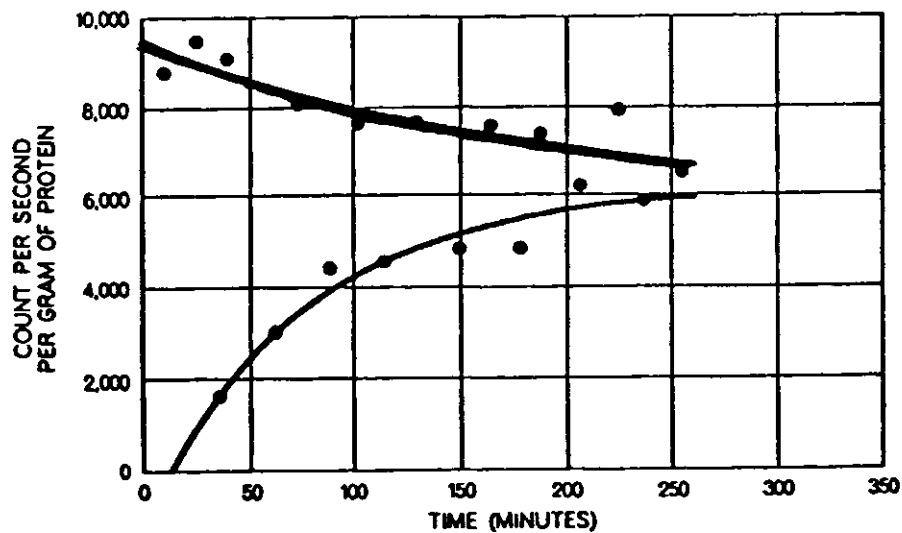
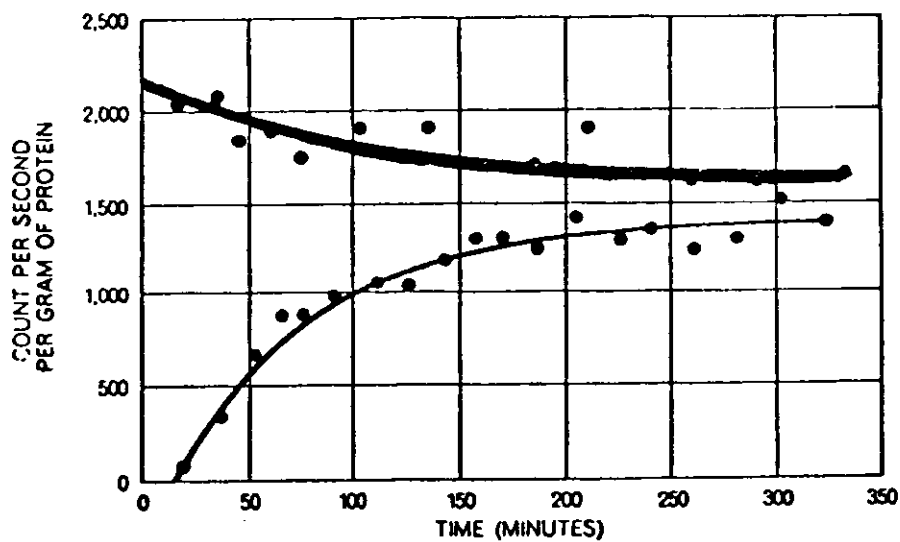
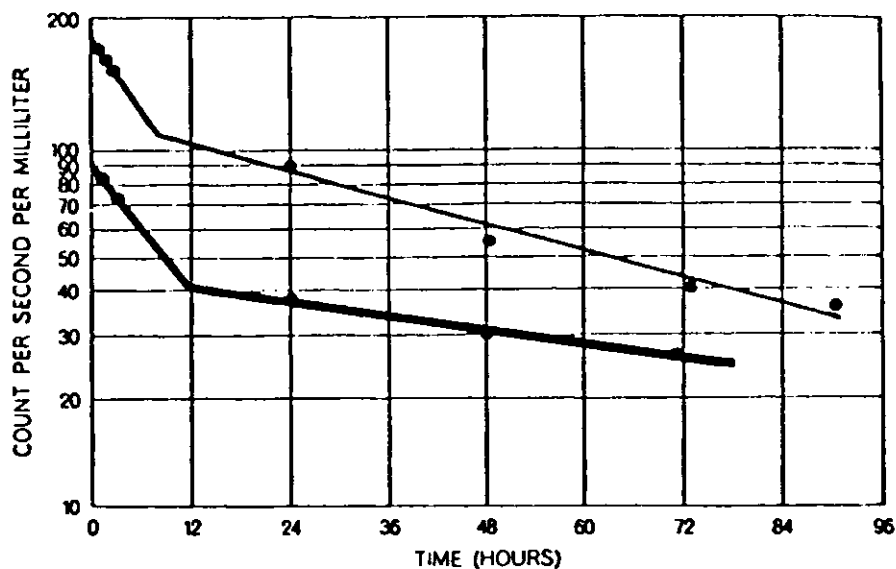
FLUID EXCHANGE is diagramed as postulated by Starling. He believed that fluid and salts (arrows) left the blood capillaries, mixed with the interstitial fluid and for the most part were reabsorbed by the capillaries. Excess fluid was drained by the lymph vessels. He took it for granted that most of the protein in the blood stayed inside the blood capillaries.



PRESENT VIEW of fluid exchange is diagramed. It appears that such large molecules as proteins (black dots) and lipids (open circles) leave the blood capillaries along with the fluid and salts. Some of the fluid and salts are reabsorbed; the excess, along with large molecules that cannot re-enter the blood capillaries, is returned via the lymphatic system.

RATE OF GLOBULIN AND ALBUMIN INFILTRATION

LABELLED PROTEINS were injected into dogs' veins. Measuring the radioactivity per milliliter of blood withdrawn from an artery showed how quickly the globulin (*light line*) and albumin (*heavy line*) disappeared. The steep slopes represent disappearance, the shallow slopes subsequent metabolism of the proteins. The radioactivity is plotted on a logarithmic scale.



PROTEIN appeared in thoracic-duct lymph (*light curves*) and increased in the lymph as it disappeared from the blood (*heavy curves*). The upper graph is for albumin, the lower one for globulin. In time the labeled protein in blood and lymph reached equilibrium.

which I did not have a question. By trial and error we found that therapy localization of the lymphatic reflex at the lesser trochanter for the hamstring neutralized the tendency of the muscle to weaken after repeated contractions.

Somehow, we felt that the muscle was not getting its share of required fat with each contraction, since the myoglobin was available for instant oxidation of fat in the muscle.

Dave Irwin did reasonably well at the Winter Olympics, but just recently has won the America Cup due to the efforts of Dr. Gleason, and in some small way my own efforts may have contributed to his regaining physical prowess, since he had suffered a concussion and many other physical problems following his original winning of the World Cup.

Many patients, not only athletes, have shown deviations of the spine. When a patient bends forward one side of the spine may show a higher profile level than the other side, a common pattern when the psoas muscles or gluteal muscles are involved. Yet, testing in the ordinary fashion does not reveal any muscle weakness, nor does therapy localization to the lymphatic, vascular or stress receptors show a weakened response, nor does stretching the fascia slowly or quickly reveal a weakened response, as one might expect. But if one repeatedly tests the intact psoas, for example, if the patient bends over and the right side of the lumbar spine seems to be higher on inspection, if one tests the left psoas repeatedly, 20 times against the patient's resistance, the patient does it very well. However, if you test the right side under these conditions the muscle usually weakens after the third or fourth attempt to test the psoas in repeated quick fashion.

Placing the hands on the neurolymphatic reflex for the psoas an inch on either side, an inch above the umbilicus, produces a steady contraction normalizing to the same level as the opposite side as long as the contact is made. Therefore the treatment is obvious. Therapy localization shows the indication to use heavy lymphatic manipulation of the anterior-posterior neurolymphatic reflexes to the muscle which fails to have a fat delivery at the right moment. Sometimes this may take as long as two or three minutes.

We have previously attempted to have patients walk or move the muscles in question and then test the muscles. We now find that a much more efficient method with a patient at rest is to repeatedly test the muscle, and the number of patients who are difficult who show this type of problem is significant.

Occasionally, especially if the muscle tends to cramp during the repeated and rapid testing of the muscle, the cramping is diminished by having the patient simultaneously hold the neurovascular reflex for the muscle in question.

We have found by trial and error that lingual reception of iron in the form of iron glycerol-phosphate or other sources of iron, is the nutritional compound of this aerobic lymphatic fault in the muscle. We call this aerobic testing.

In similar situations involving the psoas, reinspection of the balance of the spine and examining the standing posture with the patient bending over reveals remarkable corrections in many instances. Sometimes other muscles are involved which produce similar patterns, and therefore it isn't always the psoas muscle that may produce the torque evident on inspection when the patient is bending forward while standing. We recommend a single capsule daily of Vitamin Products' Ferrofood, or the equivalent from V.M. Nutri, Seroyal or Nutridyne.

As an analogy: It is just as if you had 80 seats in a theatre and you showed a movie four times and charged \$1 a seat and never had any empty seats. At the end of a day you should have \$320, but when you count, imagine only having \$160. This means that some people are seeing the movie twice without paying the price. The fat must be delivered to the muscle each time, but sometimes the muscle is asked to contract twice without its fat appearing twice. With oxidation under these conditions the muscle weakens. This is a simple analogy.

As the fat leaks out of the capillary under the pressure of 40 millimeters of pressure, for example in the toe, the interstitial fluid pressure is lessened. As a result it prevents the material from leaking back into the capillary. But if something interferes with the drainage of the lymph which contains the fat from the tissue—there is the same amount of fat on the outside of the tissue as there is on the inside—it is like trying to push liquid soap into liquid soap, and it doesn't move too readily through it in terms of osmotic pressure; but if you're pushing liquid soap into water, which has a different density, it moves readily. The movement of fat through the capillary wall is essential to both the maintenance of normal capillary blood integrity as well as the continuous firing needed for tonic contractions in our skeletal muscles, which primarily represent the red, or the "slow" muscles, which have the "slow twitch."

The iron mentioned earlier is also part of the electron poisoning pattern and has a significant relationship in poisoning, it being the pivot about which the cellular propellor, so to speak, moves. Many times if the patient's muscles cramp and do not respond to the immediate holding of the neurolymphatic or neurovascular circuits, a small amount of iron on the tongue will generally neutralize any tendency toward cramping. As mentioned before, we call this aerobic muscle testing. As you can see from our experience, it has far-reaching implications not only in athletic performance but also since muscles act as pumps for the appropriate organ to which they are related it also influences the pumping capacity, which then has a visceral manifestation.

Sometimes on attempting correction on aerobic muscle testing and on observing the patient standing but bent forward, if the rotation does not seem to diminish, occasionally it is necessary to stretch the relatively normal but contracted side to restore the balance to normal. This applies especially in cases of the adolescent scoliosis we see so often in young female patients.

The fast fibers are tested faster though repeatedly, as in the slow fiber pattern; perhaps 10 tests in 10 seconds for the slow and 20 tests in 10 seconds for the fast fibered muscles. Both tonic and phasic muscles seem to require lymphatic and vascular circuits' activity. The fast seem to require vascular circuits' activity more often. The nutritional requirement for the fast fiber is pantothenic acid, 100 mg. daily, as an average. We use the companies previously mentioned as a source.

The following material is quoted from "*FIT OR FAT?*"—A New Way To Health and Fitness Through Nutrition And Aerobic Exercise—by Covert Bailey, published by Houghton Mifflin Company, Boston, in 1977:

"The Aerobic Exercises"

Aerobic exercises are undoubtedly the MOST EFFICIENT exercises in improving physical fitness. You will show greater improvement with aerobics, PER TIME SPENT, than with any other exercise. Therefore, unless you have lots and lots of time to spend exercising, save the tennis games, handball, skiing, weight lifting, or golf for fun and do the aerobics for exercise.

Aerobic exercises are those which are: steady and nonstop; last a minimum of 12 minutes; maintain your heart at 70-80 percent of maximum for the entire time you exercise; should be done a minimum of four days a week. They consist of walking, running, jogging, bicycling, rowing, cross-country skiing, dancing, jumping rope, roller skating and ice skating. Non aerobic exercises include downhill skiing, tennis, handball, racquetball, weight lifting, calisthenics, golf and sprinting.

How To Determine Your Training Heart Rate

You should learn how to determine your Resting Heart Rate, Maximum Heart Rate, and Training Heart Rate.

To determine your Resting Heart Rate, take your pulse for 6 seconds and multiply by 10. Most people will get a 60, 70, 80, or 90. Take your pulse again and this time notice whether you are between counts on the sixth second. If you are, then your pulse will be 65, 75, 85, or 95. You should take your pulse several times during the day to determine your average.

To determine your Maximum Heart Rate, use the figure 220 minus your age. This is the fastest your heart can beat for your age. **DO NOT EXERCISE AT THIS RATE!**

To determine your Training Heart Rate, use your Maximum Heart Rate minus your Resting Heart Rate times 65% plus Resting Heart Rate, equals Training Heart Rate. As an example: A forty-year-old has a resting heart rate of 70. To calculate his training heart rate, first obtain his Maximum Heart Rate by using 220 minus 40, or 180. This Maximum Heart Rate of 180 is used to subtract his Resting Heart Rate of 70, then multiplying by 65% and then adding 70, to equal 141.5. When this person exercises, he should maintain a heart rate of 141-142 beats per minute.

When you exercise, check your pulse immediately at the end of the exercise. (Count it for 6 seconds and multiply by 10.) If it's going 10 or more beats slower than your calculated training heart rate, you're not exercising hard enough. If it's going 10 or more beats faster than your training heart rate, **SLOW DOWN**. Remember, you're working **WITH** time, not racing against it.

Aerobic Exercise Categories

The Category I exercises are jumping rope, running in place, jumping jacks and chair stepping, and each of these have a required minimum time of 12 minutes.

The Category II exercises are jogging, running, cross-country skiing, rowing and dancing, and each of these have a required minimum time of 15 minutes.

The Category III exercises are walking, outdoor bicycling, stationary bicycling, ice skating, roller skating and swimming, and each of these have a required minimum time of 20 minutes.

In other words, some exercises require more time than others, and Category I exercises require less time because they are most strenuous, whereas Category III exercises require most time because they are least strenuous.

Obviously, if you decide to do only Category III exercises you should spend more time than a person who only does Category I exercises, and in order to compare the exercises accurately we modify the

time spent in any one category by a "fudge factor" for that category.

For instance, if you spent a total of 90 minutes doing exercises in Category I, 150 minutes doing exercises in Category II, and 200 minutes doing exercises in Category III, you would be spending a total of 440 minutes. However, using the Category time as a median of 150, your 90 minutes in Category I would be at the rate of $\frac{5}{4}$, or 112.50 and your 200 minutes in Category III would be at the rate of $\frac{3}{4}$, or 150, so your adjusted time would be $112.50 + 150 + 150$, or 412.50 adjusted time total. In other words 90 minutes of Category I exercises earns 112.5 "time points," whereas 200 minutes of Category III exercises earns only 150 "time points."

Fitness is LOST if you exercise two days or less a week; fitness is MAINTAINED if you exercise three days a week; and fitness is IMPROVED if you exercise six days a week.

Remember, before you start, to:

Check your resting pulse. (It will decrease as you become more fit.)

Calculate your training heart rate: ? = Training Heart Rate.

Check your measurements: Waist, Hips, Right Thigh, Right Upper Arm.

Check your Weight.

Suggestion: If you are over 40 and unused to regular exercise, switch exercises day by day. For instance, cycle on Monday, Wednesday and Friday; and jog on Tuesday, Thursday and Saturday.

The following pages (9 thru 16) are devoted to "THE SLENDERIZING DIET" including general principles, specific principles, menus and recipes.

THE SLENDERIZING DIET

GENERAL PRINCIPLES:

The principles of diet in this section have been used with great success for over fourteen years. They were developed at first as a curative diet. In getting curative results in nearly all kinds of conditions, it was noted that the patients also lost weight and circumference. Although they felt fine, much better than they had been feeling, yet some of these patients who were not over fat, worried about the loss of weight week after week, until their weight stabilized.

When you have lost your surplus fat and water, then your weight will stabilize. It may even gain a little if you have increased your exercise enough to develop more solid tissue. Of course, in any diet designed to reduce your deposits of fat, you must eat less food (fuel) than you burn up. If you eat more than you burn up then the excess goes to deposit.

Remember that fats do not burn in the flame of the carbohydrates. That idea has been obsolete for over fourteen years. It has been replaced by: FATS DEPOSIT WHILE CARBOHYDRATES BURN.

So the principles:

- 1. Carbohydrates are taboo. One exception only. We must do something about vitamin C. If we could kill our meat and eat it fresh and raw, we would not have to worry about vitamin C or any other vitamin. So take citrus fruit or juice. It is rich in vitamin C and contains a free acid and so will not tend to neutralize the required hydrochloric acid in the stomach juice.**
- 2. Eat the animal protein foods. We must keep our vital tissues in repair and protein is the only material that can repair tissue.**
- 3. Eat some fat but not too much. The diet contains cod liver oil, not only for its fat-soluble vitamins but more especially as a fat ration. Your liver must have fat in order to manufacture bile.**
- 4. Do not try to lose weight too rapidly. One to three pounds the first week is enough, depending on how fat you are. Remember to record your weight and measurements each week, but it is well to weigh daily. Your weight will bob up and down, but each week it should be a little lower than the week before.**
- 5. If you are losing weight more rapidly than that then increase the daily amount of protein and fat intake, and increase exercise to slow the loss.**
- 6. If you are not losing weight, then stop cheating on the diet, and reduce the amount of food intake.**
- 7. Snacks between meals or at night are taboo. Give your body plenty of time, not only to burn up the fuel of your last meal, but also to burn up some of the deposited fuel (fat).**
- 8. Do NOT take fluids with meals or directly afterwards. Anticipate thirst and drink before a meal or wait until three hours afterwards. This includes water, tea, coffee, sodas, etc. You can not afford to dilute your highly needed hydrochloric acid to split up your protein foods into their amino acids. This common error in diet is responsible for many of our allergies.**
- 9. Leave milk out of this diet. It not only dilutes stomach juice but its alkalinity neutralizes much of the required stomach acid. Being pasteurized, it has lost its best vitamins. And you need not worry about calcium deficiency on an animal protein diet. The use of milk tends to slow body oxidation and so to pile up fat. This principle is used very successfully in fattening hogs for market. Imagine me talking like this about milk when I do like it so very, very much.**
- 10. Do not force drinking water at any time. On this diet you do not have the requirement nor the desire for so much water as usual. Remember this is not the old idea of diet, that called for six or eight glasses of water, that flushed much of the mineral elements from the blood stream and water-logged the tissues. The animal protein food contains much water. In making dried meat (pemmican) they reduce three pounds of meat to one pound by drying out two pounds of water. Drinking much water, and especially with meals, tends to produce allergies. I have tested it out many times. Drink water when thirsty between meals, when stomach is empty. 11. Our common table salt is Sodium Chloride. Now sodium tends to increase the water retention of tissues. This is seen in an exaggerated way in edema, or dropsy, as it used to be called, where the legs are swollen so that they will pit on pressure, that is if you press on the leg with a finger, it will make a hollow that remains for a considerable period. This we do not want and so common table salt is taboo. There are several salt**

substitutes on the market. Most if not all of them contain Potassium Chloride instead of the Sodium Chloride. Potassium tends to expel excess water from the tissues. This potassium salt substitute may be used.

12. Exercise your brain, it will help you to control your addiction, and give you an intelligent look.

THIS IS THE SLENDERIZING DIET:

I find that a two-day semi-fast will prepare you both physically and psychologically for attaining the best results. So for the first two days take:

Breakfast: The yolks of two raw eggs, well shaken up in four or five ounces of fresh orange juice. Nothing else.

Luncheon: One whole egg (yolk and white) shaken up in four to five ounces of fresh orange juice. Grapefruit juice or lemon juice could be used, but I assure you it would not taste as well. Nothing else.

Dinner: The same as for breakfast.

Then after two days follow this plan:

If you are a coffee addict, you may have a half cup of coffee (sweetened with saccharine or Sucaryl if desired) before breakfast.

Breakfast: (Choose No. 1 or No. 2)

No. 1: Yolks of two raw eggs well shaken up in four to five ounces of fresh orange juice. The whites of the eggs may be incorporated in gelatin.

No. 2: One half grapefruit or small orange; or four or five ounces of their juice. One egg, any style, but preferably soft boiled with one half pat of butter. (If doing very strenuous type of work, have two or three eggs instead of one.)

Use the No. 1 type of breakfast about twice as often as the No. 2.

Luncheon or/and Dinner: (Anticipate thirst and drink before eating or wait until three hours afterward.)

4 to 7 ounces of edible animal protein (depending upon activity). 4 ozs. for less active and 7 ozs. for more active. A protein permitted dessert. Nothing else. (See list of desserts following.)

The animal protein could be: meat, fish, eggs or cheese.

The meat could be:

- 1/3 pound (5-1/3 ozs.) edible beef, veal, lamb, poultry or game (hot or cold)
- 1/4 pound calf's, chicken or beef liver, or other edible organs as hearts, tongue, tripe, kidneys or brains
- 1 lamb or veal chop
- 1 pork chop, trimmed of all its fat

The fish could be:

- 6 raw clams, freshly opened
- 6 raw oysters, freshly opened
- 1/3 pound of the flesh of any fish including lobster or crabs

The eggs could be:

- 1 egg, any style, preferably soft boiled with 1/4 pat of butter added

The cheese could be:

- 1/4 pound any hard cheese
- 5 ozs. cottage cheese with 2 teaspoonfuls of French dressing or vinegar.

RECIPES FOR DESSERTS:

- | | |
|--|--|
| <p>Baked Custard: 2 eggs
2 cups skim milk
10 Sucaryl or saccharine tablets or 1-1/5 tsp. Sucaryl solution
1/4 tsp. salt
1 tsp. vanilla
nutmeg</p> | <p>Crush and dissolve the saccharine or Sucaryl tablets in 2 tablespoonfuls of the milk. Scald the remaining milk in top of double boiler. Beat the eggs, stir in vanilla, salt and dissolved saccharine or Sucaryl tablets. Add hot milk and stir well. Strain into individual custard cups, and sprinkle with nutmeg. Set filled cups in pan of hot water, having water within 1/2 inch of top of cups. Bake in slow oven, 300 degrees Fahrenheit, one hour or until inserted knife comes out clean. Serve cold.</p> |
| <p>Coffee Whip: 1 Tbsp. plain gelatin
1/4 cup cold water
2 cups strong coffee
16 tablets saccharine or Sucaryl (or 2 tsp. Sucaryl solution)</p> | <p>Soften gelatin in cold water, dissolve in hot coffee with the sweetening agent. Pour 1/4 of this mixture into small shallow pan to depth of 1/2". Chill until firm and cut into 1/2" cubes. Chill remaining mixture until syrupy. Beat with egg beater until light and fluffy. Spoon into dessert glasses. Chill until firm, garnish with the 1/2" cubes of the coffee jelly.</p> |
| <p>Soft Custard: 2 cups skim milk
2 eggs
1/4 tsp. salt
10 sweetening tablets or 1-1/4 Sucaryl solution
1 tsp. vanilla</p> | <p>Mix the milk, eggs, salt and sweetening tablets in top section of double boiler. Beat slightly to blend. Cook over simmering water, stirring constantly, until mixture coats spoon. Remove from heat, cool over cold water. Stir in vanilla, mix well. Chill. Serve cold as dessert or as a sauce over pudding. (Makes 4 servings.)</p> |

RECIPES FOR DESSERTS: (Continued)

- Fruit Gelatin:** 2 tsp. (1 env.) plain gelatin
¼ cup cold water
5 sweetening tablets or ½ tsp. sweetening solution
2 cups unsweetened fruit juice
2 Tbsp. lemon juice
- Soften gelatin in cold water, dissolve over boiling water. Mix or dissolve sweetening in 1 tablespoonful of the fruit juice. Mix together sweetening, fruit and lemon juices. Stir in dissolved gelatin, mix thoroughly. Pour into individual molds. Chill until firm. Makes 4 servings.
- Mocha Pudding:** 2 tsp. or 1 envelope plain gelatin
¼ cup cold water
¼ tsp. salt
1 oz. (1 sq.) unsweetened chocolate
1 cup skim milk
½ cup cold strong coffee
2 eggs separated
1 tsp. vanilla
16 sweetening tablets (or 2 tsp. sweetening) solution
¼ cup evaporated milk
- Chill evaporated milk in freezing compartment until ice crystals begin to form around the edge, then beat with egg beater until stiff. Soften gelatin in cold water. Combine the salt, chocolate, milk and coffee in saucepan, stir over low heat until chocolate melts. Bring chocolate mixture to boiling point. Beat egg yolks. Stir hot chocolate mixture into beaten egg yolks. Return mixture to saucepan and cook over low heat, stirring constantly, for about 1 minute. Remove from heat, add softened gelatin, vanilla and sweetening tablet solution. Mix thoroughly, cool. When mixture is cold and beginning to set, fold in stiffly beaten egg whites and whipped evaporated milk. Spoon into individual dessert dishes, chill. Makes 8 small servings.
- Spanish Cream:** 1 env. (2 tsp.) plain gelatin
¼ cup cold water
12 sweetening tablets (or 1-½ tsp. solution)
1-½ cups skim milk
3 eggs separated
½ tsp. salt
2 tsp. grated orange rind
1 tsp. vanilla
- Soften gelatin in cold water. Mix sweetening with milk. Scald in top of double boiler. Beat egg yolks slightly, beat in salt, orange rind and softened gelatin. Slowly stir in hot milk until well blended. Return to top of double boiler and cook, stirring constantly until mixture coats spoon. Cool slightly. Add vanilla. Chill until cold and slightly thickened. Beat egg whites until stiff but not dry. Fold into chilled custard. Spoon into large mold or individual dessert glasses as desired. Chill until firm. Makes six (6) servings.
- Vanilla Ice Cream:** 1-½ cups skim milk
24 sweetening tablets (or 1 Tbsp. solution)
2 eggs separated
1 tsp. plain gelatin
2 tsp. vanilla
Few grains salt
- Mix sweetening with ¾ cup skim milk, scald, pour over beaten egg yolks. Sprinkle gelatin over remaining milk, combine with hot milk mixture, stir until dissolved. Cool. Add vanilla and salt. Pour into freezing tray, freeze firm. Remove from tray to chilled bowl. Break up with wooden spoon. Beat with electric mixer or rotary egg beater, until free from lumps, but crumbly. Fold in stiffly beaten egg whites. Return to tray, freeze firm.

RECIPES FOR DESSERTS: (Continued)

Fruit Mousse: 1 cup dry milk powder (non-fat)
1 cup cold water
1 can (6 oz.) undiluted quick frozen concentrated fruit juice (orange, grapefruit, grape, tangerine, cranberry)
1-½ tsp. sweetening solution (Sucaryl)

Sprinkle dry milk powder over the cold water, beat with egg beater or electric mixer until stiff. Beat in partially defrosted fruit juice and sweetening solution. Pour into refrigerator freezing tray, freeze until creamy firm. Makes 12 half-cup servings.

SAMPLE MENUS FOR ONE MONTH:

You will note that each luncheon or dinner consists of only two courses, a main dish and a permitted dessert.

The amount of protein served may be somewhat increased or decreased, depending upon your fatness or upon the rapidity with which you lose weight.

If plain cod liver oil can not be taken, then take a capsule containing the fat soluble vitamins A, D and E and be a little more liberal with your butter and cream to supply fat with which your liver can manufacture bile.

If you are a coffee hound, you may take a cup of clear coffee before taking any breakfast. It may be sweetened with saccharine or Sucaryl.

Do not be satisfied with a second class body. Invoke your intelligence to stick with the diet and I am sure you will be greatly surprised and pleased with the results.

Anticipate thirst and drink before a meal or wait until three hours afterward.

Sample Menus for One Month:

1st Day: **Breakfast:** Yolks of two raw eggs shaken up in five or six ounces of fresh orange juice.
Luncheon: Cherrystone clams on half shell, six to nine freshly opened. If losing too rapidly take nine, if not then six will be enough (no crackers).
***Dinner:** Two lamb rib chops with fat well trimmed off. Coffee gelatin dessert may be sweetened with saccharine or Sucaryl and one tablespoonful heavy cream (whipped or plain).

2nd Day: **Breakfast:** One raw egg shaken up in four to six ounces of fresh orange juice.
Luncheon: One fourth pound (four ounces) cottage cheese. Two teaspoonfuls of French dressing.
***Dinner:** A small piece of steak (beef) about 3" x 5" x ¾". Fruit Mousse (see recipe).

*ABOUT ONE HOUR BEFORE DINNER TAKE 1 TEASPOONFUL OF A PLAIN COD LIVER OIL.

Sample Menus for One Month: (Continued)

- 3rd Day:** **Breakfast:** One glass (4 ozs) of fresh grapefruit juice. One boiled egg (4½ minutes). ¼ pat of butter, little pepper, no salt (may use a potassium containing salt if desired).
- Luncheon:** Live-longer sandwich (use two thin slices of swiss or provolone cheese as bread and between them place a thin slice liverwurst). Small orange (sliced or in sections).
- *Dinner:** ½ breast of broiled chicken. Baked Custard (see recipe).
- 4th Day:** **Breakfast:** Yolks of two raw eggs shaken up in four to five ounces orange (A juice (the whites of these eggs may be incorporated in gelatin).
(A Friday)
- Luncheon:** Tuna fish, 4 ounces crumbled and mixed with 1-½ tablespoonfuls of French dressing. For appearances it may be served on a big lettuce leaf. Mocha Pudding (see recipe)
- *Dinner:** Swordfish fried (about 3" x 5" x ¾"). Spanish Cream (see recipe).
- 5th Day:** **Breakfast:** 4-5 ounces tomato juice. 1 boiled egg (4½ minutes). ¼ pat of butter, little pepper, no salt.
- Luncheon:** Cold cuts (about 4 ounces of edible meat). Soft Custard (see recipe).
- *Dinner:** Roast leg of lamb (about 4 ounces edible meat). Vanilla Ice Cream (see recipe).
- 6th Day:** **Breakfast:** Yolk of 1 raw egg shaken up in orange juice.
- Luncheon:** Slice of cold roast leg of lamb about ¼ pound (4 ounces). Fruit gelatin dessert and 1 tablespoonful cream (see recipe).
- *Dinner:** Pan-broiled chicken livers, ¼ pound. ½ grapefruit.
- 7th Day:** **Breakfast:** One whole raw egg shaken up in 4 ounces (½ glass) fresh orange juice.
- Luncheon:** 1 deviled egg. 1 small orange, sliced or in sections.
- *Dinner:** One kidney veal chop, pan-broiled. Coffee Whip (see recipe).
- 8th Day:** **Breakfast:** Yolks of two raw eggs shaken up in ½ glass (4 ozs) of fresh orange juice.
- Luncheon:** Two rounded tablespoonfuls of cottage cheese. French dressing. Soft Custard (see recipe).
- *Dinner:** Roast beef (rare), 4 to 6 ounces edible meat. Fruit Gelatin and 1 tablespoonful cream whipped or plain (see recipe).
- 9th Day:** **Breakfast:** ½ grapefruit. One boiled egg (4½ minutes).
- Luncheon:** Cold roast beef (1 slice or 4 ounces edible meat). Coffee Gelatin with 1 tablespoonful cream whipped or plain.
- *Dinner:** Roast chicken (1 slice of breast and slice of thigh). Fruit Gelatin (see recipe).
- 10th Day:** **Breakfast:** Yolks of two raw eggs beaten up in four or five ounces of fresh orange juice.
- Luncheon:** Cold roast chicken (ordinary size portion). Baked Custard (see recipe).
- *Dinner:** One lamb shoulder chop pan-broiled. One half grapefruit.

*ABOUT ONE HOUR BEFORE DINNER TAKE 1 TEASPOONFUL OF A PLAIN COD LIVER OIL.

Sample Menus for One Month: (Continued)

- 11th Day:** **Breakfast:** One egg boiled 4½ minutes. ¼ pat of butter. Four ounces fresh orange juice.
Luncheon: Live-longer sandwich (three small sardines between two thin slices of swiss cheese). Small orange.
***Dinner:** Broiled shad roe (normal size portion or four to five ounces). Spanish Cream (see recipe).
- 12th Day:** **Breakfast:** One whole raw egg beaten up in ½ glass (4 ounces) fresh orange juice.
Luncheon: Cold broiled shad crumbled and mixed with French dressing. Fruit Gelatin with one tablespoonful of cream, whipped or plain (see recipe).
***Dinner:** Ground round steak (one ball of about four ounces). Coffee Gelatin dessert. 1 tablespoonful cream whipped or plain.
- 13th Day:** **Breakfast:** Yolks of two raw eggs beaten up in ½ glass (four ounces) fresh orange juice.
Luncheon: Cold canned tongue (four thin slices). Soft Custard (see recipe).
***Dinner:** Calf's liver sauteed about ¼ pound (four ounces). Ice Cream (see recipe).
- 14th Day:** **Breakfast:** Tomato juice (four ounces). One egg boiled 4 ½ minutes. ¼ pat of butter.
Luncheon: Cottage cheese mixed with 1 tablespoonful French dressing. Baked Custard (see recipe).
***Dinner:** Roast turkey (slice of white and slice of dark meat). One half grapefruit.
- 15th Day:** **Breakfast:** One whole raw egg shaken up in one half glass (four ounces) of fresh orange juice.
Luncheon: Cold sliced turkey (one slice white and one slice of dark meat). Vanilla Gelatin dessert with one tablespoon of cream.
***Dinner:** Veal cutlet pan broiled (not breaded), four ounces Mocha Pudding (see recipe).
- 16th Day:** **Breakfast:** Yolks of two raw eggs shaken up in one half glass (four ounces) of fresh orange juice.
Luncheon: Blue point oysters (six to nine freshly opened). Fruit Gelatin with 1 tablespoonful cream whipped or plain (see recipe).
***Dinner:** Roast beef (4 to 6 ounces rare). Spanish Cream (see recipe).
- 17th Day:** **Breakfast:** One raw egg (whole) shaken up in ½ glass fresh orange juice.
Luncheon: Cold roast beef (one slice four to six ounces of edible meat). Coffee Whip with 1 tablespoonful cream (see recipe).
***Dinner:** Lamb chops broiled (two small rib chops, with fat well trimmed off). One half grapefruit (no sugar).
- 18th Day:** **Breakfast:** Tomato juice (four ounces). One scrambled egg.
Luncheon: Salmon (canned) crumbled and mixed with French dressing or mayonnaise. Soft Custard (see recipe).
***Dinner:** Fresh mackerel fillet saute (four to six ounces). Spanish Cream (see recipe).

*ABOUT ONE HOUR BEFORE DINNER TAKE 1 TEASPOONFUL OF A PLAIN COD LIVER OIL.

Sample Menus for One Month: (Continued)

- 19th Day:** **Breakfast:** Yolks of two raw eggs shaken up in four ounces (½ glass) of fresh orange juice.
Luncheon: Cottage cheese mixed with French dressing. Baked Custard (see recipe).
***Dinner:** Chicken livers (one fourth pound sauteed). Vanilla Ice Cream (see recipe).
- 20th Day:** **Breakfast:** One raw egg (whole) shaken up in one half glass of fresh orange juice.
Luncheon: Cherrystone clams raw (freshly opened). Sliced orange.
***Dinner:** Beef steak (a piece 3" x 5" x ¾") broiled. One half grapefruit.
- 21st Day:** **Breakfast:** Grapefruit juice (four ounces). One boiled egg 4-½ minutes. ¼ pat of butter.
Luncheon: One thin slice of liverwurst between two thin slices of Swiss cheese. No dessert.
***Dinner:** Roast leg of lamb (one slice or one quarter pound). Coffee Whip (see recipe).
- 22nd Day:** **Breakfast:** Yolks of two raw eggs shaken up in one half glass of fresh orange juice.
Luncheon: Cold roast lamb (one slice or one quarter pound of edible meat). One half grapefruit (no sugar).
***Dinner:** Fried chicken (half a breast or a thigh not breaded). Fruit Mousse (see recipe).
- 23rd Day:** **Breakfast:** One whole raw egg shaken up in one half glass of fresh orange juice.
Luncheon: Cold fried chicken (half a breast and wing, or one thigh). Soft Custard (see recipe).
***Dinner:** Ground round steak (one ball or four to six ounces). Fruit Gelatin (see recipe).
- 24th Day:** **Breakfast:** Tomato juice. One boiled egg. One fourth pat of butter.
Luncheon: Cheese souffle. Baked Custard (see recipe).
***Dinner:** Roast pork with all the fat trimmed off (four to six ounces edible meat). Sliced orange.
- 25th Day:** **Breakfast:** Yolks of two raw eggs beaten up in one half glass of fresh orange juice.
Luncheon: Cold or hot cooked shrimps. Four to six ounces French dressing. Coffee Gelatin dessert with two tablespoonfuls of cream whipped or plain.
***Dinner:** Saute scallops (four to six ounces). Tartar sauce. Mocha Pudding (see recipe).
- 26th Day:** **Breakfast:** Grapefruit juice (one half glass or four ounces). Brook trout or small bass (one half pound of edible fish).
Luncheon: Cottage cheese, French dressing, may be served on a lettuce leaf. Spanish Cream (see recipe).
***Dinner:** Baked lamb shank (one small shank). Grapefruit, ½ (no sugar).
- 27th Day:** **Breakfast:** One raw egg shaken up in one half glass fresh orange juice.
Luncheon: Two frankforts, partially cut through lengthwise with a small strip of cheese inserted in the cut and heated in the oven. Sliced orange.
***Dinner:** One veal kidney chop broiled. Spanish Cream (see recipe).

*ABOUT ONE HOUR BEFORE DINNER TAKE 1 TEASPOONFUL OF A PLAIN COD LIVER OIL.

- 28th Day:** **Breakfast:** Tomato juice, one half glass (4 ounces). One boiled egg. ¼ pat of butter.
Luncheon: Nine to twelve Blue Point oysters (freshly opened). Half a grapefruit (no sugar).
***Dinner:** Roast turkey (about six ounces edible meat). Fruit Gelatin dessert (see recipe).
- 29th Day:** **Breakfast:** Yolks of two raw eggs beaten up in four ounces (½ glass) of fresh orange juice.
Luncheon: Sliced cold turkey (about six ounces of edible meat). Fruit Mousse (see recipe).
***Dinner:** Baked chicken. Six ounces (no stuffing). Vanilla Ice Cream (see recipe).
- 30th Day:** **Breakfast:** One half glass tomato juice. One fried egg. One strip of bacon (if not losing weight, then no bacon).
Luncheon: Two or three slices cold chicken (about 6 ounces edible meat). Coffee Gelatin dessert with one tablespoonful cream plain or whipped (see recipe).
***Dinner:** Sirloin or tenderloin steak (rare) a piece 3" x 5" x ¾". Mocha Pudding (see recipe).

*ABOUT ONE HOUR BEFORE DINNER TAKE 1 TEASPOONFUL OF A PLAIN COD LIVER OIL.

One of my patients was an elderly woman who had been the wife of a very, very prominent music impresario, who was well acquainted with many of the people in the music world, and who had died suddenly, leaving her almost penniless.

She had come to live with her sister in Detroit, and after a relatively short period of time her sister also died, leaving her totally alone.

I used to receive a request for a house call which I would promptly attend to, and when I would get there I would find that there was nothing wrong with her except an overwhelming loneliness and fear that something could happen. She dreaded being alone and possibly having something happen and being unable to call for help. This was basically the fear, and basically the cause of most of the house calls.

So in an effort to neutralize both the demands on my time and also her problem, I suggested to her that one way to solve the problem was to call me every day. I said that if I didn't hear from her by the time I left the office, I promised with all my heart that I would stop off at her house, to which I had a key so I could enter. This seemed to work out quite well, and I found it unnecessary to make house calls.

For ten years, from the time she was eighty-five to the time she was ninety-five, I talked to her every day about five or ten minutes discussing the trivia of the day or the sports activities, and developed a marvelous relationship with her.

She had known many of the greats in the music world, had been a feminist in the early days when it was quite unpopular, had flown a Ford tri-motor airplane, had gone skiing when skiing was practically unheard of, and had done many brave and marvelous things. She was a delightful woman and had a great interest in sports, especially in our Detroit Red Wings, and her spirits used to rise and fall with their professional successes and failures.

Finally she became fearful of diminishing finances, and I told her that the taxes on her house would be of a very minimal nature, and I would provide her food if she ever had the need—not to worry about

financial matters as I would take care of her, again in an effort to diminish her demands on my time for house calls.

Apparently she had never forgotten this fact, or our acquaintance, because when she was about eighty-eight or eighty-nine she heard from a very, very distant relative who had died and had left her a rather large sum of money. She immediately sold her house and took an entire floor of one of our better apartment hotels across the street from one of the local osteopathic hospitals where I frequently had patients, and proceeded to live in a very, very grandiose fashion with a great deal of flair and class, and I was able to see her occasionally and share some of her hospitality.

She continued to live until ninety-five, when she moved to a nursing home at her own request, and then continued to call me until the day she died. On the day she died she told me that she was planning to leave abruptly, but that she wanted to call me before she left, and then she proceeded to do precisely that.

It was a delight to know Mrs. Devoe, which was her name, and she was one proof that there are beautiful people in this world. She made a small bequest in her will which allowed me to make a down payment on a condominium complex that I have for teaching in the Northern Michigan ski area, and which is something my youngest daughter, an avid skier, had ardently hoped for. It was this set of circumstances that had allowed that dream of hers to come to fruition.



Chapter 24

MY PERSONAL HEALTH HABITS AND MENTAL ATTITUDES

*How To Make Your Own Life More Healthy
By Your Own Personal Needs And Abilities*

I was very fortunate to have my father cue me as to what constitutes adequate nutrition at a time when not too much was known about nutrition, as we do today. A good general rule, as he taught me many, many years ago, is: "Whatever God makes, eat it; and whatever man makes, be careful." This was a very simple piece of advice but it can be applied to everyday activity quite reasonably.

For example, eat the steak but don't eat the sausage; eat the orange but don't drink the orange juice. Water should be the only fluid that should regularly act as a liquid in your body, and since we need 12 glasses of water a day we are fortunate if we have a good source of water. We use bottled water from Arkansas. It happens to be Mountain Valley water, but I am sure that other waters, non-chlorinated and non-processed are valuable; but they must be safe and pure and palatable. If we didn't have the enzyme carbonic acid anhydrase, which is fundamentally zinc dependent, we would have to drink a barrel of water a day. But since we do, eight to ten glasses of water a day should be an adequate amount for the average individual. An exception would be if the individual was operating in an unusual environment such as pressurized aircraft, which applies to both the pilot and the crew of regular commercial air travel.

There is a ubiquitous observation made in most physiology textbooks that there is a postprandial leucocytosis, which means that white count goes up after you eat. The white cells, which are part of the defense system of the body, think that when you eat something apparently that is a foreign substance to the body and they act as a defense measure. However, it has been observed by Bircher Benner, in the Natural Health Clinics in Switzerland which are quite famous in Europe, that raw foods do not produce this defense rise in white blood cells count.

It therefore seems reasonable that one should experiment to see if it were raw foods, or merely the introduction of raw foods at a certain time at a meal; and by trial and error I found that if someone ate something raw before one ate something cooked there was not the postprandial leucocytosis—and as a result the white cells were not kept "running up and down the hill" in response to the "shepherd's calling wolf when there was no wolf," and were available in case the real danger took place.

This is a useful measure when people have recurrent infections which do not seem to have any reasonable logical basis.

Another thing I learned early in life was that chopped, cut or comminuted meats apparently offer a surface for a particular virus that apparently has a circadian cycle in relationship to the moon. When the lunar cycle is at its height, in other words a full moon, it is a wise idea to diminish the ingestion of luncheon meats and chopped meats such as hamburger; and those meats which are comminuted in preparation, with more surfaces being exposed to the air in cooking—beef stroganoff and that sort of thing. Again, this seems to be a useful measure in recurrent food-borne infections and recurrent bowel infections, both in children and adults.

This whole concept seemed foreign to me until I took the time to experiment and observe what an early

practitioner had told my father about meat in this regard. It is a simple observation, but many children who would have lunch meat some time or another in their daily diet and who lived in different parts of our community that did not share the same water supply, milk supply and food supply, would suddenly come down with sore throats or episodes of vomiting or episodes of diarrhea. They were so widely separated geographically, and yet all the mothers would call in and say little Johnnie, or Little Frankie, or little Harry, or little Betsy, or little Sally has just come down with something. The only thing I found that existed in common was the full moon pattern, and I found it a very practical thing to suggest that the protein material be given in whole form rather than comminuted. In other words, do not serve meats chopped or cut, luncheon meat, or the hotdog variety of protein.

Another thing I found very useful was the early concepts of Howard Hay and Daniel Monroe, both of whom were doctors of medicine who felt that due to a phasing of digestion, the inclusion of high carbohydrates (above a 15 or 20% carbohydrate) with high protein meals produced an excess amount of fermentation. The usual meat, bread, potatoes, sugar with coffee and very over-cooked vegetables many times produced a sensation of satiety, a sense of fullness, after a meal that resulted in a lack of energy and certainly in quite a bit of common respiratory infection and other mundane sorts of illnesses.

Reducing the compatibility in a diet to a simple phrase, it is simply: Do not eat proteins with starches and do not mix acid fruits with starches.

A copy of the diet that I hand to patients and which I follow myself is included on Pages 2 to 5.

You can choose food from either category in this diet, and have either a protein or a carbohydrate type breakfast, or a protein or carbohydrate type lunch or dinner—but, simply, **DO NOT MIX THE PROTEINS AND CARBOHYDRATES**. This is especially useful in allergies, especially useful in dealing with fatigue, and especially useful in recurrent infections. You can find out more about this from "*MAN ALIVE YOU'RE HALF DEAD*," by Daniel Monroe, M.D.

Exercise and Health

Regular exercise is a good idea, and I generally program exercise. In my own case I play tennis or other racquet sports at least twice a week, enough to flush the system out of a lot of waste products. I play for about an hour or two and generally try to stop playing before I become tired, regardless of the enjoyment I am appreciating at the time.

SUGGESTED DIETARIES

THE PREDOMINANTLY PROTEIN TYPE OF BREAKFAST:

Raw egg or eggs beaten up in 5 or 6 ounces of orange juice makes a very efficient breakfast; or if you prefer a more formal breakfast, then:

Coffee or tea with cream but no sugar

Citrus juice

Eggs with butter, eggs with bacon, bacon or ham, or an omelet

(Fish or meats may be substituted for eggs)

(No toast, no bread or crackers, no cereals, no sweets, at first I found this strange. After the habit was broken, I enjoyed my breakfast more than ever.)

THE PREDOMINANTLY CARBOHYDRATE TYPE OF BREAKFAST:

Any whole fruit (but not citrus juice)

There is a perfectly logical reason for this: Oranges or grapefruit may be taken with the carbohydrate meal, but not their juices. This is because, when the whole fruit is eaten, chewing tends to insalivate and partially neutralizes the acid; but when the juice is drunk, too much of the free acid reaches the stomach as such. Many people have found that fruit acids and starch produce the so-called "acid or sour stomach")

Cereal, preferably whole grain, with milk—not cream

Toast or bread or crackers, preferably whole grain, with jam, marmalade or honey—no butter

Sweet milk or tea or coffee, with sugar but no cream

(No fats, no acid solutions, no high proteins)

THE PREDOMINANTLY PROTEIN TYPE LUNCHEON OR DINNER:

Any thin soup or broth

Meat, fish or eggs (poultry comes under the heading of meats)

Liver, kidneys, sweetbreads, brains, tripe

Leafy vegetables (as cabbage, spinach, brussels sprouts, asparagus, dandelion or beet greens—see list of 5% and 10% vegetables)

Leafy salads, raw (as escarole, water cress, chicory, romaine, dandelion, green pepper, lettuce, cabbage, endive, celery, carrots and tomatoes)

Oil and vinegar for dressing (French, Mayonnaise, Russian, etc.)

Dessert limited to the three following:

Cheese

Gelatin with cream

Citrus fruit or other low starch fruit

Buttermilk, being acid, may be taken with meal (but not sweet milk)

Tea or Coffee with cream but no sugar (if desired had better be taken before eating)

(No high starches, no sweets)

THE PREDOMINANTLY CARBOHYDRATE TYPE OF LUNCHEON OR DINNER:

Any of the following foods may be eaten at the same meal:

Thick or thin soup (meat soup, thin soup, may be taken with protein or carbohydrate type meals, since the broth of meat is principally the mineral extractives of the meat)

Any vegetables (including high starch vegetables such as potatoes)

Baked beans

Macaroni or spaghetti (a cheese sauce, or tomato, may be used for flavoring if you insist)

Any vegetable or fruit salad (when eaten plain and well chewed, it develops a wonderful flavor—adding salt and pepper is all right and a little Russian dressing won't kill you)

Any sweet or starchy dessert (here is your chance to eat pie and strawberry short cake—BUT NO WHIPPED CREAM)

Milk (sweet) or coffee or tea with sugar but no cream

(No fats, no acid solutions, no high protein)

A low-fat ice cream and ices are permissible

A cocktail, highball, wine or beer is quite permissible if you want it

AVOID THESE COMBINATIONS: (You will be surprised how easily this is done)

- Bread with butter (use jam or preserves instead—put the butter on the proteins)
- Potatoes with butter (good potatoes need no butter—use pepper and salt)
- Rolls or toast with bacon (substitute any 5% vegetable, fried tomatoes or mushrooms)
- Cereals with cream (use a little milk and sugar or honey)
- Meat with potatoes and bread (the old reliable standby and one of the worst of all combinations)
- Rolls and frankfurters (except when you go to Coney Island)
- Hard sauce (you are better off without it, diet or no diet)
- Rich ice cream (if made with much sugar and pure cream—call it a vice)
- Whipped cream—or any cream—on starchy desserts (use jam or preserves—they taste better anyway)
- Pork with baked beans (pork may be cooked with baked beans, for flavoring only)
- Vinegar and oil dressings with starchy meals (very good, however, with protein meals)

THESE COMBINATIONS MAY BE EATEN FREELY:

- Butter)
- Cream) with meat, fish or eggs
- Bacon)

- Buttermilk)
- Vinegar and oil) with meat, fish or eggs
- Citrus fruit juices)

- Jam sandwiches (also jelly, preserves or honey sandwiches)
- Tomato and lettuce sandwiches
- Cereals with milk and sugar
- Breads with milk
- Sherbets or ices with carbohydrate meals
- Gelatin desserts with either protein or carbohydrate meals are very good as they place little burden on the digestive system and contain amino acids. The amino acids are protein but they are already split up and ready for absorption.
- Cheese instead of desserts is an excellent habit with protein meals

HIGH AND LOW STARCHES

Low starch Fruits and Vegetables are those in the 5% and 10% lists. The high starches are those in the 15% and 20% lists.

LOW STARCHES

5% Vegetables:

- | | |
|------------------|----------|
| Asparagus | Okra |
| Bean sprouts | Olives |
| Brussels sprouts | Peppers |
| Cabbage | Pumpkin |
| Cauliflower | Radishes |
| Celery | Rhubarb |

HIGH STARCHES

15% Vegetables:

- Lima beans (young)
- Parsnips
- Peas

15 % Fruits:

- Apples

HIGH AND LOW STARCHES (Continued)

LOW STARCHES

Cucumbers	Sauerkraut
Eggplant	Spinach
Endive	String beans
Greens	Summer squash
Kohl-rabi	Swiss chard
Leeks	Tomatoes
Lettuce	Water cress
Mushrooms	

5% Fruits:

Lemon juice	Watermelon
Moneydew melon	Muskmelon
Rhubarb	

THESE FOODS WITH PROTEIN MEALS IN THE DIETARY

10% Vegetables:

Beets	Rutabagas
Carrots	Squash
Onions	Turnips
Oyster plant	

10% Fruits:

Blackberries	Gooseberries
Cranberries	Grapefruit
Currants	Lime juice

THESE FOODS WITH THE 5% LOW STARCH FOODS ABOVE WITH PROTEIN MEALS IN THE DIETARY

HIGH STARCHES

Apricots
Blueberries
Cherries (sour)
Grapes
Loganberries
Mulberries
Pears
Pineapples
Pineapple juice
Plums
Raspberries

20% Vegetables:

Beans
Kidney
Lima
Navy
Corn
Macaroni
Potatoes
Rice

20% Fruits:

Orange juice	Bananas
Peaches	Grape juice
Strawberries	Cherries, sweet

BREAD IS A HIGH STARCH FOOD

I have been playing tennis since I was ten years old, and have continued to do so ever since then. I noticed as a young boy that there seemed to be a lot of quite old tennis players still playing tennis. I was quite impressed by the number of lawyers, accountants, physicians, dentists, and other men in their 70s and 80s who were still playing tennis. This led me to conclude at a very young age that regular exercise must be a very useful thing.

Certainly the present trend for physical fitness with jogging is part of a good general program, but aerobic exercises such as jogging must be used with caution. This is because people who are used to the anaerobic type of activity such as tennis, etc., sometimes cannot readily shift to the aerobic and many times put their system at risk if they attempt to do so. Personally I feel that the pulse rate values suggested by Covert Bailey in his book "*FIT OR FAT*" are excellent guides for exercise, and a copy of that material is included in Chapter 23, "*Fat or Fit.*"

Many times, through changes in diet and through changes in climate and other factors, the intestinal

flora will change, and despite the fact that one has regular digestion and regular bowel elimination the ratio of friendly vs. unfriendly bacteria changes and the first sign of ill health, sometimes a sense of fatigue or any type of recurrent headache, appears.

Here a simple procedure is very practical. An enema is not necessarily used to move the bowel or its contents, but simply to change the relative ratio of the intestinal flora.

There are both friendly and unfriendly bacteria in the colon, and occasionally when the "unfriendlies" gain the upper hand in a population census it puts an additional burden on the liver. The main function of the liver is to detoxify the lower bowel, and in the epidemics of hepatitis that occurred in our country following World War II due to the excessive use of D.D.T., the so-called "Texas Treatment" for hepatitis was used widely. This was simply the inclusion of 7-Up, the soft drink, hard candy for its glucose availability, and a non-absorbable intestinal antibiotic. Basically this was a fasting technic with amounts of glucose available so the liver could function, and by taking the non-absorbable intestinal antibiotic it sterilized the bowel and took the load off the liver. This was the "crisis cure" method, but it was a practical one and it worked.

The main reason I mention it is because it shows that the basic purpose of the liver is to detoxify the bowel, and if you take the load off the bowel it automatically helps the liver. Therefore, sometimes at the first sign of ill health—which may be indicated by headache or fatigue or some other type of discomfort such as sinus, mucus accumulation, skin eruptions or even diarrhea—a simple enema, a quart of water and the juice of half a lemon, is a very practical measure. You can wash out both friendly and unfriendly bacteria, and you can always get more "friendlies" by the absorption of lactic acid products such as buttermilk, sour cream, yogurt, and that sort of thing.

Under those conditions when the enema is not continued but we wish to change the intestinal flora rapidly, we have used a product which contains the lactic acidophilus bacteria called Zymex, and we have found it to be very effective. It is manufactured by the Standard Process Company, but many other companies have similar products.

Cleanliness

Bathing daily is essential as anyone knows, but what most people do not understand is that most soaps leave a film, In fact, some of the more commonly advertised soaps having deodorant qualities base their effect on the fact that a film is left. The film has a tendency to block the pores of the skin, so I suggest that except in the case of unusual circumstances, soap be used only on parts of the body where secretions accumulate. The rest of the skin should be washed vigorously with a washcloth, but no soap should be used. In general I suggest that a shower be taken first to cleanse the body, and soap used as mentioned on parts of the body where secretions accumulate such as the buttock area, the groin area and the armpit. Then the material should be washed off. Then if one wishes to take a bath for relaxation one should bathe in clear water.

The addition of epsom salt to water many times has a tendency to help dissolve the tiny, tiny secretions of uric acid that do accumulate in the sebaceous areas of the skin and also the sudorific or sweat gland areas.

We frequently use this particular approach: A couple of handfuls of epsom salt in the hot bath water for people who perspire extensively at the armpit or at the foot, along with an increased amount of water

intake, since many times the pores of the skin have been blocked and therefore the excessive secretion emerges by way of the axillary area at the armpit, or at the feet, or at some other area. This is a common complaint and usually responds to an increase in water and a decrease in the amount of soap, along with an increase in the activity of the pores of the skin in other areas. Stay in the bath for 15 minutes, then cool off slowly.

General

The use of whole grains is, as one would expect, a good idea—but grains themselves produce an awful lot of waste in the body and there is a tendency sometimes to over-consume the product since it seems to be such a natural substance. However, anything more than two slices of bread a day seems sometimes excessive, and this should be used as a guide. In my own personal situation I frequently will find sources of the materials found in grains in other foods that are high in Vitamin B substances and frequently will not eat grain products for many days at a time. This is a personal preference, and everyone has their own protocol which they set up with their own body. Everyone's body is different, but these are my own observations and seem to be reasonably effective for good health and good energy.

One's health should be such that one should be able to have a Coney Island hot dog with all the trimmings or a bowl of Texas chili with all the concomitant additions that one adds to this sort of thing, and not become ill. One should tolerate such excursions from normality without any distress, and if one has to follow too rigid a diet one's body lacks the latitude to allow it to do so, and therefore it is generally a condition of poor digestion or poor elimination. This is not a recommended procedure, but it would stand to reason that this is so, since some can do it easily without a problem.

One's diet should be as broad as possible across the spectrum of fruits and vegetables and other varieties of foods that the good Lord has provided us. Personal observations that such-and-such and such-and-such don't agree with one may lead one to a very restricted diet, which usually indicates that there is something wrong with the process of digestion rather than a poor choice of the materials available.

Many times a person who is allergic to strawberries will get along fine if he will consume the strawberry along with the strawberry leaf after it has been cleaned. The person who says that he has trouble eating radishes many times will do very well if the radishes are cooked with the radish top—if they are cooked or eaten raw with the radish top. The good Lord does not make mistakes; we generally do; and it is a very simple procedure that shows the error of our ways.

There is an old expression that says, "All flesh is grass." Therefore, the ardent vegetarian who looks down his nose at the meat consuming individual sometimes is simply not borrowing the energy of the animal to convert the grass fodder into available protein. Some people who are highly energetic by the nature of their metabolism do very well on vegetarianism, but some of the sickest people I have seen in my life have been vegetarians who have faithfully attempted to practice the principles of vegetarianism. The vegetarian foul breath and odor of flatus is not readily forgotten.

This is not an attack on vegetarianism, but some people simply do not digest and absorb the protein made available to them, and our experience with vegetarianism has shown this. Then there are others who do very well on a vegetarian diet, maintaining normal protein levels. The criterion, or the bottom line so to speak, should be: "How does one feel?" "How does one look?" and "How does one act?"

The more self-energized, the more abundant the source of natural energy, the less of the animal protein

should be used. In a general sense this is true. One should consider that the previously mentioned intestinal flora may be the source of some of the so-called toxins, and many times poor food combinations set this up, and it is not necessarily animal protein that is at fault, although it is frequently pointed to with a discerning finger by people with a fruitarian or vegetarian concept.

It is easy to say that moderation and a temperate choice of dietary substance is wise, but this is the true evaluation. Certainly the diet should be varied. If one has an appetite for a particular thing, it is wise to follow the appetite granted it is a natural thing, but let the body choose from a wide variety of materials.

In general there are many things that the good Lord has provided which are not necessarily present in the formula of even a natural substance that a pharmaceutical or a vitamin manufacturer has produced.

Prior to the discovery of Vitamin B12, Vitamin B12 was not in the standard Vitamin B capsule, yet in nature Vitamin B12 has always been there. I am sure there are many other substances that will be discovered that are already present in natural foods. The concept is, how does one get them. Many times taking foods in their natural order produces an ingestion of many of the very, very minor trace elements that are part of our natural dietary. Many times people try to balance health problems by diet alone; "What foods contain whatever it is that I need" is a reasonable question.

The amount of the needed substance in food sometimes is very small—it is like trying to fill your gas tank with an eye dropper—and sometimes therefore natural concentrates are needed. The advice of a physician properly trained in nutrition is always wise to seek when one has the need for this type of supplementarion.

Nutrition is both therapeutic and preventative. In general it is wise to prevent the problem, but nutrition can be therapeutic when the proper concentrates are used with the proper discretion and the proper diagnosis, and here is where Applied Kinesiology is of great value. The previous material in this book will demonstrate to you the accuracy of the need for good diagnosis and supplementation.

A happy heart, good will towards men, and freedom from anger and envy—and all the other things that we are into—greatly aid digestion and also longevity. Never let the sun go down on your anger is a good thing; a better thing is: do not give in to anger. Some of the old aphorisms of turning the other cheek mean literally that, and one should not allow the explosions of anger which one feels one should have unless the situation is very extreme.

Love thy neighbor as thyself is very important, and loving the good Lord who has provided all the life essentials we need is also of good value—but one cannot love thy neighbor as thyself if one does not love oneself. Therefore, find some reason to love yourself. That means do good for others. This allows the old aphorism to have a more cogent effect.

I believe coffee is not a bad source of niacin and ground fresh and properly prepared with water at 195 degrees rather than at the boiling level. I have never found any real detriment, and many patients with stomach trouble are greatly helped by the proper use of coffee. Coffee has a therapeutic and beneficial effect when taken in small quantities, but instant coffee is generally the catastrophe that should not have happened. It is simply a convenience food, and like so many convenience foods, it has no nutritional value and many times has a detrimental effect.

Freshly brewed tea is occasionally used as a stimulant and one regards it as such, but many times tea has a tendency to interfere with the absorption of some forms of iron and therefore a steady diet of tea, in addition to the tannic acid involved, is not a wise procedure.

Natural fruits, natural vegetables, and meats in their natural state in small quantities, should be used; and certainly the use of butter has been a lifelong and many-times-century-proven substance, and the present trend toward the use of fat substitutes should be looked at with the experience of the many years of use of dairy products by many countries with good health backgrounds. A little knowledge is a dangerous thing, and many times only a commercial aim is served by the choice and change of some of our commonly accepted foods.

In general milk products and cheese products are available sources of many nutrients. There are 32 grams of protein in a quart of milk, and there are only 16 at most in a New York sirloin, but sometimes the other substances are rather more difficult to get out of the milk as it has been pasteurized and processed. Therefore, one has to judge "the book by its cover," but one also has to judge its contents. Since wooden "two-by-fours" many times contain carbohydrate in abundant quantities, but it is not quite as available as it should be—so sometimes a list of what something contains does not necessarily mean that these contents are available to you.

Cheese products seem to have less detriment than milk products, and milk products in general should not be used as fluid intake. There, again, water is the key.

Another aphorism, "What is good for me is not necessarily good for thee," is a true one. Therefore, personal experience should be used, but the example cited earlier in this particular chapter of eating what the good Lord makes and avoiding what man makes, all things being equal, can be followed with a great deal of good effect.

One can find the good in things rather than the bad. If you can light a candle rather than curse in the darkness you can establish a way of life that allows you to enjoy life rather than to continually rail against the problems which you have to confront.

We have little posters in the office that we change from time to time, and there is one in particular that I remember that said, "There are those that say, "Why, why—and cry," and then there are those that say, "Why not—and try and try." One's attitude influences how one feels, and sooner or later it also influences one's face. After one is 40 years old one is responsible for one's own face, according to Lincoln, who was once asked to promote a gentleman to a postmaster job. When Lincoln demurred, the applicant mentioned that he had been a very fine supporter of the party for many years and had so-called "paid his dues." Lincoln demurred again and said that he didn't want to appoint him as a postmaster because he didn't like his face. His applicant asked what did his face have to do with it, and Lincoln replied that after you are 40 years old you are responsible for your own face. This is good advice, because you cannot harbor greed and envy and jealousy and hate and not have it show both in your digestion as well as your complexion.

Six to eight hours of sleep in a comfortable bed is a necessary requirement for repose. Try to thank the powers that be for the values you receive in a day. For instance, if you are a doctor think of the patients you have helped, and in trying to help, and seeing them as being helped, see your problems as being solved. Have good goals and mental resolve, and having planted the seeds of positive thought, close the door on those seeds and simply turn over and go to sleep. It is surprising how many of those

seeds will bear fruit and nourish both your body and your mind and your psychology for many months to come.

The humorous comment that some make that "When the slings and arrows of an outraged fortune have caused all about you to lose their heads and you do not lose yours, it may be that you just don't understand the situation," could well be true. Adversity is simply a method of tempering and making more true the steel of your resolve that lies within your body. Where you have a man there is a spark of divine providence that sometimes lies rather hidden; but if one can enlarge that flame and live within it, rather than it living within you, you will affect all around you with the lightness of your heart and you will literally "catch on fire," and people will come from miles around to "watch you burn."

You can only keep what you give away. If you give away goodness, kindness, love, understanding, knowledge, interest and professional ability, that's what you get to keep. But if you attempt to keep those things, you have an ever-diminishing supply. Learn to give away that which you have learned; learn to give away that which you treasure; learn to give away that which you tend to covet—and see how your supply is doubled and redoubled as time goes on. The key to keeping is to give. Keep the channel open and there is always an abundant supply. Close the channel and the life force begins to wither on the vine.

Principles such as these influence your psychology and influence your physiology, and your attitude many times has more to do with your digestion than the enzyme base upon which you operate.

For physicians, a clear evaluation of the patient's problem, with appreciation of what has been done what will be done and what is being done, many times provides a thought image in a clarity form that the patient can literally sense and which is of great help in the production of a good response.

In lots of things you make good things by making good thoughts. The basis for making good thoughts: Life is not a Pollyanna thing; the same force that makes the beautiful sunset and the beautiful rainbow also makes tornadoes and hurricanes, so nature must be controlled; make it your ally rather than non-committed friend.

The body is intricately simple and simply intricate, and all one has to do is appreciate those facts and operate accordingly. Health is a state of mind and also a state of expectations. There is an old aphorism that says, "All that is necessary for evil to prosper is for good men to do nothing." You have to do SOMETHING. Doing something is to follow a natural diet and also follow natural processes of thought and expect good health, rather than to expect it without doing anything on your part.

An elderly Hungarian man was attempting to teach me Hungarian and, phonetically, "to go in good health" is to say "ish ton odumek." He responded very well to treatment when I first knew him, but finally, at the age of 90, he developed a very severe pneumonia for which we put him in the hospital.

I was visiting another patient who had had a stroke, in the same hospital, and was counseling her as to her eventual recovery, when he called to me from underneath the oxygen tent for me to come and see him. I told him I'd be there in just a second, and walked over to him. He put one hand out from underneath the oxygen tent as if to grasp my hand. I smiled at him, he smiled back at me, because we were old friends. He grasped my hand with a reassuring handshake, looked me in the eye with his 90-year-old beautiful blue eyes, and said very clearly to me while he shook my hand, "Ish ton odumek," and promptly died at that particularly moment. It was a very moving moment for me, and a very well

remembered episode in my early professional life. Here was a man who was ready to go and knew when he was going, but decided to take the time to say goodbye to a friend.

I shall never forget that moment. It still brings tears of appreciation to my eyes when I think of the courage of that fine gentleman.

My father in his wisdom had much common sense. I had five Italian women patients, all of whom were sisters and all of whom had migraine headaches associated with the onset of their regular monthly periods. They would have four or five days of tremendous headache pain during which everyone would have to walk around on tiptoes, and the children couldn't speak or play. The women would have to stay in a darkened room until finally, after four or five days of terrible head pain accompanied by much nausea, they would eventually vomit some vile smelling greenish liquid, and then they'd be free of the problem for a month or two until it recurred.

I was attempting to treat these patients without much success, and my father questioned me one day, saying "You're not doing too well with those Italian sisters, are you?" I replied, "No, I'm not. Not at all. I don't seem to make any headway at all." He said, "Well, I don't think you will. They are all sisters, and that's a hereditary problem, and that's pretty hard to change." I asked, "Well, then what do I do?" And he said, "Well, the history indicates that they all have the problem, and that after four or five days of intense pain in which they almost have to be isolated from any outside stimulus which would aggravate the condition, they then throw up and that seems to relieve them. Is that correct?" I said, "Yes, that's the history." He said, "Well, make them throw up the first fifteen minutes—give them some ipecac (a common childhood substance to produce vomiting)." A small amount of old-fashioned ipecac quickly changed the pattern of a five day headache to one of fifteen minutes, with an eventual clearing by a conditioned reflex activity.

I never got over my father's wisdom in this particular regard. common sense is hard to come by, and sometimes we strain at gnats and swallow camels.



Chapter 25

TEMPOROMANDIBULAR JOINT

*Why The TMJ (Jaw Joint) Is The Most
Important Joint In The Body And How
It Affects All The Rest Of The Body*

The jaw joint, which is termed the temporomandibular joint (TMJ) gets its name from the two bones that make up the joint. The temporal bone of the skull and the mandible (the jaw bone) fit together to form the hinge-like joint of the jaw.

Dentists have known for a long time that temporomandibular joint dysfunction can cause symptoms far away from the joint itself. Headaches, back pain, and pain across the shoulders are commonly relieved after the temporomandibular joint dysfunction is corrected. More recent evidence shows that the temporomandibular joint can cause functional problems throughout the body.

Let us look at how the temporomandibular joint functions and what causes problems; and how dysfunction causes problems throughout the body.

The temporomandibular joint has a much more complex action than acting as a hinge, although it is classified as a hinge-type joint. In opening and closing the mouth, it is true that the temporomandibular joint acts as a hinge, but when chewing there is a more complex movement of the joint to give the teeth their grinding action. During this grinding action one temporomandibular joint slides backward while the other slides forward. Place your fingers on your jaw joints and move your jaw to the side as if chewing, and you will observe this action. When your fingers are placed on your jaw joint they should be just in front of and below the opening in your ears.

Observe for clicking of the jaw while your fingers are in this position. There should be no clicking or popping of the joint as it moves through its complete range of motion. If there is, this is an indication that the joint is not functioning normally. Sometimes only you can feel this as a lack of smooth movement, and only you can hear it, but at other times this clicking noise is audible to people near you.

To examine, determine the balance of temporomandibular joint activity and the muscles which move the jaw through its range of motion. When there is an imbalance it can often be corrected by balancing the jaw's muscular activity with Applied Kinesiology technics, which usually produce an immediate balancing of the muscle.

In some cases it may be necessary to have the bite (occlusion) balanced by a dentist to maintain the temporomandibular joint balance.

The balance of the hyoid bone in the neck is closely associated with temporomandibular joint activity. This bone has no direct contact with other bones, being held in the neck by muscles which hold it like a sling. The muscular balance of the hyoid is very important for normal body harmony. The balance of the hyoid and its muscular structures is monitored by nerve receptors, called proprioceptors, within the muscles and tendons of the hyoid. These receptors send information to other muscles and into the network of the nerve system. Examine the hyoid and associated structures for balance similar to the temporomandibular joint muscles, and it is possible to balance these structures using Applied Kinesiology

technics when necessary.

Neurologic confusion can result when the temporomandibular articulation or the hyoid and its associated structures are functioning abnormally. A very high percentage of nerve communication from the brain is received by this particular area of the body, so confusion within this system can override into other systems of the body, and because of improper nerve function cause health problems literally throughout the body.

We are able to treat more of the health problems to which man is subjected as we learn more about the controlling mechanisms within the body. And we are finding that more and more problems are being treated far from the site of the symptom itself. A few years back we would never have treated a sacroiliac pain at the site of the jaw joint, but it is not uncommon today.

Disturbances of the temporomandibular joint cause many problems, as we have said. Many structural problems are related to the temporomandibular joint, but Harold Gelb, Director of the Temporomandibular Joint Clinic of the New York Eye and Ear Infirmary says that the problem is actually an orthopedic one. To quote: "If one leg is shorter than the other the entire body is unbalanced." The jaws work the same way. If the teeth don't meet properly, the jaw becomes very disturbed in its motion. Problems of non-occlusion and bad bite produce many remote problems.

Dr. Willie May of Albuquerque, New Mexico was widely known for his joint equilibration—a word which literally means "equalizing the muscle forces." Sometimes dentists file teeth to change their slope, or even their surfaces, to correct or restore a muscle balance. Occasionally orthopedic appliances or orthodontics may be needed. Or the so-called night splint might be needed—the equilibration device which is personally molded for a conjunctive correction in temporomandibular joint situations.

The brilliant work of Bernard Jenkelson, D.M.D., of Seattle, Washington, from the "*JOURNAL OF PROSTHETIC DENTISTRY*," St. Louis, Vol. 30, No. 4, Part 2, pages 550 to 560, in describing the functional positions of occlusion, mentions the use of an instrument called the Mandibular kinesiograph, which senses a magnetic field and electronically tracks mandibular movements in three planes. It simultaneously provides a write-out of the data on a multi-channel oscillograph or oscilloscope. It records horizontal, vertical and lateral movements, and their velocity. It determines and records mandibular position during chewing and swallowing when voluntarily retruded, when voluntarily closing to the centric occlusion, and when closing under the influences of electronic stimulation to the myocentric position. Dr. Jenkelson uses a device called Myo-Monitor to stimulate the muscles involved in mandibular movement, and to decondition the relaxed muscles which have developed what he calls an amnesic condition to proprioception of what exists in the normal closure.

An article written by Edwin T. Jach, MS, DDS, a brilliant physiologist as well, from the Chicago Dental Society publication, CDS Review, January 1974, pages 20-22, describes the action of the Myo-Monitor, and it describes the Jenkelson approach. He observed that in patients whose teeth had been absent for many years, in attempting to do a dental reconstruction, they were able to capture the proper lip support close to what existed in the natural dentition. He mentions that it appears that the muscles retain a "memory" of this position through the years, and when stimulated without voluntary control against minimum resistance, return to the original position.

As he mentions, a question has always existed about centric occlusion and centric relationship, and

these technics observe that the temporomandibular joint expresses a functional position instead of a static one.

Experience has shown that this memory pattern that the muscles maintain will remember what is most comfortable for the muscles of mastication. He has shown that this comfortable, functional position is identical with the position that the mandible and the maxilla take in the swallowing position. Dr. Jenkelson called this point in space where the mandible and maxilla meet for maximum muscle comfort and function, the "innate" position.

Many an orthodontist, in the view of Dr. Jach, has mentioned that the innate position is the goal they work for in their cases. In cases of bruxism and trismus, and to allow the reduction of post surgical swelling following oral surgery, the innate position is the optimum position for the best response.

Jenkelson says, "The ideal relationship of the jaws when the teeth are occluded is that position reached with the mandibular muscles in equilibrium at the resting length, subsequent isotonic contraction of the muscles causing the mandible to rise without interference to the height of the inter-occlusal space. In a physiological occlusion no contact is encountered until closure terminates with solid simultaneous contact of all the opposing teeth. This is known as the myo-centric position.

"Because closure to this position begins with the muscular pattern in a state of relaxation (balanced tonus) and continues with free muscle contraction uninfluenced by proprioception, the resultant myocentric position is most compatible with maintaining a state of relaxation of the musculature."

Because of the sensitivity of proprioception in the mouth, correction of even a small amount may constitute a beneficial relief to the musculature. Relaxation of the musculature is subsequent to alteration of existing non-coinciding centric occlusion to the myocentric position. It has been measured on the mandibular kinesiograph, and when subjected to simultaneous sagittal and frontal plane recording on the kinesiograph, it is apparent that the reaction of the pathway of the mandible to the occlusion is unpredictable from patient to patient. As the mandible retrudes, its characteristics simultaneously deviate to the right or to the left, and it is seldom in a straight antero-postero path. Significant changes also occur in the vertical and lateral planes along the long central pathway.

The concept that it is desirable and relatively simple to arrange the occlusion to be stable at the centric occlusion position, and then to arrange a free anterior pathway to centric occlusion position, would appear to be over simplistic. It ignores the complex changes that are introduced when the mandible is positioned in different locations.

Measurement is the essential criterion for testing and confirming occlusion relationships. If something can be measured it is a fact; if it cannot be measured it is simply an opinion. In applying the criterion of measurement to occlusion, we are getting the complex physiology of what is called the "stomatognathic" system, consisting of the interplay of muscles, joints and teeth. Physiology of this area is dynamic. Noxious stimuli and occlusion influence mandibular position. Static measurements that isolate a single factor, such as the position where the teeth finally contact, can be more misleading than enlightening, for the final contact often reveals disruptive factors that influence the "navigation" to the contact position.

In dentistry, the basic functions are incision, mastication, deglutition, and formation. The only way to note the relationship of the jaws that actually occurs during these functions is to track the mandible

while patients incise, chew, swallow and speak. The only way to know where a dysfunction occurs is to track the mandibular function during flexing or grinding of the teeth. Measurement of mandibular kinesiology has already proven to be an invaluable new tool in everyday occlusive diagnosis. The mandibular kinesigraph is a product of Myotronics Research, Inc., in Seattle, Washington.

A small magnet is affixed to the lower incisors. There are six sensors attached to a 4 oz. frame on a pair of glasses that are worn by the patient, which allow the tracking of the field of the small mandible magnet which is attached to the lower incisors. The most minute mandibular movement is therefore accurately determined, and there is a kinesigraphic oscilloscopic which monitors the frontal, anterior-posterior, and horizontal mandibular movement. This, in combination with an oscilloscopic camera, allows an abnormal position to be photographed with the polaroid attachment and provides a permanent patient record for diagnosis and for documentation in case of malpractice claims.

This mention of the mandibular kinesigraph (MKG) by no means constitutes an endorsement on our part of this particular instrument, but it is a valuable one and highly recommended for use by the dental profession, to whom kinesiology is becoming a greater and greater field of investigation and usefulness.

You are all familiar with the homuncular studies of Penfield, who did the original brain mapping; and both motor and sensory sequence will show that a large portion of the brain cortex is devoted to the throat, inside the mouth, the tongue, the teeth, the temporomandibular joint, the lips, and the face. In other words, there is a homuncular nucleus which is prodigious in its backup of brain cells devoted to the temporomandibular joint.

An example might be that there are 3,000 brain cells devoted to the temporomandibular joint, with 300 for the entire sciatic nerve-leg situation. A homuncular study would show in diagrammatic fashion, a large face, enormous lips and teeth, a large tongue, a minute thorax, trunk and lower leg, but a fairly large hand, to indicate the prodigious profusion of brain cells devoted to the face, and especially the temporomandibular joint. Dr. Willie May feels that the temporomandibular joint is a computer of vast proportions, and we certainly agree with this concept.

The activity begins with therapy localization to the temporomandibular joint by having the patient place his fingers on the left and right side of the temporomandibular joint. Make certain the patient's fingers are accurately placed on the temporomandibular joint. The patient is then asked to open and close the jaw rapidly, clicking the teeth so to speak. A muscle is tested, such as the fascia lata. The fascia lata, naturally, must be intact, and therefore the muscle must be strong to begin with. The patient is asked to open and close the mouth. If weakness occurs, the next step takes place. The next step is to simply have the patient open wide, with both hands in position on the left and right mandibular joints. The patient is then tested again, the fascia lata is then tested, or any other muscle for that matter. If no weakness occurs, the patient is then asked to close the jaw and the muscle is then retested. If weakness occurs, the patient is asked to lateralize by moving first one hand and then the other until the side of therapy localization is identified.

If on temporomandibular joint therapy localization no weakness occurs on opening and closing, the patient is asked to lateralize—move the jaw sideways, so to speak—using the lateral and mandibular muscles in left and right position, both open and closed. The patient is then muscle tested again for weakness. If no weakness occurs in this position, the patient is asked to gently close the mouth, and then asked to swallow, and the fascia lata is held constant in a test position while the patient swallows. Then if weakness occurs, therapy localization will then identify the side and appropriate action can take

place. If no weakness occurs the patient is asked to chew an almond first on left—then on right; therapy localization and muscle testing are again performed. Experience has shown that most problems occur on closing, (with head in usual position sitting or supine), and there are four muscles that are associated with closure of the temporomandibular joint: The masseter, the buccinator, the temporalis, and the internal pterygoid. Experience has also shown that activity of the masseter and buccinator are usually involved and usually the spindle cells of the masseter and buccinator have been set too high. Therapy localization to one side or to the other of the temporomandibular joint will reveal the side involved, and experience has shown that approaching the spindle cell on the masseter slightly above its insertion above the ramus, and approaching the spindle cell on the buccinator slightly below its origin on the maxilla, provide the best method of organization of the spindle cells' aberrated activity.

The thumbs are used in apposition—one thumb placed on the masseter spindle cell, the other thumb placed on the buccinator spindle cell. The masseter's thumb position is on the lower portion of the masseter, and the other thumb position is on the upper portion of the buccinator. The thumbs are separated by perhaps half an inch, the thumbs in a vertical direction in relationship to the patient's head, one thumb pressing in a vertex direction, the other thumb pressing in a caudal direction. The thumbs are a half inch apart on the average patient, and firm hard pressure is directed into the belly of the masseter and the belly of the buccinator, and the thumbs are brought together with a firm 5 to 8 pounds pressure. This is done quite quickly, within a 5 second period. The patient is then re-therapy localized and there should be no weakness on opening or closing. This is naturally being done in the closed position. The patient is asked to close the jaw and the muscle, such as the fascia lata, is retested, and there should be no weakness noted either in closing or in a possible swallowing position associated with closing.

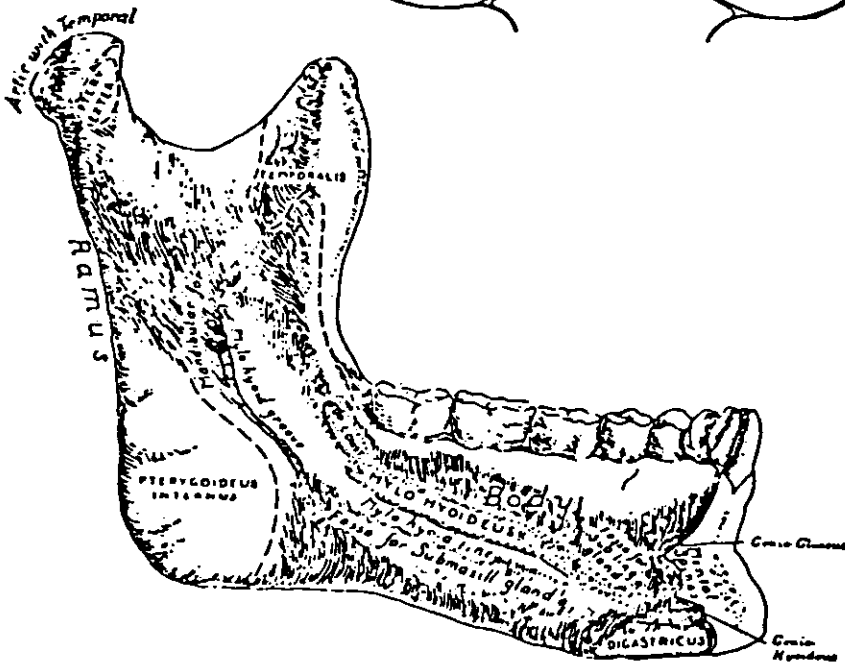
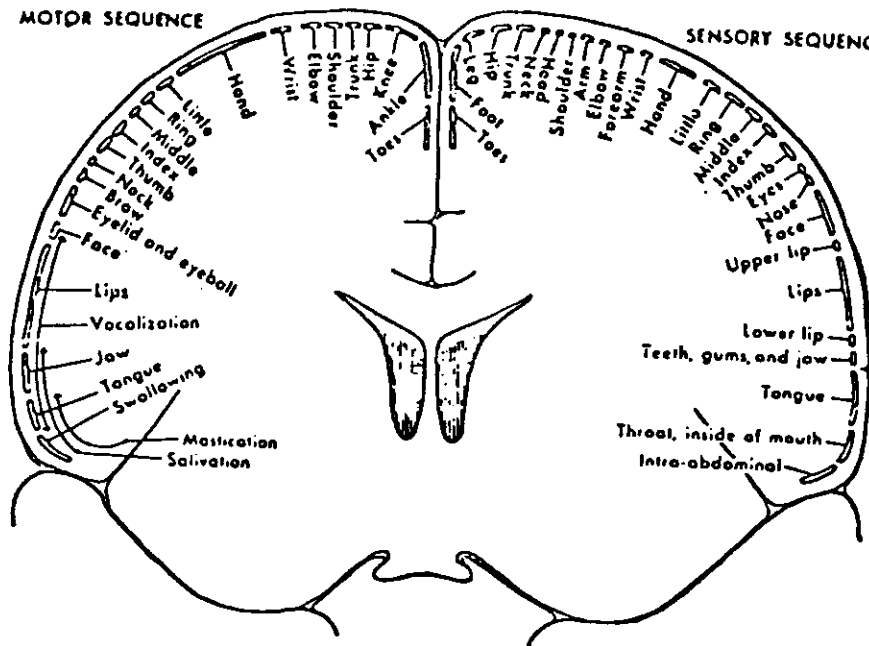
In the relatively rare situation where the jaw therapy localizes to the left or to the right in the open position following therapy localization or a lateralization left or right, the mouth is opened and the finger or thumb is directed to the belly of the external pterygoid. The muscle which opens the jaw, and the spindle cell mechanism of the external pterygoid, is quickly and firmly contacted with the index finger and a hard pressure is applied to the spindle cell, first at its posterior and second at its anterior position. The belly of the external pterygoid is contacted and a rapid anterior and posterior directional force is applied to the spindle cell mechanism in the belly of the external pterygoid. Therapy localization is then reapplied and the mouth is then opened fully. There should be a good response under these conditions.

Therapy localization will reveal the side, patient occlusion or opening will reveal the mode, in which the spindle cell activity should take place. If an occasional lateralization does occur, it usually occurs in an open jaw position, and when the opening of the jaw produces a negative response if there is a muscle testing, the patient is asked to contract only one side of the jaw muscles with the jaw in the open position and the jaw is lateralized to the left and lateralized to the right in open position. If on therapy localization weakness occurs, the external pterygoid is again approached in the same fashion as it would be for the open jaw, and appropriate spindle cell activity takes place.

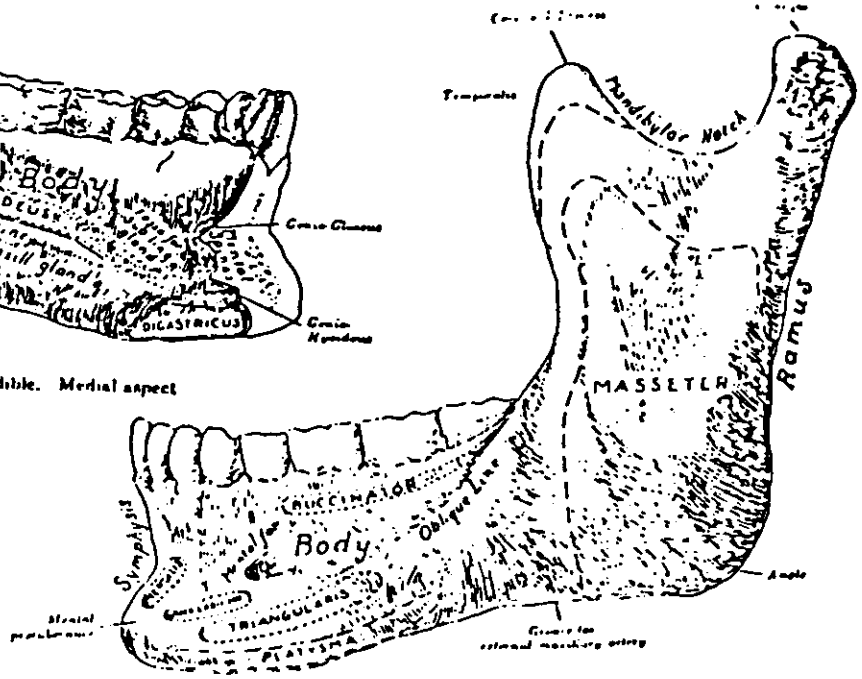
Previous postural research reports have indicated that opening of the jaw is accomplished with great difficulty by many patients, as opposed to closure. This affects the posture. Many patients, when asked to open the jaw will simply open their head, retracting the occiput in an effort to allow the mandible to drop. One of the most frequent methods of identifying poor posture is simply to ask the patient to open the mouth. Most patients when asked to open the mouth, open their head. Therefore be sure to test difficult patients in neck extended position.

MOTOR SEQUENCE

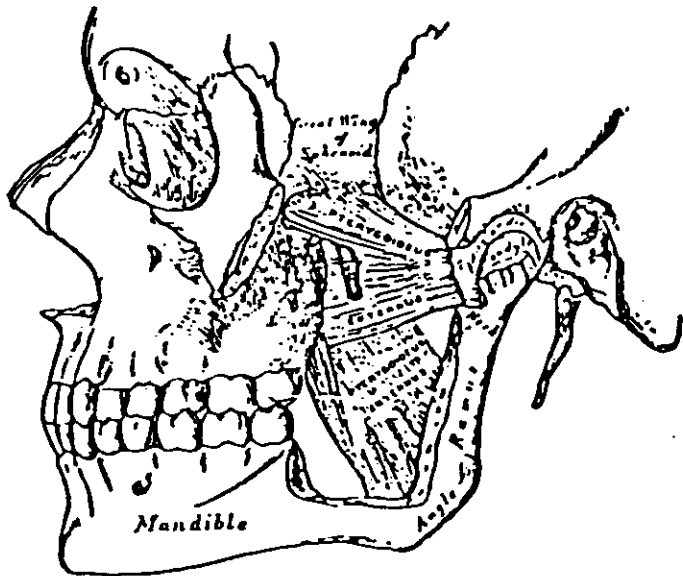
SENSORY SEQUENCE



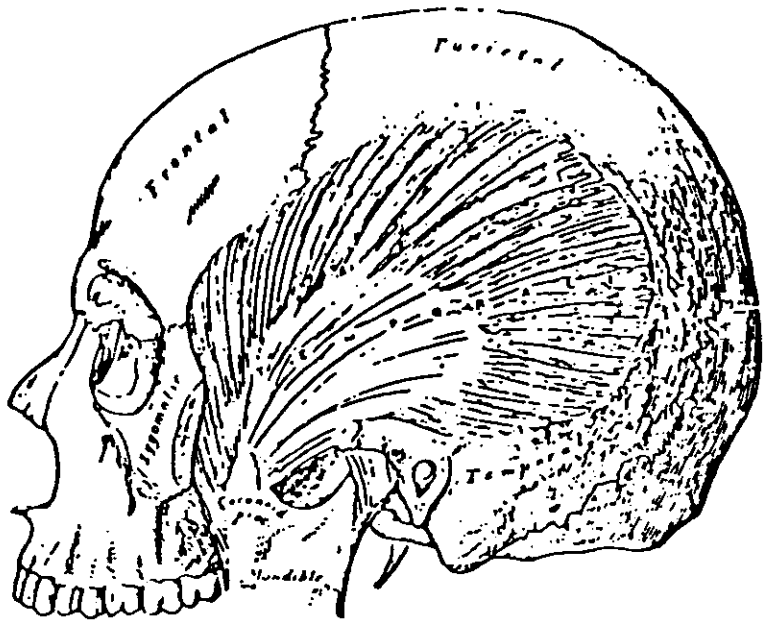
The left half of the mandible. Medial aspect



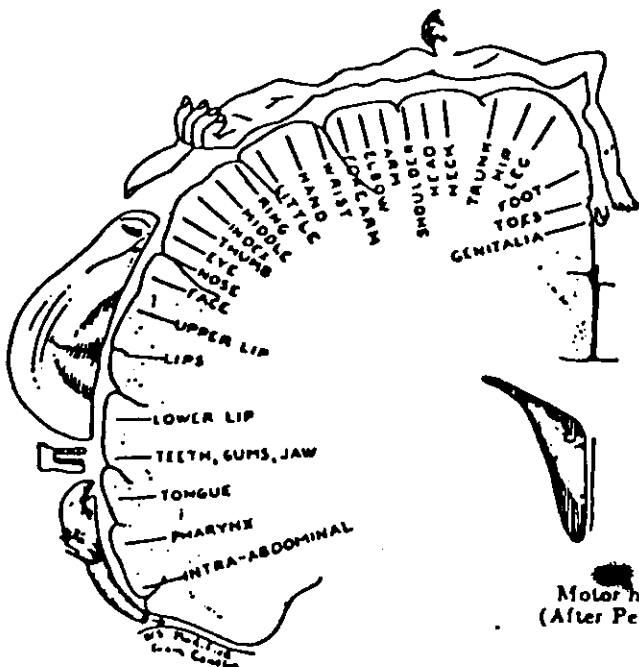
The left half of the mandible. Lateral aspect



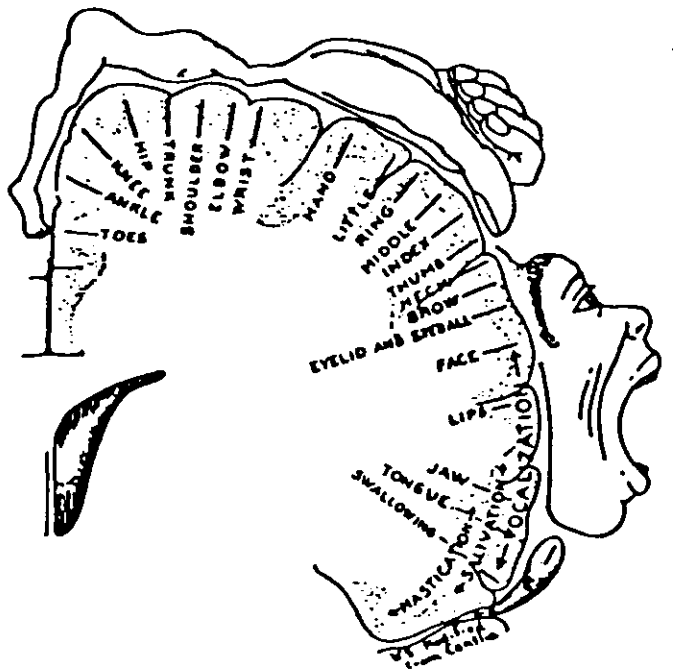
The Pterygoidei; the zygomatic arch and a portion of the ramus of the mandible have been removed.



The Temporalis; the zygomatic arch and Masseter have been removed.



Sensory homunculus showing representation in the sensory cortex (after Penfield and Rasmussen, *Cerebral Cortex of Man*, Macmillan Co.).



Motor homunculus illustrating motor representation in Area 4 (anterior central gyrus) (After Penfield and Rasmussen, *Cerebral Cortex of Man*, The Macmillan Co.)

The inference here is obvious—that there is a difference in spindle cell activity and reactivity of muscle. The masseter and buccinator react to the external pterygoid. The external pterygoid reacts to the masseter and buccinator. It is rare to find an involvement of the internal pterygoid or the temporalis. When this occurs, naturally one would approach the spindle cell of the internal pterygoid and the temporalis as well as that of the masseter and the buccinator.

It is wise to remember that gentle slight occlusion is necessary for swallowing and to therapy localize during swallowing. It is also wise to therapy localize in the rare case during phonation. Have the patient speak, and to make sure that the pathway is normal. The treatment remains the same—activation of the spindle cell of the reactive muscle with pressure in the belly. It follows the principle of reactivity.

The value of the use of MKG, and also the value of all types of TMJ activity, is the homuncular nucleus representation.

First, the TMJ, and second, its computerization effect. Many, many times you will find subluxations or alterations of structure which are compensatory and when for example, posterior ilium or posterior ischium is found, if it is a compensatory problem, normalization of the temporomandibular joint will quickly restore the sacroiliac joint to normal, by the normal body forces which usually operate to maintain the physiological homeostasis of the structure.

The influence of the TMJ on structural alterations is phenomenal and prodigious; yet, if the TMJ does not provide a normal response, the structural alteration must be adjusted in the usual fashion. Most compensatory subluxations respond to temporomandibular joint activity; primary subluxations do not. We routinely screen patients for temporomandibular joint activity as part of our original diagnostic input, and therefore this technic is most useful not only for its local implications, but also for the structural implications that exist via the TM joints' homuncular activity.

Like all other reactive muscular activity, we recommend the use of the raw veal bone source, such as Osteotropic extract provided by Nutri-dyn, or Ostogen supplied by Standard Process. Three a day should be the input and should be maintained for a period of a couple of weeks, and then the muscle is allowed to resume its normal function. Then reassessment of activity should take place.

Naturally, the patient should be advised to chew them if at all possible, although results occur if the patient swallows the material without chewing it.

Be certain that you challenge the TMJ both in the supine, prone, standing as well as sitting, position. Make certain that you therapy localize the TMJ on the involved side to the acupuncture circuit involved, which is the stomach meridian. Placing one hand on the involved TMJ after it has been treated, and placing the other hand on the alarm point for the stomach, which is approximately an inch and a half superior to the umbilicus, therapy localize once more. If you get a muscle weakness on therapy localization simultaneously in the TMJ and the acupuncture alarm points in the stomach, then the acupuncture alarm points for the stomach must be activated in the usual fashion.

In other words, contact with one hand S41, and with the other hand contact SI 5, and hold momentarily for 20 or 30 seconds. Remove your hands and then contact #43 simultaneously with G 41, holding momentarily for 20 or 30 seconds. Then remove the hands and reapply therapy localization technics to simultaneously test the temporomandibular joint and the acupuncture alarm point for the stomach.

It is important that you also challenge the TMJ during normal jaw closure position, with the patient swallowing, and under rare conditions as was mentioned earlier, with the patient speaking or in the process of active phonation. These are treated in the usual fashion, and it usually will be on the jaw closure, the masseter, or buccinator—although occasionally the internal pterygoid may be involved.

It is occasionally necessary to apply the spindle cell mechanism in rare instances during phonation, or during swallowing. When therapy localization occurs, it is occasionally necessary to do the spindle cell activity during that particular physiological process—that is, phonation or deglutition. This technic is by no means a substitute for proper dental care, and consultation with a dentist whose interest in the TMJ is the same as yours is paramount to the production of a well satisfied and well functioning patient.

The principles of reactivity in muscle testing has been validated by J. Triano, M.D., D.C. and B.D. Davis, Ph.D. of Logan College in their paper "*REACTIVE MUSCLES, RECIPROCAL AND CROSSED RECIPROCAL INNERVATION PHENOMENON.*" (1976 Collected Papers of Diplomates of ICAK.)

I had a very good friend who was a relative of the first publisher of the New Yorker magazine, a magazine which I've always had great fondness for, and for which I've had a subscription during the last thirty years.

Because of this relationship, plus our usual doctor-patient relationship, we became quite good friends.

He travels quite extensively, and when he came back from South America he brought back a tooth that he had found in some old ruins. The tooth had been filled with jade, which was interesting, but the method used was more interesting. In modern dentistry, generally the cavity is excavated and drilled out so that a wedge pattern is formed, with the wedge greatest at the bottom and narrowest at the top so it can't be dislodged or fall out. The interesting thing was that this was exactly how this tooth found in the ruins was filled. It was more or less pyramidal in character, yet of solid jade when X-rayed from several points of view.

This goes to show that there must have been some technology that allowed that type of activity to take place in that bygone era. I questioned many dentists about this, and they find it inexplicable.



Chapter 26

CRANIAL TECHNIC

*How The Bones Of The Skull Move Like The Gills
Of A Fish—and The Vestigial Gill Mechanism
Of The Skull*

The Respiratory Function of The Skull

Most patients, and many doctors, are unaware of the fact that the bones of the skull move in a definite pattern with respiration, specific movements occurring on inspiration and on expiration. This skull articular mobility was first observed by Sutherland in his casual observation that the beveled articular surfaces of the sphenoid suggested a resemblance to the gills of a fish with the obvious connection of a human respiratory skull movement.

The early efforts aimed at adjusting the skull articular structure were crude, and so-called skull molding was relatively ineffective except occasionally by accident. The brain sits on sort of a trampoline mechanism which resembles a cross between a trampoline and a circus tent in that the two cerebral hemispheres are separated, yet cushioned by the horizontal vertical trampoline tent construction of the tentorium cerebri and cerebelli, and this coupled with the water bed cushioning of the meninges provided a unique apparatus to give the brain both protection and functional ability. The choroid plexuses act as the parotid glands act to provide the cerebrospinal fluid which in turn is pumped by the blood flow as with the saliva, but more important by the respiratory movement of the bones of the skull. If there is an interference with the regular easy minute, but definite articulation of one skull bone with another, many symptoms result.

The patient who complains of an inability to concentrate on a simple written discourse, the patient who is never the same after a skull fracture or a mild concussion, these are cranial patients. Also, the recurring sacroiliac lesion with cerebral symptoms since, as you would imagine, the sacrum has a respiratory function as well; for, as the sphenoid flexes forward with inspiration on the accompanying forward movement of the sacrum it is lifted by the dura, since as you know, there is no attachment of the dura of any consequence below the 3rd cervical until the body of the 2nd sacral segment. So the end effect is a rotation of the sacrum with the base moving posterior and the sacral apex moving anterior towards the symphysis. During the anterior flexion of the sphenoid, the occiput moves inward at the base of the occiput and the superior section of the occiput moves posterior. When this system fails to function as it should, it locks, changes the flow of cerebro-spinal fluid and, as is well known, causes a change in the general lymphatic flow with a breakdown of both nerve functions as well as lymphatic drainage, depending on local conditions for the actual symptoms to develop.

The occiput, the sphenoid, the ethmoid, mandible, hyoid, vomer, and the sacrum all rotate about a transverse axis and such flex forward and extend backwards with each inspiration and expiration. The rest of the skull bones which, as you may note, are not midline structures, all either externally rotate or internally rotate, so the respiratory cycle accompanying exhalation of extension of the midline bones and an inward rotation of the peripheral bones.

So, can you not see the relationship of the respiration to the real beginning of life outside the uterus

and the initiation of respiration also initiates the skull movements as well as the movement of the sacrum with respiration, and any interference with these vital interrelationships can cause grave problems. The open fontanels and the relative absence of developed sutures are body insurance to prevent interference with this vital link in our body's physiological and neurological balance.

The implementation of the respiratory function of the skull is important in the management of hypertension especially, and is a necessary rehabilitation factor in all chronic conditions and requires very little time, is simple to apply, meets with immediate patient acceptance, requires no heavy thrusts or pressure—and the response, especially in the case of hypertension, is immediate and readily observable.

In the case of hypertension that is accompanied by a considerable increase in pressure on recumbency (normally, as you know, the pressure drops 6 to 10 mm. on lying down, the drop normally seen being replaced by a definite rise) points the way to kidney and liver subluxations generally in the region of 8 and 9 thoracic. Correction here by relaxation or stimulation by adjustment is effective, but in the case of persistent hypertension which fails to respond to the above technic, the use of cranial technic is especially useful. These cases generally show a much higher pressure on sitting or standing than the usual rise of 6 to 10 mm.

The patient is supine and the doctor is seated at the head of the treatment table. The doctor's hands are placed on the temporal bones of the skull, thenar eminences contacting the mastoid portion of the temporal bone with the fleshy part of the thumbs, second and third fingers fitting into the cervical musculature deeply. The fingers are merely anchored here, while the thumb's fleshy tissue presses rhythmically upward against the tip of the mastoid process, tending to rotate the temporal bones with a very gentle traction headward, while the gentle rhythmic co-incident with respiration pressure is exerted for approximately 2 to 3 minutes.

Recheck the pressure and there should be a gratifying drop, especially in the diastolic pressure, which ordinarily resists much change in the average case of essential hypertension. As mentioned, early cases of nephritis generally have higher pressures lying down than when sitting or standing, while the so-called essential hypertension shows just the reverse: the pressure being much higher sitting or standing.

The skull-sacral respiratory mechanism is the control to the costal or regular respiratory cycle. The regular cycle is controlled by the skull and sacrum and although it may not coincide in time with the costal respiration, it can and should do so and most cranial technics are aided by timing them to the respiratory cycle in a general way.

It is possible to influence the primary respiratory mechanism by the above technic in all cases that have a slowing of vital processes of elimination, circulation and, paradoxically, in cases of hypotension, as well as hypertension. Use bilateral internal and external rotation of the temporals by contact of the thenar eminences on the mastoid tip, thumbs lying parallel to the mastoids and with a gentle barely perceptible movement, rotate the temporals externally and internally synchronous with respiration.

Forced external rotations of the temporal bones held for a few moments exerts a powerful restorative force in all cardiac and respiratory emergencies, and should be held until some degree of recovery takes place. It may be repeated as often as necessary.

Patients who are high strung, hyperexcitable, hysterical, insomniacs and victims of sudden vertigo, and all simulations of the cardiac respiratory and vasomotor centers, greatly benefit from an application

to the mastoid process of the temporal bones with the hands placed in the original position, but instead of the inward and upward movement previously described, allow a slight alternate rolling of the thenar eminences so as to permit the middle fingers (placed alongside the cervical musculature and with the fingers interlaced) a slight rolling from side to side is allowed to take place by so turning the tentorium so as to allow a side to side fluctuation of the cerebrospinal fluid, calming and relaxing the previously agitated patient within minutes of the 2 to 3 minute application of the technic. For insomnia, the desired effect can be taught to the patient by putting the cupped hands behind the occiput and using gentle compression along with deep breathing, the effect is immediate and is helped especially by having the patient concentrate on expiration slightly.

The various teachers of cranial technic all follow Sutherland's original ideas, but the technic of Alberts is especially recommended here for his additional discovery of a vital "switching concept" which carries cranial technic one step further than the original Sutherland concept.

There are clues to the diagnosis of cranial lesions found on inspection of the face, such as the supranasal vertical fold produced by a scowl or frown moves to the side, for example that the frontal bone has moved back with the sphenoid. The prominent eyeball is always on the side of the elevated sphenoid, and the naso labial crease that extends from the corner of the nose down to the mouth is always deeper and longer on the side of the externally rotated maxilla.

The upper teeth slope more laterally on the side of the externally rotated maxilla, while the patient who apparently seems to have his forehead moved left or right slightly, especially when viewed from above, will show a lateral shift of the sphenoid basilar articulation with the sphenoid moving laterally. The lower prominent ear indicated the externally rotated temporal. A crowded suture is indicated by a ridge, a separated suture is represented by a barely observable (to palpation) groove. Tenderness over sutures with a negative history of recent trauma is an indication for treatment using the original technic mentioned. A light touch is essential for both diagnosis and therapy. Visualize the sutures. Detect by careful palpation if the suture is compressed or crowded, or if the suture seems separated or wider than usual.

Reawaken your interest in palpation and cranial vault anatomy. Use a light touch with a diagnostic determination if respiratory cooperation is needed, and watch the response of the whole body to the whole body therapy that is so necessary in the treatment of the whole man by the whole body oriented doctor.

The intelligent application of cranial technic is just one more way the Doctor of Chiropractic can put service above self, help more of his patients with the truths of anatomy and physiology, and allow a great concept of the inestimable value of chiropractic therapy to reach more people more effectively.

Cranial Technic: A Clarification of Certain Principles

The concept of cranial bone movement and cranial technic was introduced by William Garner Sutherland in 1939: "*CRANIAL BOWL*," Mankato Free Press, Mankato, Minnesota, 1939. Since that time, and more recently since the popularization of cranial technic which has taken place during the last ten years with the advent of applied kinesiology procedures for identifying cranial faults and verifying their correction, there has been controversy regarding terminology and understanding of cranial bone functions. This chapter deals with several of these controversial and misunderstood concepts in an effort to standardize terminology and teaching procedure. Obviously, the time-proven applied kinesiology methods of diagnosing and treating cranial faults remain constant, but the actual function behind these corrections can stand some clarification. All of the models presented herein are oversimplifications of actual cranial

bone function, but they are accurate descriptions of function as far as they go.

Normal Cranial Bone Respiratory Movement

Normal cranial bone excursion during respiration involves two basic types of movement: the centerline bones flex and extend, and the paired peripheral bones rotate internally and externally. The fundamental centerline movement occurs at the sphenobasilar symphysis which flexes or elevates on inspiration and extends or lowers on expiration. (Figures 2b and 3b) To better visualize this, let your left hand represent the sphenoid and your right hand represent the occiput. Put the fingertips of both hands together so the palms are facing the floor and the fingers are pointing toward the ceiling.

You are looking at a side view of the skull; where your fingertips touch is the sphenobasilar symphysis. As you breathe in, bring your palms closer together and observe how the sphenobasilar symphysis (fingertips) extends and lowers. This model, although oversimplified, represents the basic flexion and extension of the centerline cranial bones.

Sacral Respiratory Movement

Sacral respiratory movement parallels that of the occipital squama. The sacrum, which is suspended between the ilia, rocks anterior to posterior on transverse axis through the level of S-2. During inspiration, as the sphenobasilar symphysis elevates, the sacral apex is pulled anteriorly through dural tension, while the sacral base moves posteriorly. The opposite is true of sacral expiratory movement.

Peripheral Cranial Bone Movement

The peripheral bones rotate in a complex fashion during respiration. For the purposes of this chapter we shall only discuss the specific movements of the frontals and the temporals. But peripheral bone movement can be summed up by observing Figures 1a, 1b, and 1c; 2a, 2b, 2c; and 3a, 3b, and 3c. On inspiration (Figures 2a, b, c), as the sphenobasilar symphysis elevates, the A-P dimension of the skull shortens; the glabella moves closer to the external occipital protuberance (EOP) (Figures 2b,2c). At the same time the lateral dimension of the skull widens to accommodate the enclosed structures; the right and left pterions (where the sphenoid, parietal and temporal bones meet) move apart. (Figures 2a, 2c).

On expiration, the reverse is true. As the sphenobasilar symphysis extends or lowers, the glabella and EOP move apart, increasing the A-P dimension of the skull (Figures 3b, 3c). The lateral dimension of the skull narrows as the pterions move closer together (Figures 3a, 3c).

The vertical dimensions of the skull remain about the same during respiration, for as the sphenobasilar symphysis elevates on inspiration, the peripheral vault bones are expanding laterally, which detracts from their vertical dimension. The opposite is true on expiration.

Internal and External Frontal Bone Rotation

Much controversy has existed on the meaning of the expressions internal frontal rotation and external frontal rotation. Frontal bone rotation during normal respiratory movement can be easily understood. Lay your fingers of both hands on your forehead with your fingertips of the right and left hands touching in the middle. Where the fingertips touch represents the metopic suture between the right and left frontal

NORMAL CRANIAL RESPIRATORY MOVEMENTS

Mid-
Respiration

Inspiration

Expiration

During the initial period the sphenoid bone circumducts, or revolves like a wheel, anteriorly. The L-shaped articular surfaces of the greater wings, converging anteriorly and diverging posteriorly in their functioning, turn the inferior angles of the frontal bone laterally. The middle area of the frontal bone recedes posteriorly, while the ethmoid notch widens at its posterior area. The pterygoid processes of the sphenoid bone, in articular contact with the little palate bones by double grooves, diverging posteriorly and converging anteriorly, rotate posteriorly and thus turn the palate bones and the maxillae laterally at the posterior borders. The incisor teeth recede posteriorly and the anterior borders of the nasal processes rotate internally and the posterior borders laterally. The sella turcica of the sphenoid, in conjunction with the basilar process of the occipital bone, elevates into the flexion position. The occipital bone circumducts or revolves like a wheel posteriorly and the basilar process, in conjunction with the sella turcica, elevates in a flexion position. The petrous portions of the temporal bones rotate laterally or externally and the sacrum moves into the flexion position between the ilia.

During the exhalation period of respiration the opposite takes place.¹

William Garner Sutherland



Fig. 1a
Frontal view

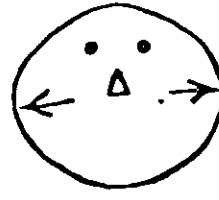


Fig. 2a
Frontal view

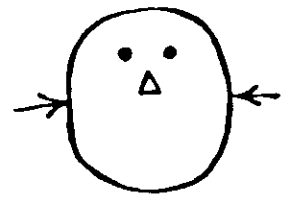


Fig. 3a
Frontal view

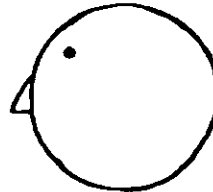


Fig. 1b
Side view

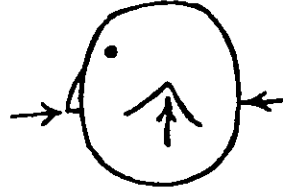


Fig. 2b
Side view

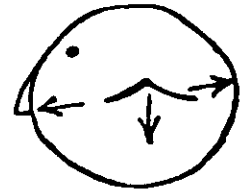


Fig. 3b
Side view

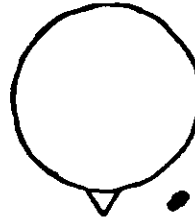


Fig. 1c
From above

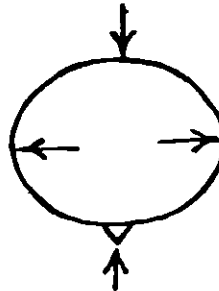


Fig. 2c
From above

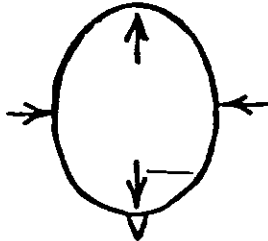


Fig. 3c
From above

bones. (Although this suture usually fuses in adult life, cranial technic always treats the frontal bone as being split into right and left halves along this suture.) Your right and left hands represent your right and left frontal bones respectively. As you breathe in, keep your fingertips in contact with each other and your forehead, but let your palms move away from your forehead in a forward direction. As you breathe out, keep your fingertips in the same position, but bring your palms back in contact with your forehead. This is the normal rotation movement of the frontal bone, almost like a pair of wings flapping forward and back on inspiration and expiration.

The rotation of the frontal bone half is named by how the bone moves at the metopic suture area. (See Figures 4 a,b,c.) In other words, on inspiration, both frontals move INTERNALLY (toward the center of the skull) at the metopic suture area as the lateral portions of the bones flare out. (Figure 4a). Therefore, a cranial fault where the right frontal bone has moved internally at the metopic suture (and has flared out laterally) is known as a "right internal frontal fault."

(NOTE: The reason we see a narrowed orbit in an internal frontal fault is because during inspiration, the entire inferior border of the frontal is moving posteriorly while the metopic suture area rotates internally. Even though there is a relative flaring out of the lateral portions of the frontal bone, this combined with the posterior movement of the entire inferior edge of the frontal and the movement of the other bones of the orbit causes the orbit to narrow on the side of internal rotation at the metopic suture.)

Conversely, during the expiration, the frontal bone halves move EXTERNALLY (away from the center of the skull) at the metopic suture. (Figure 4c). The lateral portions of the frontals flare back on expiration, but we are not concerned with this part of the bone when we name the cranial faults. Therefore, a cranial fault where the right frontal has moved externally at the metopic suture area is termed a "right external frontal fault" (Figure 5bH). To repeat, cranial frontal faults are listed by the position of the involved frontal bone at the METOPIC SUTURE AREA.

Please note that the frontal bone rotations have been described during normal respiration. This is NOT to imply that internal frontal or external frontal faults are respiratory faults. On the contrary, they are usually traumatic in origin. The position of the bone in lesion, however, is an exaggeration of its normal respiratory excursion.

Temporal Bone Movement

The movement of the temporal bone is highly complex. In actuality, the temporal "wobbles" around an axis which also "wobbles" and runs obliquely through the petrous portion of the bone. In order to grasp the basic movements of the temporal bone, we can relate its function to that of the ipsilateral innominate since the normal respiratory movement of these two bones parallels each other. This does not imply, however, that any temporal lesion will be accompanied by an innominate lesion or vice versa. On occasion, a cranial temporal fault and an innominate subluxation may be present together, and occasionally correction of one of these will cause correction of the other. But by no means is this a general rule.

Before discussing the similarities of temporal and innominate respiratory movement, it is necessary to point out the significant differences between the two. The sacroiliac joints are major weight-bearing joints of the body and have a specific pattern of movement with locomotion. The temporal bone has no such function. During respiration, both innominates move as a unit with the sacrum suspended between them and moving independently of the other, but each temporal is intimately dependent on oc-

FRONTAL BONE RESPIRATORY MOVEMENT
(Viewed from above)

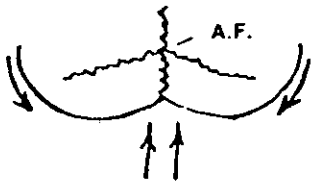


Fig. 4a
Inspiration:
Frontals move Internally
at metopic suture
(from above)

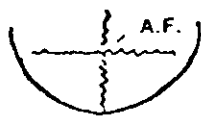


Fig. 4b
Mid-respiration
(from above)

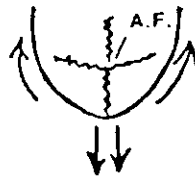


Fig. 4c
Expiration:
Frontals move externally
at metopic suture
(from above)

INTERNAL AND EXTERNAL FRONTAL FAULTS
(Viewed from above)

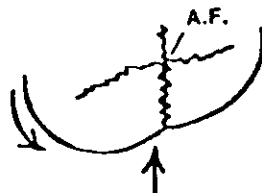


Fig. 5a
Right Internal Frontal
(from above)

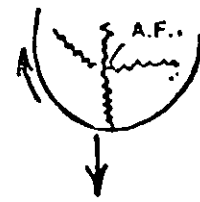


Fig. 5b
Right External Frontal
(from above)

A.F. = Anterior Fontanel

NORMAL COINCIDENTAL RESPIRATORY MOVEMENTS
OF TEMPORAL AND INNOMINATE BONES

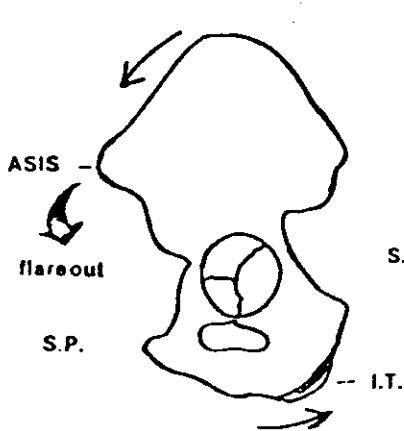
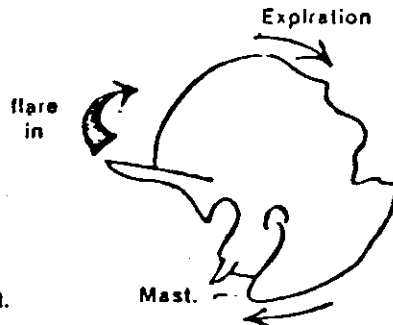
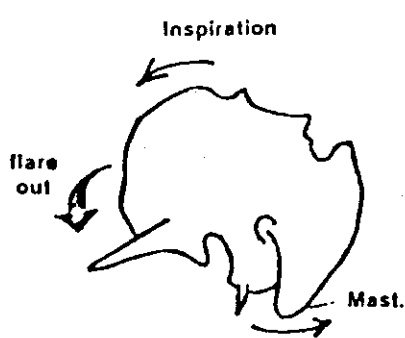


Fig. 6a

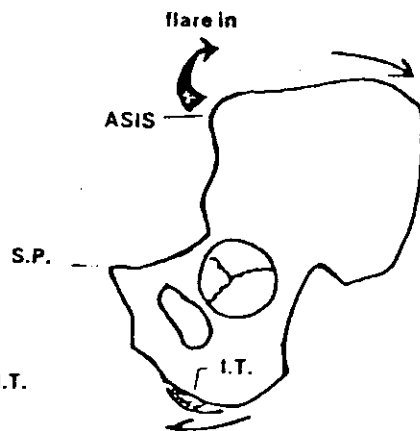


Fig. 6b

Mast. = Mastoid process
ASIS = Anterior superior iliac spine
S.P. = Symphysis pubis
I.T. = Ischial tuberosity

capital bone movement. Nevertheless, there is enough similarity in the movements of the temporal and the innominate that discussing them together is a valuable learning device.

During inspiration, as the diaphragm contracts, all of the abdominal muscles relax. Relaxation of the abdominal muscles allows the pelvis to display a relative movement in the following manner: the symphysis pubis moves inferiorly and posteriorly; the anterior superior iliac spines (ASIS's) move laterally (flare out) and inferiorly; the ischii move posteriorly and medially. (Fig. 6a).

During expiration, the diaphragm relaxes and all of the abdominals contract. This causes a relative movement of the pelvis in the opposite directions: the symphysis pubis moves superiorly and anteriorly; the ASIS's move medially (flare in) and superiorly; and the ischii move anteriorly and laterally. (Fig. 6b).

Translating the movement of the innominate to the temporal bone requires that we observe the analogous parts of the two bones. The most important analogs are the temporal squamosal suture and the iliac crest, and the mastoid process and the ischium.

We can now see that the mastoid process moves posteriorly (and medially) during inspiration. This has always been a very controversial point. In one of Sutherland's explanations, he refers to the temporal bones as rotating "anterolaterally" on inspiration. What has created the controversy is that Sutherland did not clarify that he meant that the squamosal portion of the temporal bone moved anterolaterally on inspiration (analogous to the ASIS movement) and NOT the mastoid process, as so many have erroneously assumed. Likewise, since the mastoid process moves posteriorly (and medially) on inspiration, the mastoid process moves anteriorly (and laterally) on expiration. (See Figures 6a and 6b).

Applied kinesiology procedures indicate that the mastoid process should be pushed anteriorly with inspiration for correction of an "inspiration-assisted" cranial fault. This is correct procedure because the mastoid process which would normally be moving posteriorly on inspiration is stuck and unable to do so in light of the fault. Pushing anteriorly on the mastoid process on inspiration EXAGGERATES the fault, causing the reciprocal tension membranes to be alerted and make the correction (rebound phenomenon).

The same is true for the "expiration-assisted" cranial fault. It is as if the mastoid is stuck posteriorly and cannot move anteriorly during expiration as is its function. Correction of the fault involves pressing the mastoid process posteriorly during expiration, EXAGGERATING the fault, and alerting the reciprocal tension membranes to normalize the cranial structure (through the rebound phenomenon).

It is hoped that this explanation will help to develop a common understanding and to standardize teaching procedures of applied kinesiology cranial technic. Obviously, only a few cranial functions were discussed in this chapter, and certain principles were oversimplified almost to the point of introducing erroneous concepts. But it is hoped that the purpose of this chapter, which is to clarify certain misunderstood concepts in cranial technic, will have been served by its presentation. I owe Dr. Walter Schmitt of Chapel Hill, N.C. many thanks for his help with cranial concepts.

HYPERVENTILATION AND THE CRANIAL SACRAL MECHANISM

Many patients suffer from the effects of hyperventilation, many times the patient as well as the doctor is not aware of the factors involved in the continued production of the symptoms.

The syndrome of hyperventilation is due precisely to just the literal interpretation of the word, in other words the patient overbreathes. But the patient is not aware of this, instead he is under the impression he is short of breath. He feels hungry for air, and frequently exhibits sighing respiration while at rest.

The patient first may express a feeling of air hunger at the beginning of an attack, then may feel a strong apprehension, followed by dizziness, faintness, pain or tightness in the chest, numbness and tingling of the face, pounding heart, cramps and muscle stiffness. Occasionally an episode may continue into loss of consciousness. Generally there is a severe tetany of one or more muscle structures, with tingling of the extremities. In most cases the symptoms last much longer than the usual syncope or "fainting spell" of hypoadrenia or hyperinsulinism.

The hyperventilation patient may experience a period of ten minutes or more before he begins to slowly recover. When associated with effort, it takes place AFTER rather than DURING the effort.

Hyperventilation is associated with anxiety states but it is precisely the anxiety that sets it up and this anxiety although often with emotional overtones, generally has a structural basis. The body "language" associated with the cranial or sacral respiratory fault results in the feeling of anxiety. The effort to compensate to the hidden respiratory sacral or cranial inhibitions does result in over breathing, whatever the cause. This in turn causes more CO₂ to be blown off, a respiratory alkalosis is produced and the low CO₂ content of the blood then produces the central and peripheral vasoconstriction and impaired dissociation of oxyhemoglobin. The respiratory alkalosis like all alkalosis problems in the body, produces spasm of the intercostal, pectoral and diaphragmatic muscles. The E.K.G. may show significant depression of the T and the ST segments, but these are reversible and can be produced by voluntary overbreathing. It is estimated that in a sample of 1000 ambulatory patients at a famous clinic, 10.7 percent of this sample number had hyperventilation. This figure seemed a little low compared to private chiropractic practice—a figure of at least 20 percent is more in line with our experience in an urban area.

The condition of hyperventilation is often associated with the now familiar pattern of hyperinsulinism. Again quoting from figures of ambulatory patients, in 68 selected patients, 28 had hyperventilation, 16 had hyperinsulinism, and 19 had both. Faintness, weakness and palpitation are symptoms of both conditions whereas air hunger, shortness of breath, chest pain, tightness of the chest and numbness and tingling of the face are associated with hyperventilation; hunger, warmth and sweating with headache, are associated with hyperinsulinism.

In the patient with hyperventilation, dramatic relief may be obtained during an attack by the simple expedient of having the patient rebreathe his own air from a paper bag. This solves the immediate problem quickly and dramatically. Treatment of the patient is therefore simple and complex. The symptoms can be elicited by having the patient overbreathe for at least one minute. An interesting fact regarding this situation is the ability of the normal person to increase the time of voluntary breath-holding by taking a preliminary deep breath. A patient with hyperventilation cannot accomplish the same thing.

Just as in the case of enuresis which is a physiological problem with psychologically oriented therapy which naturally is misdirected, so also misdirected is the psychologically oriented therapy of the anxiety pattern that accompanies the hyperventilation syndrome.

As you know, Sutherland proved beyond doubt that there is a respiratory function to the skull, and we have described in detail this pattern of minute skull bone movement, synchronous with respiration. Another facet of the respiration cycle is the movement of the sacrum, synchronous with respiration and

in conjunction basically with movement of the occiput and the sphenoid bone. One symptom that accompanies the failure of proper respiratory function in all its craniosacral inter-relationships is the production of sighing respiration on a fairly frequent, regular basis.

The cranial technic of Alberts, the continuing and recently updated research of DeJarnette in this area, all point to further implementation of the original findings of Sutherland, of the existence of a "gill mechanism" in the sphenoid bone of the skull. There is a parallel importance to the proper respiratory movement of the sacrum—these two elements have immense importance in the treatment of hyperventilation over and above the temporary expedience of having the patient rebreathe his own CO₂. The paper bag for rebreathing is as temporary a measure as munching a piece of candy in hyperinsulinism.

There is a structural basis for hyperventilation and as you know, the choroid plexus provides cerebrospinal fluid just as the salivary glands provide salivary fluid. This blood filtrate, in the case of the cerebrospinal fluid, is aided in its circulation by the respiratory movement of the skull. If you took a vase and cracked it and then reassembled it without any adhesive, each section or piece of the vase would now have a slight range of motion that it did not possess before. This orderly predetermined skull bone movement is brought about by the reciprocal tension membranes of the skull. The tentorium cerebri and the tentorium cerebelli act like circus tent shaped trampolines that are attached internally to the various skull structures, aiding in their movement and have therapeutic potential in cranial cases.

The recent research findings of Dr. L. M. Reese of Sedan, Kansas, has done much to allow us to further understand the cranial movement especially of the temporosphenoid. He postulates this primitive or throwback gill mechanism that is the temporosphenoid area has along its suture line certain reflex areas to various parts of the viscera and other structures of the body. As he characterizes it, the cerebrospinal fluid is like the battery of a car and the various points along the temporosphenoid suture line are like the distributor of the same motor vehicle. Release of sutural impairments as well as release of the sacrum, allows proper distribution of the cerebrospinal fluid. So we have in this mechanism, the corollary of the vertebral adjustment, for if we liken the release of a subluxation to the opening of a shut valve, the craniosacral release turns on the pump, so to speak. If the valve is released or opened but the pressure is low, there is just a trickle of fluid, but if at the same time the "pump" is turned on, there will be a normalizing of the structures concerned. This then is the situation in most cases of hyperventilation. There is a hidden relatively painless interference with the inter-related craniosacral feedback mechanism associated with respiration. The body senses this and there is a tendency to overbreathe or sigh in an effort to free the mechanism. Interestingly enough, a hard forced respiration frequently is capable of setting this mechanism to rights although it is accidental and no therapy should be based on this premise.

Some patients complain of an annoying click associated with breathing which is often quite audible. This represents a cranial bone "hang up" and a very deep forced inspiration is of great value in freeing the temporary but annoying fault. This must be quite deep and quite forced to be effective.

The symptoms of hyperventilation are quite frightening and often leave the patient with a permanent cardiac or HEART ATTACK neurosis when there is no basis in fact for this fear. The elicitation of the symptoms by forced overbreathing and the prompt release of the pattern by rebreathing his own CO₂ from a paper bag clinches the physiological basis for the almost terrifying picture of a patient who is found to be pale, clammy, cold with a rapid pulse and very low blood pressure. Naturally, these may represent other conditions, but invariably accompany hyperventilation.

The complicated but simplified interrelationship of structure and function is but one more piece of evidence of the master hand of the Creator who while working wonders on one hand, made their intricacies simple with the other. It is just this intricate simplicity we must keep in mind when we review any part of the body. The good Lord does not make mistakes, we do, in our narrow approach to the whole man, when we look at the whole man with any eyes other than those capable of the total look. Treatment of the hyperventilation problem is just one more way for the chiropractic physician to advance himself.

CRANIAL SACRAL NUTRITIONAL REFLEXES

The bones of the skull move when you breathe, as we have said, and this primitive "gill mechanism" is part of the intricate implementation to the motion of the cerebral spinal fluid. As you know, the cerebral spinal fluid is made in the choroid plexus and flows in a very definite pattern through the brain down through the spinal cord until it reaches the sacral water bed. Gray says that small amounts of the cerebral spinal fluid may escape through the perineural spaces of the cranial and spinal nerves and reach the lymphatic capillaries. This is quite important. The cerebral spinal fluid is usually removed for diagnostic purposes from the subarachnoid space surrounding the cauda equina. A needle inserted in the midline between the spines of the third and fourth lumbar vertebra will enter the subarachnoid space. It avoids the spinal cord and will miss the nerves of the cauda equina. Occasionally a cisternal puncture is made by inserting a needle between the atlas and the occipital bone. But regardless of the diagnostic entrance, it is obvious the cerebral spinal fluid flows from the choroid plexus down and around the spinal cord and into the sacral water bed for reabsorption.

The presence of the cerebral spinal fluid acts as a buffer for the spinal cord, for the central nervous system which is vital to its metabolism, and it also carries secretions of the posterior lobe of the pituitary. The production in the choroid plexus and the four ventricles follows the lateral ventricles, the foramen of Monro, the third ventricle, the cerebral aqueduct, the fourth ventricle, the foramen of Magendie, the foramen of Luschka and the subarachnoid space of the spinal cord. It escapes by way of the pacchionian bodies into the venous sinuses and, as mentioned before, out along the cranial and spinal perineural spaces and, most important, through the hollow collagen fibers of the fascia into the lymphatic system. So there is an intimate relationship between the lymphatic system and the cerebral spinal fluid system.

When the brain is observed at surgery, there is observable four definite motions:

- (1) a motion synchronous with cardiac contractions,
- (2) another motion coincident with respiratory changes on inspiration and expiration,
- (3) there is a third movement wave unrelated to heart or respiration,
- (4) a movement which apparently is necessary but as yet its mode of production and its significance is unknown.

Many researchers agree that the cerebral spinal fluid does not circulate in the ordinary sense of the word. Fluctuations can occur and will occur with changes in volume, and there are rhythmic changes which change with changes in heart rate and respiration. It is obvious since the dural envelope is inelastic and nonexpansible the cerebral spinal fluid pressure will vary directly as the venous pressure. The venous pressure changes, as you know, with changes in heart rate and respiration; therefore, changes in cerebral spinal fluid may reflect changes in circulation or vice versa. Much research has been pro-

duced on the chemical composition of the spinal fluid but not much attention has been given to its circulation or its relationship to body function and disease, other than in connection with disturbances in the flow of the actual spinal fluid itself, such as in hydrocephalus or in tumors.

The skull articular mobility was first observed by Sutherland in his casual observation that the beveled articular surface of the sphenoid had a remarkable resemblance to the gills of a fish with the obvious connection of a human respiratory skull movement. The early efforts aimed at adjusting the skull articular structures that were made were quite crude and the so-called skull molding was ineffective except occasionally in small children. The brain sitting on its trampoline mechanism, the trampoline mechanism resembling a circus tent with its vertical domed division, the falx, separating the two cerebral hemispheres yet cushioned by the horizontal trampoline, the tentorium cerebri. The same is true of the cerebellum and this coupled with the water bed mechanism of the Meninges cushioning provides a unique apparatus to give the brain both protection and functioning ability. The choroid plexus act to provide cerebral spinal fluid just as the parotid glands act to provide salivary fluid and the cerebral spinal fluid moves along the meninges in the subarachnoid space and is assisted in its movement by the pumping of the respiratory action of the bones of the skull. If there is any interference with this regular though minute but definite articulation of one skull bone with another, many symptoms result.

The patient who has an inability to concentrate on simple written discourse, the patient who is never the same after a skull fracture or a mild concussion, the patient who has a sacroiliac lesion and has cerebral symptoms, these are all cranial patients.

The sacrum has a respiratory function as well, for as the sphenoid bone flexes forward with inspiration there is an accompanying forward movement of the sacrum, which is actually produced by a lifting of the dura since there is no connection of any consequence below the second and third cervical until the body of the second sacral segment. So, therefore, the end effect is a rotation of the sacrum with the base moving posterior and the sacral apex moving anterior toward the symphysis. During the anterior flexion of the sphenoid, the occiput moves inward at the base of the occiput, and the superior section of the occiput moves posterior. When this system fails to function as it should, it locks, changes the flow of cerebral spinal fluid, and, as is well known, causes a change in the general lymphatic flow with a breakdown in both nerve function as well as lymphatic drainage depending upon the local conditions.

The occiput, the sphenoid, the ethmoid, the mandible, the hyoid, the vomer and the sacrum all rotate about the transverse axis and as such flex forward and extend backward with each inspiration and expiration. The rest of the skull bones which are not midline structure, all either externally rotate or internally rotate so the respiratory cycle is a flexion of the midline bones with an associated external rotation of the peripheral bones with a reverse cycle accompanying exhalation. There is extension on exhalation of the midline bones and an inward rotation of the peripheral bones.

So can you not see the relationship of respiration in the real beginning of life outside the uterus and the initiation of respiration also initiates skull bone movement as well as movements of the sacrum with respiration and any interference with these vital interrelationships can cause great problems. The open fontanelles and the relative absence of developed sutures are body insurance to prevent interference with this vital link in our body's physiological and neurological balance in the infant.

The implementation of the respiratory function of the skull is important to the management of many patients, especially hypertension and is a necessary rehabilitation factor in many chronic conditions and requires very little time, is simple to apply, meets with immediate patient acceptance and the technic

is gentle, requires no heavy thrusts or pressure, and the response is immediate and readily observable. The skull-sacral respiratory mechanism is the control to the costal or regular respiratory cycle. The regular cycle is controlled by the skull and the sacrum, and although it may not coincide in time with the costal respiration, it can and should do so and most cranial technics are aided by timing to the respiratory cycle in a general way.

There are clues to the diagnosis of cranial lesions found on inspection of face. The supranasal fold produced by a scowl or a frown moves to the side, for example, that the frontal bone has moved backward with the sphenoid. The prominent eyeball is always on the side of the elevated sphenoid, and the nasal labial crease that extends from the corner of the nose down to the corner of the mouth is always deeper and longer on the side of the externally rotated maxilla. The upper teeth slope more laterally on the side of the externally rotated maxilla as well. The patient who apparently has his forehead moved left or right slightly, especially when viewed from above, will show a lateral shift of the sphenoid basal articulation with the sphenoid moving laterally. The lower more prominent ear indicates the externally rotated temporal. A crowded suture is indicated by a ridge, the separated suture is represented by a barely observable groove, tenderness over the sutures with an absence of trauma is an indication for treatment using the required technic. A light touch is essential for both diagnosis and therapy. Visualize the sutures, obtain a skull or a plastic model of the skull and reawaken your interest in cranial vault anatomy.

The relationship of Applied Kinesiology to cranial technic is a fascinating subject. In testing the muscles of many patients using the methods of Applied Kinesiology, it was observed that many patterns seemed to exhibit themselves frequently.

It is important to recognize that cranial bone lesions may occur singly or in multiple combinations. For example, the occiput may be totally posterior or totally anterior, with a corresponding alteration in the position of the sphenoid. When there is a bilateral change, for example, in sphenoid flexion bilaterally which is synchronous with the opposite motion of the occiput. In other words, if the base of the occiput has tipped forward, you will generally see the wide ears. The ears will be flared as will the maxilla. Sometimes this is a familial, racial, or birth induced position, and many times you cannot change the total pattern. But in this particular instance of the wide ears and the flared maxilla, it is wise to try a direct frontal contact with the patient lying on the back and try to press the frontal bone anterior and inferior while you try to pull the occiput posterior and superior. This can be felt more readily by using a very light contact and the rule in this type of cranial lesion is to first try to correct it and if it seems to correct easily, in other words, if there is a "giving" of the frontal bones and occipital bones, maintain these contacts. But if there does not seem to be any "giving" and if the cranial bones seem "fixed" in their position, then try the reverse, just as you exaggerate the position of a rib to allow the natural body "comeback" so also can you exaggerate a lesion such as we do with the bulged temporal bone to allow the body "comeback" power to correct itself.

In the opposite situation where the sphenoid is in extension, there is a ridged saggital suture, the eyes are very deep-set with small orbits and the ears are very closely set to the head and the zygomatic tubercles are quite prominent. Correction in an opposite direction to the previous wide ear technic is recommended and, as stated above, if there is a "giving" continue this technic for a few minutes; but if there is a fixation sensation, exaggerate the lesion slightly temporarily for a few minutes, always remember to gently apply the cranial contacts. In a torsion lesion with the occiput tilting one way and the sphenoid tilting the other, on the high side the eyeball protrudes and that ear on that side is closely set to the head. On the low side, the zygomatic tubercle is prominent and the ear is wide on the side

of the low occiput. In a side bending rotation pattern, there is a convexity and a concavity when looking at the head from a full face view, with the eyeball retracted on the convex side and the ear is "out" on the convex side and the eyeball is extended on the concavity side and the ear is "in" on the concavity side.

These are all corrected by exaggeration first, and if there seems to be a fixation or an absolute lock, then try correction; but in general in the adult it is wiser to use exaggeration than to attempt correction first.

Sacral Respiratory Movement

The sacrum at its apex moves forward on inspiration, the sacral tip moving forward, the sacral movement occurring just as the forward movement of the occiput takes place on inspiration. The sacral tip moves on expiration posteriorly and superiorly. If the sacral base, for example, is tipped posterior and inferior, the occiput will be low on the same side, sacral torsion is also accompanied by spheno-basilar torsion. In other words, the sacrum and the cranium parallel each other, and it is my opinion that many sacral conditions are caused by cranial conditions rather than vice versa. The sacrum is an important element in the correction of any cranial lesion, for it is the other end of the cerebral spinal fluid flow pattern. If you can visualize the cranial bones acting as a pump of an irrigation ditch, if you can visualize the irrigation fluid flowing along past each spinal nerve with its intervertebral foramen acting as a valve on either side of the irrigation ditch, allowing the fluid to flow down past the "tomato plants." Imagine the sacrum being the final destination of the fluid and that fluid which is not used must flow back into the pumping station once again for recirculation; therefore, the "valve" at the terminus of this irrigation pump-ditch combination circuit must be open.

Many times sacral position is the impediment to this cerebral spinal fluid outflow for eventual return, and when this occurs there is a feedback circuit which automatically shuts down the cerebral spinal fluid pressure or paradoxically increases it immensely. Generally it shuts it down. So, in addition to cranial bone lesion correction as well as vertebral bone correction and skeletal muscle balancing, there must also be a correction of the sacrum for position.

There is a means by which this sacral bone position may be determined without x-ray. This is not to preclude the wise use of x-ray, but in the day-to-day changes and for emergency use, this is invaluable. The hamstring muscles are the indicators of disturbances of the rectal neurolymphatic reflexes and they are also indicators of the relative tonus that exists in those muscles relating to the sacrum. Test the hamstrings, left and right, in a general fashion first.

Note any resistance. Note any weakness. Then test the medial hamstrings by pressing in a lateral direction and test the lateral hamstrings by pressing in a medial direction each time, naturally asking the patient to resist your effort to straighten the leg while you diagonally test the medial and lateral hamstrings.

If there is a weakness of either the medial or the lateral hamstrings, or if there is a general weakness of hamstrings, left or right, have the patient take a deep breath and hold breath and retest that hamstring muscle or that section of one hamstring group you found to be weak. See whether or not the patient's held inspiration improves the muscle strength. If no increase in strength is noted on inspiration, have the patient exhale and forcibly hold the exhalation out and retest the hamstring you found to be weak prior. In one position or another there will be a marked increase of the tone of the hamstrings.

If the patient improves on inspiration, then the sacral tip must be forced forward by a sharp thrust; whereas,

if the hamstring improves on forced expiration, then a "basic" contact on that side is used for a period of about a minute to a minute and a half, allowing the sacrum to come into a more natural position, literally opening the valve so the fluid can flow out more readily. The contacts on the sacrum which are held are to be held naturally on the phase of respiration which assisted the hamstring; therefore, the sharp thrust on the lower third of the lateral aspect of the sacrum is given as the patient takes a sharp inspiration while the prolonged basic contact is held with the thumb on the anterior aspect of the sacrum gently forcing it posteriorly while the patient expires this contact relaxing as the patient inspires and reinforcing as the patient expires.

Retest hamstrings, there should be marked improvement. You will also find that if inspiration or expiration respiratory assistance helped other muscles, the same phase of respiration will help the sacral position.

Use of the DeJarnette block technic is valuable when testing and treating hamstrings.

The temporo-sphenoidal line or the TS line, as we will call it, was first observed by Dr. L. M. Rees of Sedan, Kansas, and he associated different points along the TS line with visceral disturbances. It has been our observation that the different points along the TS line were associated with specific areas of muscle weakness, and the TS line proved to be an invaluable aid; in fact, an infallible aid to the detection of muscle weakness patterns in the body.

It was soon found that the multiplicity of serial patterns of muscle weakness showed no particular universal pattern with any particular form of cranial lesion at all times. Although there was a detectable numerical superiority of one group over another as was evidenced by the work previously described. Efforts to categorize and departmentalize the various muscle weakness factors were unsuccessful until finally it was found that there was an infallible guide to muscle weakness: namely, the TS line.

Another infallible guide through lesion diagnosis was also devised and this is known as the respiratory assistance technic. The TS line was palpated for an area and generally two areas of muscle weakness were found on one side. Taking the muscle weakness found, for example, the pectoralis major clavicular division as previously described was found to accompany the psoas. The patient was tested, verification of muscle weakness was made and the patient was asked to take a deep breath. The muscle is again tested while the patient holds the deep breath.

If taking a deep breath, which literally brings the occiput forward and anterior, helps the patient's muscle resistance, then this must necessarily improve the rate flow of cerebral spinal fluid, and that cranial application is made on that side of the head in that particular direction of cranial bone movement.

If on the other hand, the patient takes a deep breath and there is no assistance in strengthening the muscle found weak, previously found by TS palpation and by actual muscle testing, then the patient is asked to take a deep breath and then exhale, letting all the air out and forcibly holding it out, and then the muscle is retested. This aids the patient many times in restoring muscle strength. So the patient's muscle testing is augmented by respiratory assistance, either by holding a deep inspiration, or by holding a deep expiration, and noting which phase of respiration assists the muscle and maintains the greatest amount of strength. Since the occiput moves forward on inspiration and backward on expiration, the same being true of the temporal bone, it is obvious that any assistance that can be gained in muscle strength augmented by taking a deep breath, must of necessity predicate a corrective move on the cranial structure in a forward position.

In other words, the occiput and mastoid process of the temporal bone must be moved forward or in an anterior direction. Whereas, if any muscle weakness found is assisted by respiratory expiration, a deep expiration being held while the muscle is being tested and found to be strong, then the conclusion is obvious that the cranial bone structure, namely the occiput and the mastoid portion of the temporal bone must be pressed backward to attain a better rate flow of cerebral spinal fluid.

As you know, the occiput and the mastoid portion of the temporal bone move forward on inspiration and backward on expiration. It's just as if the pumping action of the cerebral spinal fluid requires a totally open valve, the valve opening as inspiration increases and slowly closing as expiration takes place. But in many instances the only time the "valve" opens is on a forced inspiration or a forced expiration. In other words, the cranial bones are in "gear" instead of being in "neutral."

Normally, all body repair takes place at respiratory zero or respiratory neutrality. In other words, the mid point between an inspiration and an expiration, cranial fluid seems to flow best at this level; but in some cases, forced inspiration is the only time when the rate flow of the cerebral spinal fluid improves—forced expiration is the only time that the rate flow of cerebral spinal fluid rises to the proper amount. So, it is obvious that any assistance to muscle tone and strength on testing, if gained on inspiration or expiration, should have an augmentation of the normal cranial bone position into the potentially correctable position. And it is this potential movement of the cranial bone structure that will allow a rapid correction of first a muscle weakness and the cranial bone position. This potential movement of the cranial bone structure is now a diagnostic and also a therapeutic tool with forced inspiration or expiration being the guide to its use.

In the case of the bulging of the skull with the concave and convex appearance through the temporal area, quite often this bulging is detected while observing the patient while he is lying face up while you are seated at the head of the table. The patient will detect sharp pain at the most bulged portion of the temporal bone on palpation.

Many times in this instance, palpation of the TS line will show a bilateral weakness of a particular muscle; sometimes the pectoralis major clavicular, sometimes the sternal division, occasionally a bilateral psoas weakness will be detected. There is no definite pattern.

This type of patient is assisted by half an inspiration. In other words, in one instance previously described, patient was helped by either a deep inspiration or a deep expiration; but in this instance of the concave-convex pattern, the patient is helped by half an inspiration. In other words, have the patient take half a breath, hold this; the muscle weakness which has been found and is usually bilateral, is greatly helped by half a held inspiration. This is the sign of the bulged cranial pattern and the technic as previously described is to use a neurovascular bilateral contact simultaneously held and wait for a simultaneous pulsation.

These contacts are determined by palpation of the TS line and you must act according to the information you find on TS line palpation and/or actual muscle testing. As mentioned, there is frequently a bilateral muscle weakness of certain muscles. Neurovascular contacts are held to balance these muscles, then use a cranial technic designed to exaggerate the lesion. As previously mentioned in the case of the rib out of place, exaggerating its position allows the natural comeback principle to operate. So also does exaggerating the bulge frequently allow self-correction. In this instance, not only should the bulge be exaggerated, but any occipital superior or inferior position should be exaggerated; and, also, any frontal bone superior or inferior position should be exaggerated. This should be done as the patient

starts to inhale and again, as mentioned, should be done on the half breath and relaxed on the inhalation. Do this four or five times, then palpate the bulged cranial bone point previously sore for point pain. This should have disappeared at least 75%. Retest the usual bilaterally muscle weakness. This should be completely restored to normal.

The respiratory assistance that you can use to detect the position and direction of cranial technic is an invaluable aid to the diagnosis and treatment of cranial lesions and with the far-reaching effects of interference with the cerebral spinal fluid flow correction you have a valuable therapeutic tool which is at your ready command to effect great changes in whole body structure.

Once you have used the neurovascular contacts to balance cranial structures, and if you still find coronal or frontal or saggital suture palpatory pain, depending on which way the cranial bones move, prove the relationship of cranial bone structure to intrinsic and extrinsic muscle structure to the patient or to yourself.

Remember that any muscle, when assisted in regaining its tone or strength on inspraion, can quickly be brought back to its previously weak position by reversal of the procedure which assisted it. If inspiration helped the muscle to gain strength, reverse the condition by your cranial contacts. Instead of pressing the mastoid portion of the temporal bone forward, get in front of it and press it backward toward the occiput, and you will be able to demonstrate a complete reversal and a loss of all the muscle strength gained. Naturally, you can restore the patient again to normal by reapplying the same contact used originally.

In other words, bringing the mastoid process of the temporal bone forward four or five times.

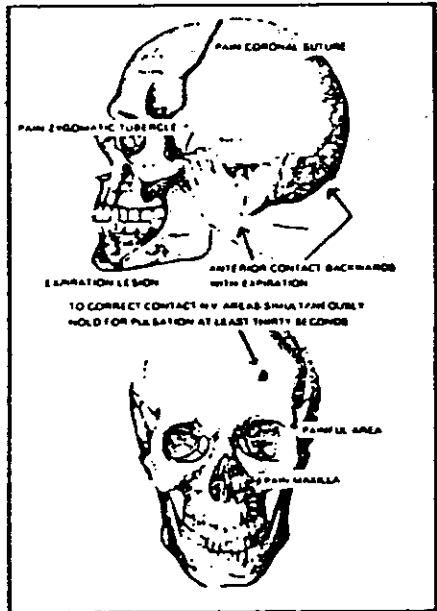
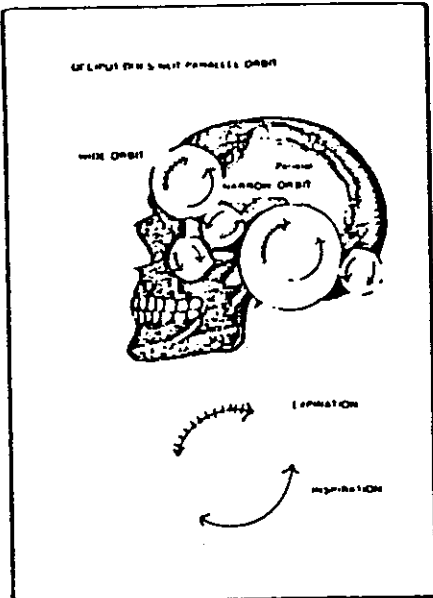
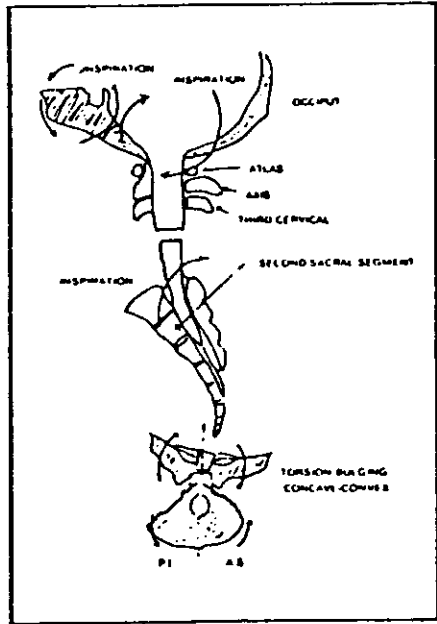
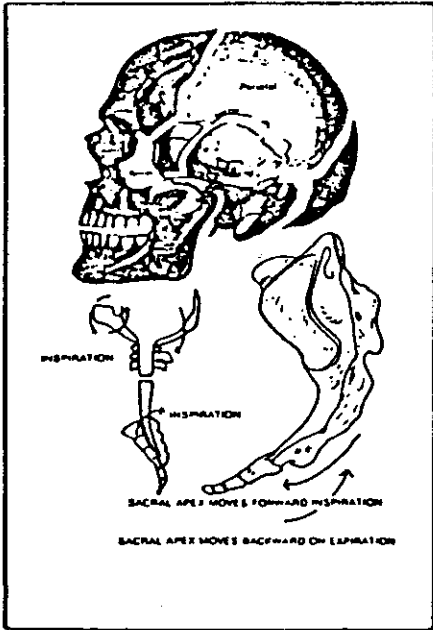
The same is true in any muscle weakness in which respiration assistance is gained by deep expiration. In this instance, you reversed the procedure that gained the therapeutic advantage. In other words, instead of pressing the mastoid process backward you press it forward four or five times. This will immediately produce all the previously found muscle weakness, and the muscle weakness will now be apparent. This can again be reversed and the patient can be brought back to his improved therapeutic position and treatment continued to a later date.

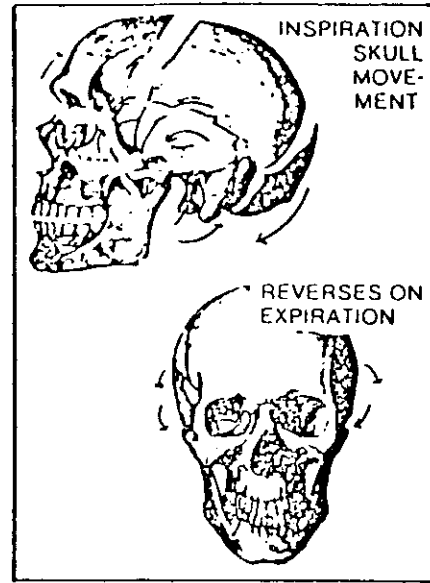
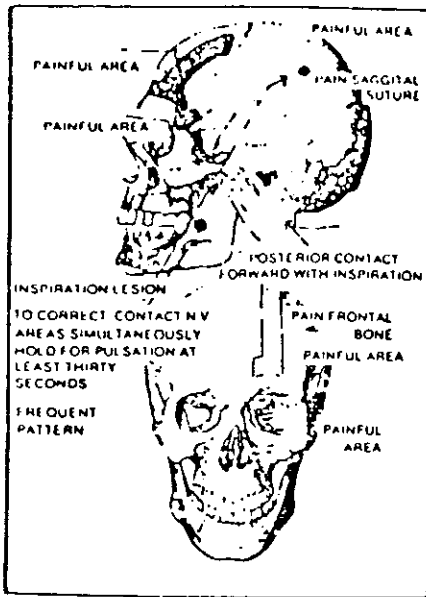
This is just another proof of the importance of cranial bone position, not only to yourself and to the patient, but to the overall normalization of the patient's physiology.

With children, they readily adapt to testing of muscles and quickly learn the procedure. One of my chiropractic assistants had a sister who was quite ill with anemic and thyroid problems, and she brought this six-year-old, blonde, blue-eyed, cherub-faced sister into the office. I did some muscle tests which the child was able to cooperate with quickly, and proceeded to treat them and got a very fine response in the anemia and thyroid problems, and she went home.

When she arrived home she was immediately questioned by the nine other members of her family as to where she had been, what happened, what she did, and who did she see. She said, "We went to the doctor, and he's kind of a funny doctor. We had kind of a wrestling match (indicating muscle testing)." Then, from her six year old point of view, she said, "I won every one but two, and then he got tired," indicating that she thought the weakness which had been present did not result in strength but simply resulted in my failure to have enough strength to perform the test, because obviously they had weakened before.

Sometimes if you don't explain to a patient what is occurring, he might develop an entirely different point of view than what you intend.





SACRAL TORSION SPHENO-BASILAR (OCCIPUT) TORSION

Test medial hamstrings by pressing in lateral direction. Test lateral hamstrings by pressing in medial direction. Use respiratory test each time. If hamstrings improve on forced expiration, use basic contact for approximately one minute.

If hamstrings improve on forced inspiration sacral contact on lower third lateral aspect sacrum thrust given on sharp inspiration, naturally if piriformis is weak allowing sacral malposition, use N.L. and N.V. as well as above technique.



Chapter 27

NEUROLOGIC TOOTH INVOLVEMENT

*How The Teeth And Teeth Sockets Affect The Body
Balance Muscles And The Symptoms They Cause.*

Positive indications of involvement along the temporal-sphenoidal line are reproduced in the teeth. The third molar in the mandible represents the psoas; consecutively around the dental arch are the same indicators as are present on the TS line. These progress around the arch to the central incisor, which represents the piriformis, adductors, and gluteus medius. The indicators then go up to the upper central incisor, which represents the neck flexors and extensors. The indicators are then present progressively around to the third upper molar which represents the trapezius.

When there is a positive indication on the TS line, there will also be a positive indication on the appropriate dental area. The indication is not an exact tooth for point situation. You may need to check the adjacent tooth on either side.

The teeth and the entire mouth, like the temporomandibular joint, receive a prodigious nerve supply which is out of proportion to the rest of the body. Because of this abundant supply there is more chance for noxious impulses to enter the "computer-like" body. Problems can be caused in any area of the body if an imbalance of function develops at this area.

When the patient places his index finger on a tooth and a strong indicator muscle is tested for weakening, the teeth will not therapy localize unless there is dental or gingival pathology.

However, there is correlation to TS line indicators in the teeth, as noted. To determine if a tooth is involved by therapy localizing it, have the patient place his finger on the suspected tooth, and a previously strong indicator muscle should remain strong. If it doesn't, check for pathology and refer to the appropriate dentist. If the indicator muscle remains strong, have the patient bring his teeth together—not biting hard, but touching solidly. Retest the indicator muscle, and if the tooth is involved, the previously strong indicator muscle will weaken.

Correction

Challenge the tooth for direction by pressing medial and testing the indicator muscle. Then press lateral and test the indicator muscle. Usually one of these directions will cause the indicator muscle to weaken. If it does weaken, have the patient take a deep inspiration and retest the indicator muscle to see if the challenge was abolished. Repeat with different phases of respiration until the phase of respiration is found which abolishes the challenge.

The tooth is adjusted by pressing in the direction which weakened the indicator muscle on the respiration that abolished the challenge. Repeat four or five times, and re-therapy localize with the patient's teeth approximating each other. The positive therapy localization should be removed.

Occasionally a caudal or cephal direction is necessary to obtain a challenge. In these cases it is usually necessary to refer the patient to a dentist for adjustment of the bite.

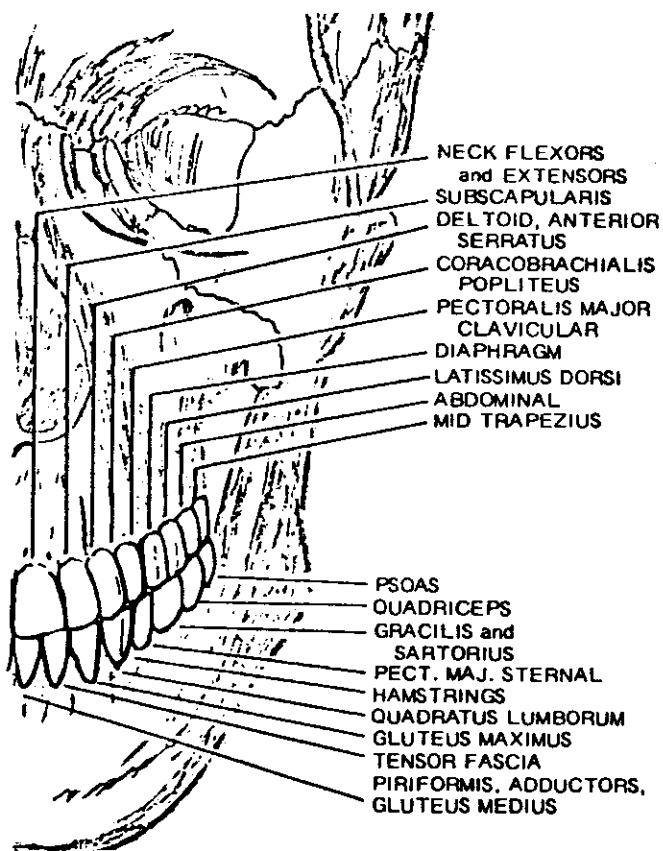
In the case of the edentulous patient, the gingiva can be challenged in a similar way. The individual still has nerves in the gingiva even though the teeth have been removed.

Nutrition

If it is necessary to repeat a tooth adjustment there is indication for zinc nutritional supplementation. The best form of zinc is found in small quantities along with other nutritional supplements rather than a zinc supplement by itself.

Screening for Tooth Involvement

The patient can be screened for involvement of the teeth by simply having him approximate his teeth with a slight bite; temporal tap the patient on his left TS line with your right hand palmar surface. If a previously strong indicator muscle weakens, there is indication of tooth involvement. Proceed to isolate the specific tooth, or teeth, and correct as above.



Chapter 28

THE SHINGLES VIRUS THAT THEY CALL HERPES

*What To Do For Herpes Simplex, The So-Called
Cold Sores On The Lip Or Genitalia, And What
To Do To Prevent And Treat This Epidemic Problem.*

Herplex Simplex can attack any mucous membrane, and it can include the eyes, the nose, the mouth, the throat, the vagina and the lips, and although virally induced, can be metabolically controlled. The prevention of Herpes Simplex involves basically understanding the rather complex biochemistry of calcium. The venous blood contains a normal level of calcium, of 10 milligrams per 100 liters of blood, and basically there are three fractions: the ionized form, the protein bound, and the calcium complexed, where the calcium is bound to citrate or other organic compounds.

It is very difficult to measure the three different parts, so fundamentally we start off with an estimation of the calcium level, which we accomplish by taking a sample of venous blood and also measuring the Sulkowitch Test level of the urine.

It is very hard to get a high level of calcium in the blood, so usually there is a flow of calcium into the urine and we normally see a Sulkowitch urinary calcium of 2 + , which indicates a relatively normal spillover. The levels of calcium are affected by a variety of factors: the calcium availability itself, and then factors which can be catalogued by (1) a failure of hydrochloric acid production, (2) diminished intestinal absorption of calcium, (3) an absence or failure of the parathyroid hormone and Vitamin D or F, an increase in the relative value of phosphorus, (4) the increase in the body's requirements for calcium, and (5) diminished protein, especially dropping levels resulting in a drop in the protein bound calcium levels, producing altered tissue response.

Calcium is absorbed in the small intestine. It has to be in a soluble form. Calcium is best absorbed if there is sufficient hydrochloric acid. We have found that in hydrochloric acid deficiencies there may be variable changes in the oral pH, as measured by a digital pH meter, but a good general rule in H.C.L. deficiency is the presence of a weak pectoralis major clavicular muscle. The pectoralis major clavicular muscle is tested in the usual fashion, that of Kendall & Kendall, and in severe hydrochloric acid deficiencies, we frequently find bilaterally weak pectoralis major clavicular factors, indicating low production of hydrochloric acid. Along with the obvious weakness of the pectoralis major clavicular, many times we find a particular type of a cranial fault called a "banana head" where there is a bulging of the parietal bone interfering with the normal respiratory activity of the bones of the skull, producing a failure of synchronization of the body's oxygen carbon dioxide cycle to synchronize with Hering Bruer Reflexes of respiration and C.S.F. factors.

The cerebrospinal fluid flow rate and the oxygen absorption rate should synchronize, but many times they are out of "sync" and cranial respiratory correction is necessary to insure adequate hydrochloric acid, as well as the appropriate hydrochloric acid supplementation.

Therefore, the pH of the intestinal tract is important to increase the absorption of calcium. Although we do not use it routinely, the Heidelberg capsule for electronic transmission of digestive pH is good workup technic.

It is important to balance the stomach against the pancreas, and here again we sometimes find underactivity of the stomach as measured by muscle testing. The pancreas producing by way of the carbonic acid anhydrase cycle, excessive amounts of the sodium bicarbonate, which buffers the acid of the stomach entering the small intestine, which then produces a reduction in the acidophilus bacteria, which then can reduce calcium absorption.

We measure the acupuncture meridian especially, of both the stomach and the small intestine and the pancreas, and take appropriate action using Applied Kinesiology technics to balance the meridians in this particular problem.

Both the Vitamin D and parathyroid activity assist in the absorption of calcium in the intestine. Vitamin D pulls the calcium out of the blood into the tissues and Vitamin F makes the tissue absorb the calcium. There is literally an antagonism between Vitamin F and Vitamin D, and the Herpes Simplex activity that comes from ultraviolet many times comes because the Vitamin D level is raised, pulling the calcium out of the tissue into the blood, and the Vitamin F pulling the calcium out of the blood into the tissue. If there is not enough calcium to accomplish both phases of this activity, the mucous membranes suffer because there is a lack of available ionic calcium, especially if none is available to pull into the blood from the intestinal tract.

Another source of change in calcium levels that we frequently encounter is that the patient is taking an excess amount of Vitamin C, especially the level of the ascorbic acid portion of the Vitamin C complex, which lowers the pH of the blood, and this lower pH increases the diffusible ionic calcium level and causes calcium to be excreted by the kidney which then leads to a reduction in the available ionic calcium, so we are very careful to ask in the history if the patient was using excessive amounts of ascorbic acid, and we do lingual Vitamin C levels on every patient regardless of their complaint, using the lingual Vitamin C test of Cheraskin and Ringsdorf.

The parathyroid insures calcium concentration by the promotion of the excretion of both potassium and magnesium, which then has a calcium sparing action on the kidney. Sometimes, if the calcium level drops, it causes changes in the tissue, as hyperexcitability; and when one tests muscles to evaluate certain problems, you get cramping, especially in the hamstring muscles, and many times the hamstring muscle will sustain the cramp, and this really indicates that there is not enough ionic calcium present, or there may not be sufficient protein present to take it up if the normal amount is present.

Since normal muscular activity promotes lactic acid activity, and this in turn is eliminated in sweat, there is also an accompanying sharp drop in ionic calcium, and this is why sometimes following heavy sweating the calcium level will drop causing tennis players or other athletes performing in the sun to have cramps and even shaking, and many times this increased sweat elimination of calcium produces the problem, therefore more attention should be given to the proper calcium intake, especially if the individual is at all athletic.

Another factor we find involved frequently is failure of the proper production of bile and this usually results in a rather pale colorless urine and rather light colored stools. Many times this failure of biliary production increases the tendency to have an increased amount of Herpes Simplex 2 condition. We measure the urobilinogens in the urine and we also question the patient as to the color of his stool and the patient is requested to bring a morning urine sample which can be readily inspected for the proper color.

Another factor many times is if the patient's tongue is clear or has a white coating, as opposed to dark in color. Poor bile production or poor bile absorption usually results in a whitened tongue and clear urine. In this regard we many times check the patient clinically by using muscle testing for either thyroid iodine responses or for biliary responses. There is a balance between bile and iodine in general. Iodine, when in excess, produces a thin, watery type of mucus secretion where the bile has a tendency to inhibit mucinase, which can destroy mucous membranes. If there is an excess in mucinase it permits the accumulation of mucus and it becomes bacteria laden and can be a source of irritation. In reverse, if there is a depressed amount of mucinase from not enough bile, the mucins become so thin that the lubricating mechanism is lost, whereas iodine has a tendency to stimulate mucinase, which is the reason why we try to get a balance between both bile and iodine. Fundamentally, bile decreases mucinase and iodine increases mucinase, and if we have too heavy a coating we try to increase the bile and if we have not enough, if it is too dry, we increase the iodine. So a good general rule: if the condition that precipitates the Herpes is a dry condition we generally test and give iodine in the form of organic iodine (1 tablet a day) or Iodomere (use 3 tablets) of Standard Process or equivalent product, or a single drop three times a day of Ioaquasol or equivalent product. This usually is the proper approach and seems to make sense when we do muscle testing on the dry condition—either the dry mouth or the dry vagina.

Now when the secretion is excessive we generally give extra calcium along with Vitamin F; and especially if the secretion is very thin we use extra potassium and extra Vitamin G in very low dosages. Generally if we find the indication to give bile, we cycle the dose of a substance like Cholacol or equivalent product, giving one the first day, two the second day, and three the third day, in the middle of each meal. This normally insures sufficient bile, which can be evidenced by change in the color of the stool and reappearance of the normal color of the urine, but it also increases the availability of Vitamin A, which we generally supplement with a product call A F and Beta Food, if the lesions are non-existent at the time we see the patient. If the lesions are present, we generally avoid the Beta Food portion and simply give A Complex, 1500 units three times a day, to insure a better mucous membrane pattern.

In each instance we do muscle testing with lingual placement of the nutritional product to ascertain the exact body language requirements for the particular nutrient based on other clinical observations.

Basically, there is a low level of calcium bicarbonate that seems to be present when Herpes lesions occur, and this seems to cause a breakdown of the epithelial cell mucous membrane, and the bicarbonate acts as a buffer to carbonic acid, and the bicarbonate carbonic acid buffer system is one of the major methods of controlling the balance of acid and alkali in the body. When either of these break down, you can have problems, and since carbonic acid anhydrase is the key to this particular situation, and since the main enzyme pattern of carbonic acid anhydrase is zinc dependent, we always test to make certain there is sufficient zinc to allow proper function of the carbonic acid anhydrase enzyme, which is well known to be zinc dependent. We have found that alterations in mouth pH, both on the high and low side, can precipitate Herpes in any portion of the body, especially Herpes Simplex 2. Therefore, we add zinc and proper acidification or alkalization based upon mouth pH, vaginal pH, and skin pH, which we attempt to measure by very critical technics, using a digital pH meter.

Therefore, metabolic acidosis or metabolic alkalosis may be combatted by relatively simple measures. The temporary use of sodium bicarbonate in a glass of water when a patient has an acidosis is a useful remedy; a teaspoon of cider vinegar three times a day if they have an alkalosis is also a useful temporary remedy until the lesions are healed.

Another factor we find frequently is a depressed protein reserve as evidenced by an increased amount

of globulin. The globulin level should never be higher than 2.8 to 3.0 in the blood. We very often find that it is around 3.2 or 3.4, and we give Prote-food or equivalent product three times a day, along with appropriate digestive aids to insure its absorption. There is evidence that methionine seems to be the specific amino acid that maintains the proper protein bound calcium level. So we generally check the calcium level, and if the calcium level is depressed, either by blood or urinary reaction, we give calcium lactate, which is a quick, readily absorbable form of calcium from Standard Process, or equivalent product, 6 to 12 a day, on a fasting stomach. We use Vitamin F—one Vitamin F three times a day taken at the time calcium is taken—that also contains iodine. Sometimes we have to modify the amount of iodine by decreasing or increasing the level of vitamins, or giving iodine in the form of organic iodine, Iodomere, or Iloquasol, or equivalent product, all by itself.

We generally give lactoacidophilus bacteria to increase the lactic acid level in the intestine, especially if the patient has had a history of any antibiotics in the past. We try to insure that the food intake is at the proper level to maintain proper pH. A good general rule is the more acid the mouth, the greater the need for Vitamin B, because of the potential pyruvic acid raising the acid level, diminishing the pH. If the mouth pH is very acid, we sometimes will use small amounts of regular sodium bicarbonate three times a day in water, monitoring the pH of the mouth carefully. In low salivary pH increase natural fats and oils in the diet also.

As well as recommending alkaline soda mints, we many times will recommend ordinary soda water taken as a rinse for the mouth, but not necessarily swallowed. We generally recommend all organic trace minerals, or the Nutridyne brand of zinc, or equivalent product, three times a day. If deficient, we start out at one and gradually pick it up to three, depending upon muscle response. We recommend that the patient who is required to be in the sun should use some type of sun screen over the entire body, even though Herpes Simplex may be basically venereal in site. We sometimes recommend that the patients also reduce their citrus juice content because many patients with a low oxidative level in their bodies cannot oxidize the citric acid which then causes accumulations of excess citrates which pulls the calcium out of the tissues causing a deficiency of calcium bicarbonate. The same can be true of too much potassium or any foods, and if the pH is up we generally reduce the fats and if the pH is down we increase the fats.

Quite frequently muscle testing will show a need for Vitamin E. We recommend two units of Vitamin E four to six times a day. This is much lower than the amount usually used, but we have found it to help immensely in the treatment of Herpes Simplex. Many times we recommend the wheat germ oil to be applied locally to the genital lesions.

We generally treat the whole patient as opposed to treating the part of the body that is involved, and frequently we find postural hypotension as evidence by dropping blood pressure when the patient stands. We do a complete evaluation regardless of the presenting complaint and take appropriate action based on muscle testing and lingual nutritional response, as well as increasing the lymph drainage and the circulation of the parts involved by specific Applied Kinesiological technics. There are five factors of the I.V.F. intervertebral foramen which must be evaluated in any muscle weakness or muscle contraction pattern, and there are kinesiological modes that allow you evaluation of these factors, which although too involved to present here are readily available for scrutiny by those who are interested.

Another thing we do quite commonly in Herpes Simplex of a venereal character is to take a blood sample when we do the calcium levels. Simply take a drop of finger or venous blood, and having tested the muscle and found it strong, simply place the drop on the patient's tongue and then retest it. If the

muscle weakens from the patient's own blood placed in the lingual receptors of the tongue, we generally provide an anti-allergy response by using Antronex or equivalent product three times a day to neutralize the histamine production, which may be aberrated under these conditions. Sometimes it is also necessary to check the foods themselves because the patient may become either acidotic or alkalotic.

Generally speaking, proteins, meats and grains have a tendency to contain excellent sources of amino acid, but they produce a large amount of acid when their metabolism is complete. Most foods may be either alkaline or acid, and the acid that is produced by the acid foods is generally offset by the alkaline foods. The foods containing amino acids cause a shift to the acid side because of the high amounts of acid that are put in the blood; and the citric juices and fruits are known as alkaline foods because they produce an alkaline condition, which is a rising pH. Many citrus fruits contain oxalic acid and both citric and oxalic acid bind calcium and lead to a drop in ionic calcium.

We have seen the Herpes patients develop lesions by simply drinking large amounts of orange juice or eating large spinach salads, which are high in oxalic acid.

Another thing we found frequently is poor lymphatic drainage of the areas of the genitalia and we usually found in these conditions a weakness of the gluteus medius or the piriformis muscles, and attention to the neurolymphatic reflexes at the symphysis pubis and at the 5th lumbar will help. Heavy hard manipulation of these areas preceded by muscle testing and followed by muscle testing to observe the need for continued response, is a very useful thing in eliminating the localization of the Herpes Simplex. It sometimes will occur upon the genitalia and then on the mouth, or vice versa, depending upon local problems, and these can be elicited by proper muscle testing. Naturally, all vertebral structural corrections are adjusted.

One of my patients was a Lutheran pastor who had a very bad viral infection, and he came in with his wife who also had a very bad viral infection. Many times I use the statement to patients that "you don't have flies without a manure pile," indicating that sometimes the bowel is the source of much of the activity on the part of the body's increased elimination such as one finds in the vomiting or diarrhea of intestinal flu that one sees—especially following Thanksgiving and Christmas, when one overindulges in food.

I suggested to his wife that she take a 12 or 14 oz. bottle of citrate of magnesia in an effort to flush the bowel out, because this produces a very rapid flushing of the bowel, and she responded very well. The next day the Lutheran pastor came in with very similar symptoms, but somewhat different, and I suggested in his case that he take an enema—a quart of water and two teaspoons of salt—to accomplish the same purpose, but from the other end. He came in a day or two later feeling much better, and remarked in an offhand fashion, "You know, what you suggested I take didn't seem very salty." I looked at him in surprise and asked, "How did you know that?" He said, "Well, I drank it. My wife drank hers," somewhat self-righteously. And I told him, "Well, fine, fine, glad to see that you responded." That much salt would accomplish the same result, and although he took it in a fashion entirely different than I had proposed the ultimate result was a salutary one.



Chapter 29

APPLIED KINESIOLOGY IN CHIROPRACTIC EXAMINATION BY A PHYSICIAN TRAINED IN APPLIED KINESIOLOGY

When a patient is introduced to this advanced type of examination chiropractors are becoming used to hearing remarks like "Amazing!" "Fascinating!" "Incredible!" and "I can hardly believe it, but it really works!"

During the 1960's a new system of evaluation began to develop in chiropractic. We found that evaluation of normal and abnormal function of the body could be accomplished by the use of muscle tests. Since this discovery was made, the principle has been broadened to include evaluation of nerve, vascular and lymphatic systems, nutrition, acupuncture, and cerebral spinal fluid function. This system is called Applied Kinesiology.

Muscle tests are applied to different areas of the body in a manner to isolate a specific muscle for evaluation. Your examination will show that some muscles are strong and others very weak—perhaps the same muscle may even be strong on one side and weak on the other. This weakness indicates not only poor function of the muscle, but also possible trouble with the organ and other tissue on the same nerve, vascular, nutrition, etc., grouping. Further evaluation by the doctor reveals which "controlling" factor is at fault, and if correction is successful there will be a remarkable return of strength to the weak muscle.

Since the nerves control body functions including all the major systems, it is paramount to have the ability to evaluate ALL the the nerves in the body. For scores of years it has been easy for doctors to generally evaluate the peripheral nerve system. This system of nerves controls muscles and gives sensations such as heat, cold, deep touch, soft touch, etc. Not until Applied Kinesiology has there been an approach to accurately understanding the total correlation of the nerve system, including the autonomic nerve system which controls the organs and glands of the body.

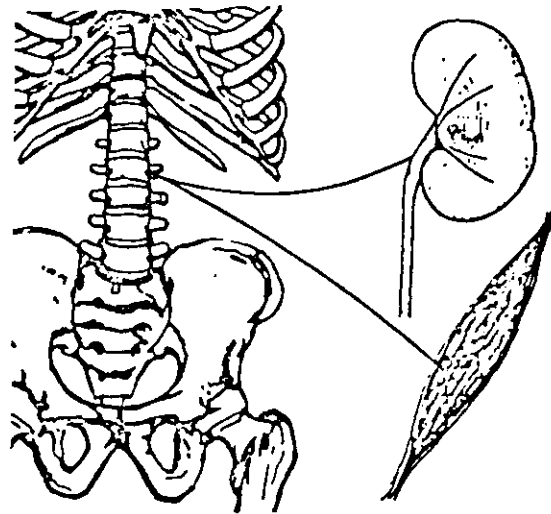
The schematic drawing on Page 1A shows how a specific muscle and the kidney are related via complex pathways in the neuronal pools of the central nervous system. By testing the muscle, information is obtained not only about the muscle function, but also of the organ function. The doctor then correlates this information with other tests. After treatment the muscle becomes strong, indicating that "the body is turned on."

Therapy Localization

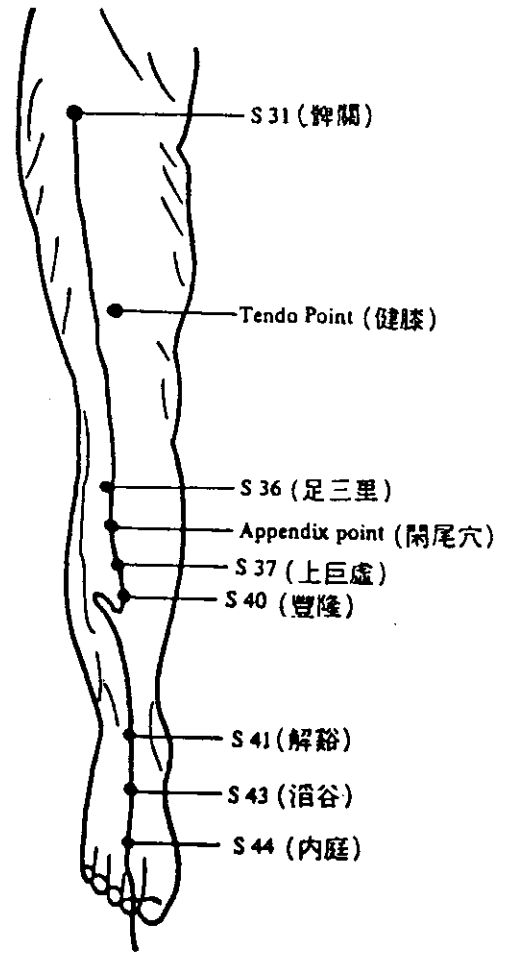
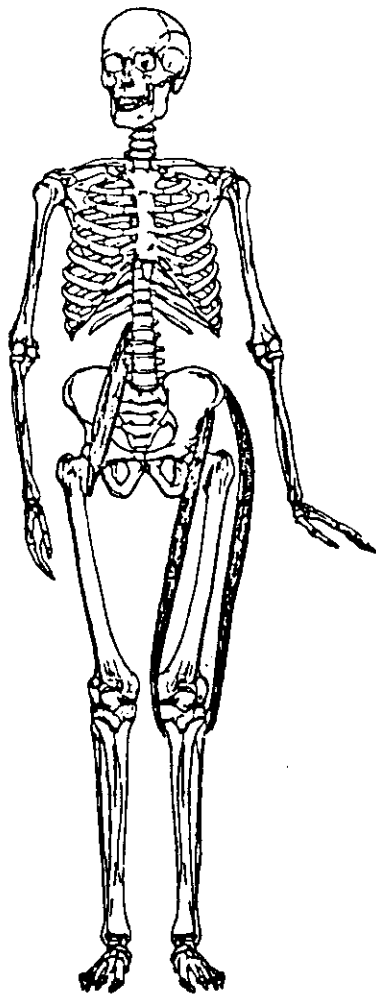
During an examination the doctor may test a muscle and then have the patient place a finger or hand in a certain spot. He will then retest the same muscle, and sometimes there will be a remarkable change in muscle strength. What the doctor is actually doing is using your hand to either add or subtract energy to different nerve centers. By so doing he is able to determine whether that nerve center is functioning normally, which gives indication for effective treatment.

Nutrition and Adverse Chemicals

Nutritional factors, when chewed, have an immediate effect on the appropriate muscle strength. For example, if the muscle associated with the liver is weak and Vitamin A is indicated for liver support,



SCHEMATIC OF NERVE BRANCHING



Stomach Meridian

chewing Vitamin A or a carrot will cause immediate and dramatic strengthening of the muscle. Conversely, if a chemical such as an artificial sweetener is causing a problem in the liver, a strong muscle associated with the liver will immediately go weak upon chewing the substance.

Structural Balance

The skeletal drawing on Page 1A shows how muscles hold joints and give them stability. If muscles of one side of the knee or lower back are weak it is obvious there will be joint instability, causing joint fatigue, pain, easy injury, and, eventually, joint disease. Almost all joints of the body can be involved, including the entire spine, shoulders, elbows, wrists, hips, ankles, etc.

Acupuncture

The ancient Chinese developed a system of treatment of disease and health maintenance which balanced the energy in what are called meridians. In modern times, acupuncture—or what is more accurately termed meridian therapy—has been proven to be a valid method of treatment. By use of Applied Kinesiology, the over- or under-flow of energy in the meridians can be evaluated and then corrected if off-balance. The correction can be made by many means of stimulation such as simply touching certain spots (see drawing of leg and Stomach Meridian on Page 1A) electrical, needles, small tape patches with a metal ball, etc. You will note an immediate return to normal of the involved muscle which is on the imbalanced meridian. This indicates the return to normal of the meridian energy.

Cranial Bone Movement

Until recently it was thought that the skull was a solid mass mainly for protection of the brain. Recently we have learned that the skull moves with respiration and controls the production and movement of cerebro-spinal fluid. This fluid surrounds the brain and spinal cord, and provides nutrition, lubrication, hormone movement. A bump on the head can jam the bones of the skull, causing no movement or abnormal movement. This creates abnormal nerve function and can cause problems in any organ or structure of the body. During examination you may be muscle-tested in different phases of respiration or asked to place your finger on areas of your skull. If a "cranial fault" is found, the doctor will direct a gentle pressure in a specific manner to your skull and there will be a change in the muscle strength test.

You will be pleased with the Applied Kinesiology phase of health care, because it not only gives the doctor the ability to determine what type of treatment is needed, it also gives him and you the ability to determine what progress is being obtained. As treatment progresses you will note muscles which used to be weak are now strong. This, of course, is because your body is now functioning in a normal manner.

When health is back up to its maximum level the doctor can use Applied Kinesiology to maintain health by finding poor function and correcting the problem before symptoms develop.

We have used a system of evaluation involving muscle testing using methods of Kendall & Kendall and found that the evaluation of normal and abnormal function of the body could be accomplished by the use of muscle tests. The breakthrough was in understanding that not every weak muscle represented a weak viscera, but every weak viscera represented a weak muscle, and that posture was the key to the relative weakness and relative contraction or spasm. An example, as mentioned, is the latissimus dorsi being weak on one side, causing the shoulder to elevate due to the intact trapezius pulling it up.

This is usually found in disturbances of the pancreas, with a low or high blood sugar, as well as those conditions which accompany trauma and the latissimus dorsi being weak because of the nonvisceral relationship.

Muscle testing is applied to many different areas of the body in a manner to isolate a specific muscle for evaluation. Examination shows that some muscle will be strong and others will be weak, and perhaps the same muscle is strong on one side and weak on the other.

An evaluation or palpation of the temporal sphenoidal line allows ready decisions as to which muscle should be tested. This, coupled with the postural examination, gives definitive and definite evidence as to how to proceed. The weakness will indicate not only a poorly functioning muscle, but also possible trouble with the organ and other tissues of the same nerve—the vascular, nutritional, etc. Further evaluation will reveal which controlling factor is at fault by therapy localizing to the neurolymphatic or the neurovascular or the acupuncture meridian relationship, or by having the patient take a deep breath either in or out, or by applying the proper nutrition.

Since the nerves control the function of the body and include all the major systems, it is paramount to have the ability to evaluate all the nerves of the body. You can make general observations, but Applied Kinesiology allows you to accurately understand the total correlation of the nervous system and view the automatic nervous system which controls the organs and glands of the body.

In a schematic diagram, the specific muscle, the psoas, and the kidney are related by complex pathways and interconnections of the nervous system. By testing the muscle you can not only obtain the muscle function, but also organ function, and you then can correlate this information with other tests, such as specific gravity, x-ray of a kidney in case of stones, and elevations of the urea nitrogen or the lactic acid—the hydrogenates. After treatment the muscle remains strong, indicating that the body is literally turned on, and we also see changes in other laboratory evidence.

During the course of an examination you may test a muscle, which may then test strong. By having the patient place his hand or finger on either the neurolymphatic or the neurovascular or the acupuncture circuit, or by having the patient take a deep breath in or out, or by having the patient take a nutrient, we can readily identify which circuit is involved, and the course of treatment therefore becomes obvious. RNA, 180 mg. held on tongue, many times will bring out medication-masked and hidden weakness.

Muscles hold joints in position and give them stability. If the muscles on one side of the knee or the lower back are weak it is obvious that there will be joint instability, and this then causes joint fatigue, pain, disability, and eventually joint diseases. All the joints of the body can become involved, involving the entire spine, shoulders, elbows, wrists, hips, ankles, etc.

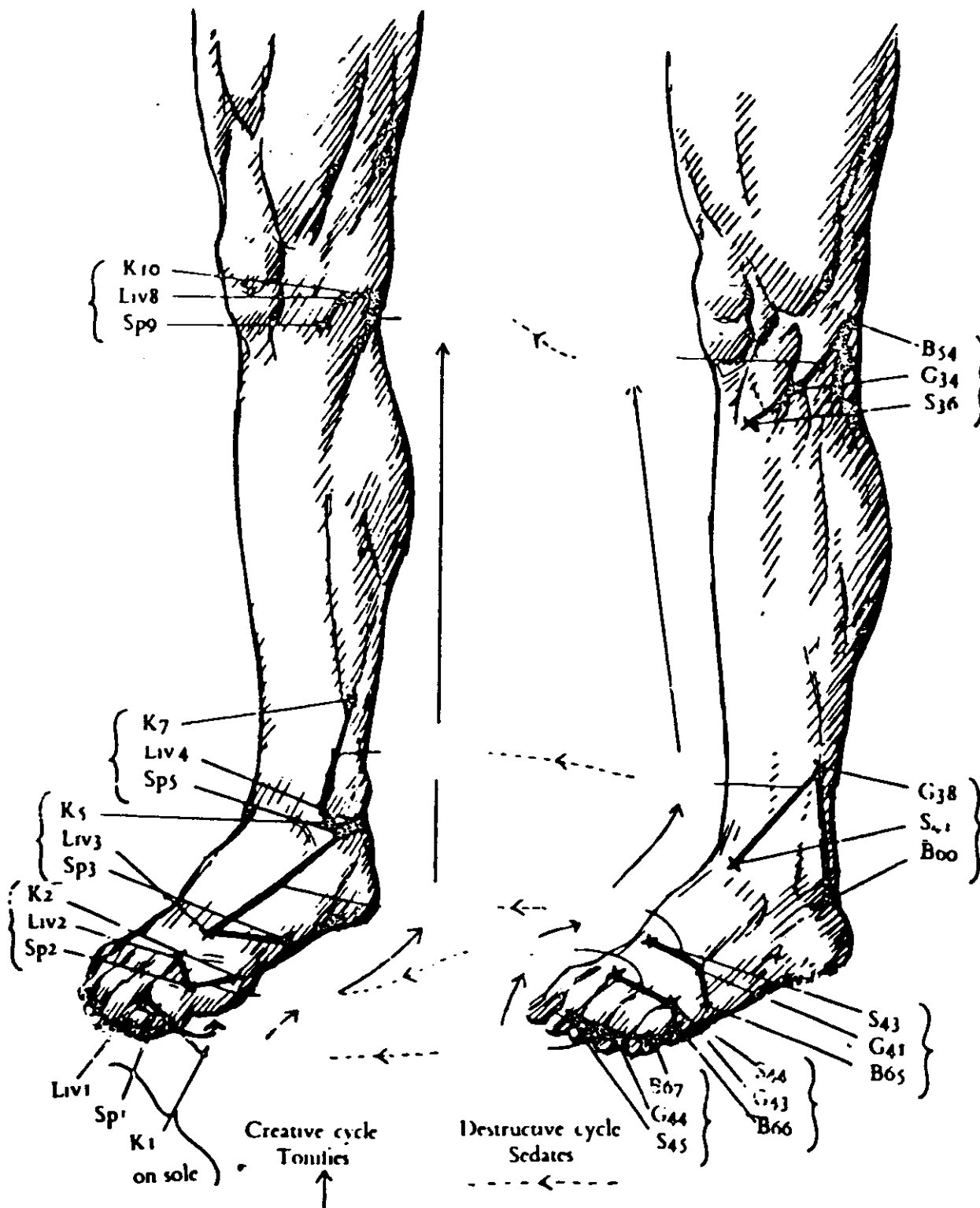
The acupuncture relationship is especially important, because as you know, the ancient Chinese developed a system of treatment of disease using technics which balance energy, in what are called "meridians." These acupuncture meridians have proved to be a valuable method of treatment. The use of evaluation of over- or under-meridian activity, and then its correction, is especially useful in everyday practice. Many patients have over-activity of the yang meridian and under-activity of the yin meridian.

There are acupuncture points to turn on muscles and acupuncture points to turn off muscles. The neurolymphatic and neurovascular areas aid as well in muscle "turn on."

POINTS OF THE 5 ELEMENTS

YIN MERIDIANS
Spleen kidney, liver

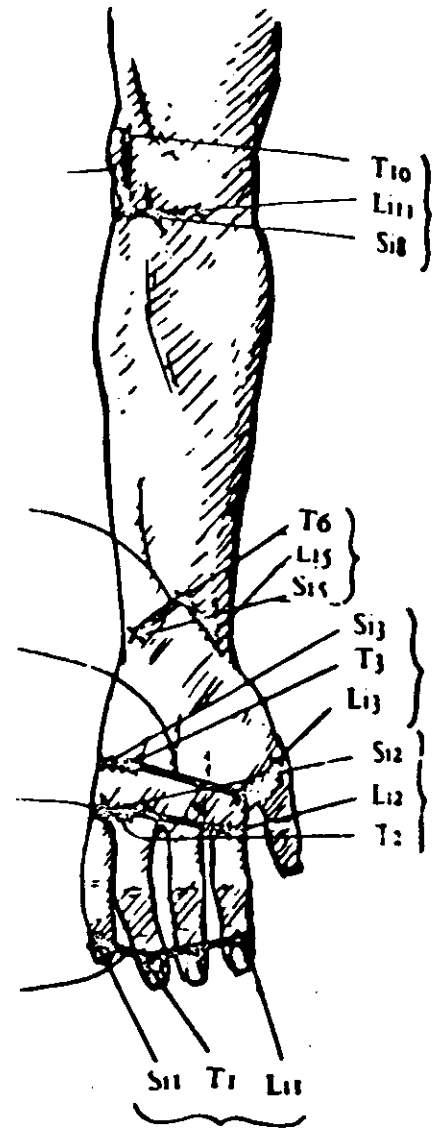
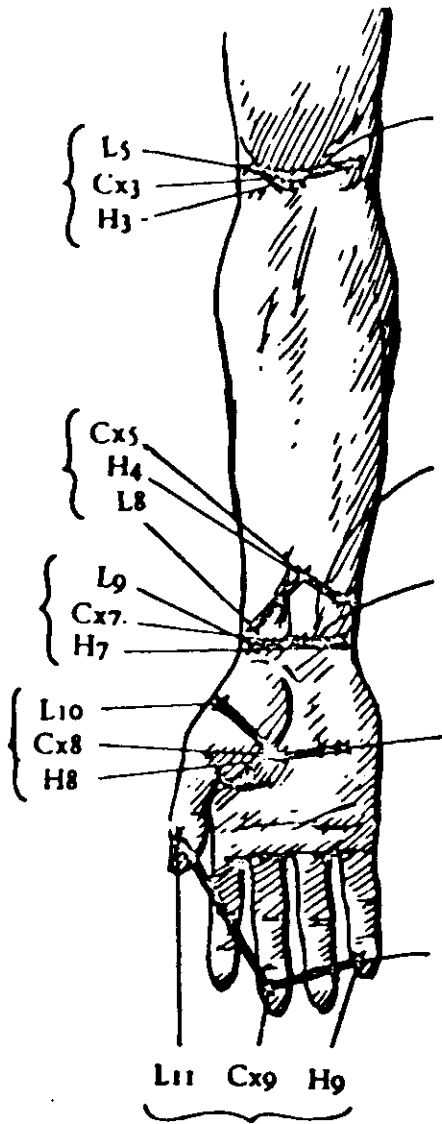
YANG MERIDIANS
Stomach, Bladder, Gall bladder



POINTS OF THE 5 ELEMENTS

YIN MERIDIANS
Lung, Heart, Circulation-sex

YANG MERIDIANS
Large intestine, Small intestine
Triple-warmer



Creative cycle
Tonifies



Destructive cycle
Sedates



Organ

	<i>Tonify</i>		<i>Sedate</i>		<i>Sedate</i>		<i>Tonify</i>	
Lungs	L9	Sp3	L10	H8	L5	K10	L10	H8
Kidney	K7	L8	K5	Sp3	K1	Liv1	K5	Sp3
Liver	Liv8	K10	Liv4	L8	Liv2	H8	Liv4	L8
Heart	H9	Liv1	H3	K10	H7	Sp3	H3	K10
Spleen	Sp2	H8	Sp1	Liv1	Sp5	L8	Sp1	Liv1
Large intestine	Li11	S36	Li5	Si5	Li2	B66	Li5	Si5
Bladder	B67	Li1	B54	S36	B65	G41	B54	S36
Gall bladder	G43	B66	G44	Li1	G38	Si5	G44	Li1
Small intestine	Si3	G41	Si2	B66	Si8	S36	Si2	B66
Stomach	S41	Si5	S43	G41	S45	Li1	S43	G41
Circulation-sex	Cx9	Liv1	Cx3	K10	Cx7	Sp3	Cx3	K10
Triple warmer	T3	G41	T2	B66	T10	S36	T2	B66

As you know also there is respiratory function to the skull. Until recently, it was thought that the skull was a solid mass mainly for the protection of the brain, but it has been learned that the skull moves with respiration, and controls the production and movement of the cerebrospinal fluid. This fluid surrounds the brain and the spinal cord. The spinal fluid is the life blood of the nervous system and provides nutrition, lubrication and hormone movement. A bump on the head can generally bruise the skull, causing lack of movement or abnormal movement. This creates abnormal nerve function and can cause problems in any organ or structure of the body. The cruciate suture technis and nasosphenoidal are good examples given in this research material.

During an examination you will muscle test different muscles, then place the patient into different phases of respiration, or have the patient place the hands on suture areas to detect cranial faults. He may be asked to change the suture by challenging and by subsequent respiration.

The examination is based fundamentally on posture and also on temporal sphenoidal line evaluation, and also on the evaluation that can be performed by support personnel of general information. Every patient we see has a blood pressure taken in three different positions—standing, sitting and lying. The blood pressure should be 10 mm. higher when the patient stands as opposed to when he is prone or supine. We routinely check B.P. due to the fact that many patients lack the so-called postural reflex. There is a center in front of the tail bone called the glomus coccygium, and it is basically a baro receptor, as is the aortic sinus on the anterior portion of the aorta in the chest, and the eustachian tube sinuses and the carotid sinuses on the neck. When the patient stands, these baro receptors are activated and send an impulse to the hypothalamus, the computer of the body, which then sends impulses down the spine and along the spinal outflow to the adrenal glands.

The adrenal glands make a specific "squeegee" chemical that narrows the valveless veins of the

abdomen. When you stand, all the blood goes to the bottom of the belly. Anyone has this phenomenon occurring. There are no valves in the veins of the abdomen, and there are valves in the veins of the leg. All the blood goes to the bottom of the belly, but the minute we stand up, the glomus coccygium, aortic sinus, eustachian tube, carotid sinuses are activated, and the outflow goes down the splanchnic nerves to the adrenal gland, which then makes a secretion of a chemical that narrows the valveless veins down, preventing the accumulation of blood in the abdomen, and as a result the blood pressure rises about ten points. This is done on every patient, and frequently the blood pressure drops as much as 30 or 40 points when the patient stands up from a prone or supine position.

When these conditions are present it allows you to check the sartorius gracilis muscles and the muscles will usually be weak in the clear, or on checking against the neurolymphatic reflex located on either side two inches above the umbilicus and between 11 and 12 interspinous transverse space on the posterior, or the circulation sex alarm point on the lower sternum, or the neurovascular center which is at the posterior fontanel. This, then, allows you also to check the nutrition to the adrenal. Many times, if you have paid attention to your indicator, that is the strength of the muscle having been restored by the neurolymphatic or neurovascular, you have what we called "killed" the indicator; so it is wise sometimes to test by putting tableted material or whole adrenal or adrenal protomorphogen material on the tongue, and see its response, and then withdraw it leaving the muscle weak again, which you can then check against your various circuits. Naturally you then recommend the nutritional supplementation.

We also measure the temperature of every patient, either on axillary basis or in the mouth. We use biofeedback instrumentation because of the speed of temperature readings, and the new Tempadot by Organon (Roche) single-use thermometers are also great and very practical in that they give a reading in 45 seconds, are relatively inexpensive, and have a good range. The patient can see the dots before treatment and observe the change following treatment.

The temperature might be falsely elevated in the mouth in cases of sinus or gum trouble; therefore we generally recommend axillary temperature readings which are independent of these two previously mentioned activities. When the temperature is low it may mean simple thyroid function, and it may mean a deficiency of Vitamin B, or it may mean the failure of the teres minor muscle to act as a pump, or it may simply represent a pituitary thyroid involvement. One simply tests the teres minor muscle in the clear, tests it against the neurolymphatic, neurovascular, acupuncture and cranial patterns.

If the muscle is weak and deep inspiration or deep expiration will strengthen it, then the corresponding action can be taken. If inspiration assists a particular muscle, press the mastoid process forward on that side; if expiration assists press it backward. This has been discussed before.

If weakness exists, use an appropriate source of thyroid protomorphogen material—thyrotrophin or tritrophic or its equivalent from other product sources. Here again, be careful not to have the patient chew the materials, so that he does not "kill the indicator." Then check against neurolymphatic and neurovascular. Many times the teres minor will test strong, but if the muscle is rapidly stretched it will many times show weakness indicating a fascial contraction, and here the fascia should be ironed by hard heavy pressure such as the Roling Technic, which Ida Rolf has proposed.

Occasionally the teres minor will show normal strength in the clear when testing against any of the circuits and rapid stretching, but when the neurolymphatic reflex is therapy localized in conjunction with the pituitary reflex at the glabella just above the base of the nose, a marked weakening occurs which

is moderated by deep inspiration or deep expiration—usually we find it to be deep inspiration. This represents a malfunction of the pituitary to deliver sufficient quantities of the anterior or posterior pituitary material and requires prolonged inspiration assist or expiration assist technic with an indwelling thermometer of a biofeedback thermistor in the armpit until such time as the temperature rises. This usually takes about 4 or 5 minutes.

Another guide to this involvement is the coincident relationship with a low specific gravity. We measure the specific gravity of all patients, and the normal specific gravity should be 1.022. In the absence of all other factors, the specific gravity of less than 1.022 usually represents failure of the anti-diuretic hormone ADH to be liberated by the pituitary, and this is usually due, all other things being equal, to failure of the hormones to move properly in the spinal fluid. The posterior pituitary hormone and portions of the anterior pituitary hormone are carried in the spinal fluid, and they literally drive the other glands, as we discussed earlier. The thyroid and the pituitary are involved, and since insufficient amounts of the anti-diuretic hormone alters the specific gravity considerably, it is a good index of low pituitary and kidney function.

We measure oral temperatures and axillary temperatures, as we mentioned. We also measure the speed of the achilles tendon reflex. These usually correspond and the speed of the achilles tendon reflex should be approximately one third of a second. It is measured with a device made by the Burdick Company called the Photomotogram. There are other devices on the market called Achilleometers which measure the speed of the achilles tendon response.

The usual time in milliseconds is 330 milliseconds, and normally these times if elevated indicate hypothyroidism and if depressed indicate hyperthyroidism. These usually parallel the basal temperatures mentioned earlier. Occasionally there will be paradoxical relationships of a low temperature indicating hypothyroidism, with a fast achilles tendon speed response indicating a reaction of the nervous system. This usually represents a situation where there is a paradoxical situation, that there is too much thyroxin in the blood and not enough in the tissues, and this unusual situation generally is the indication for RNA in 180 mg. increments.

Ribonucleic acid is the key that opens the cell door that allows the thyroxin to enter from the blood stream, and usually when these two paradoxical things are present, namely low temperature and fast Achilles tendon time, it is a pretty good indication to give 180 milligrams of RNA three times a day or PRN (as needed) until such time as both levels balance.

We also measure the hearing of the patient—of all patients—and we also measure the weight balance on twin scales. Normally there should be a 10 lb. increment on the right as most individuals are right handed, accounting for an increased muscular development on the right; plus the liver, one of the heaviest organs in the body, is located on the right. In a left handed individual the usual 10 lb. increment is reduced to 5 and we measure the bilateral weight scale pattern on the patient at least three times, having the patient step on the scales first with the left foot then with the right, then back with the left. Then we get an average. If there is a disturbance in the normal 10 lb. increment on the right it usually means a mechanical fault. This is pointed out to the patient.

We measure the oral pH by using a digital device which measures it electronically. We place the L.E.D. device on the tongue, the tongue being placed against the recording apparatus slot on the pH meter.

Harold Hawkins, D.D.S., in his *"APPLIED NUTRITION,"* on figures taken at the University of Southern

California, found the pH for an adult absolutely free of dental disease was 7.6. In a child it was 7.8. We rarely find this level, and we find that a salivary pH of 7 to 7.2 seems to accommodate itself to fairly good health.

We measure the color vision, which was previously thought to be hereditary in any deficiency; but under the work of James Pershing Isaacs it is shown that it is also related to trace mineral deficiencies and copper and manganese deficiencies. Treatment many times changes so-called hereditary failure to understand color. We use the ISHIRA Color Charts, which can be obtained from any physicians' supply house.

We also measure the pulse rate with an electronic device, and in many cases we measure a phono cardiographic tracing of the heart which is supplied by the Endocardiograph Company in Milwaukee, Wisconsin.

We do a routine study of the urine using the dipstick method; as well as measuring the Vitamin C level, the calcium level, and the chloride level. The chloride level, the calcium level, and the Vitamin C level can be readily ascertained by your support staff, using the Koenigsberg test for the chloride level, the Sulkowitch test for the calcium level, and the Dichloro Phenol Indophenol test for Vitamin C.

We do Vitamin C assays on the urine as well as on the saliva and the pH level of the saliva does have an influence on the relative strength of the Vitamin C test. The Dichloro Phenol is placed on the tongue and measured using the Cheraskin Ringsdorf method, and a disappearance time of 10 seconds is considered normal. Many patients show as high as 20 or 30, and this is sometimes influenced by the pH of the saliva, and has to be treated with that balance in mind.

The material gained from the examination of the patient is then equated with the muscle balancing, and the evaluation of the temporal sphenoid line is done, and then special tests are given in terms of blood chemistry; or other tests are given, depending upon the patient's symptoms. A common complaint is pain in the limbs unilaterally or bilaterally, associated with either recumbency or walking. Sometimes the patient has pain which disappears on walking, sometimes the patient has pain which appears on walking—and a good method of testing the deep venous circulation is to put a blood pressure cuff around the largest portion of the calf and with the patient in a supine position pump the blood pressure up rapidly at a regular rate, 280 mm. or more. The average patient should tolerate 180 mm. of pressure on one limb, and many tolerate as high as 220 or higher. Repeat the test on the other limb, and this test is very often positive in the presence of sacroiliac or Vitamin E deficiencies as well as what one might expect in any intermittent claudication or disturbances of the venous circulation.

To differential diagnose, we make a mechanical correction of the pelvis after therapy localizing the sacroiliac joint and adjusting the pelvis as mentioned in earlier text, Category 1 and Category 2. We re-evaluate the blood pressure proper response. If we do not get a change we add chewable amounts of Vitamin E2, the E2 supplied by Standard Process Co. in 6 to 8 to 10 to 12 units. The patient chews, and usually this alters the blood pressure response time to put the patient into a normal pattern. If you do not get alteration of the blood pressure response time and the patient's temperature is normal, you have a pretty good evaluation of venous disturbance in lower extremities and these must be dealt with as outlined in the section on adrenal symptoms.

Many times in the presence of altered functional capacities that limit the response to blood pressure cuffs to 160 or 140, there are pronation problems of the foot and this must be corrected by adjusting

the lateral talus. This can be checked in the section on the foot entitled "Tarsal Tunnel Syndrome."

We generally also measure the energy index, which is a combination of the sitting systolic and diastolic blood pressures, and pulse ratios. We simply find the systolic and diastolic blood pressures and multiply them by the pulse rate. An example would be 120 systolic 80 diastolic, added would be 200 x the average pulse rate would give 14,400, which is within an average level. The normal is 16,000. This is valuable to calculate in that anything below 12,000 we classify as parasympathetic and anything above 18,000 we classify as sympathetic.

Usually those patients who are 12,000 or below need sources of potassium, pancreatic materials, B1, choline, magnesium, manganese, pantothenic acid, B2, B3, E2, calcium, C and E to improve that over-dominant sympathetic activity, whereas in those cases where they are sympathetic, which is 18,000 or more, we use calcium, phosphorus, Vitamin C, F and B6 and copper.

When a cell breaks down, its RNA and other tissue fragments are picked up by the blood stream and eventually come to the thymus where they are analyzed for their needs in the body. The thymus, as you know, is an auto-immune gland, and it analyzes the RNA to decide whether it should be kept or thrown away, so to speak. The thymus has this capability, and one of the indications for this unique capability of the thymus is that when organ transplants are given from a donor to a recipient, the recipient's thymus must be heavily irradiated to prevent the rejection of the organ of the donor.

The thymus processes RNA for reuse and recycling—processes it to the parotid for reuse and recycling—and the parotid coats our food with it so that as it passes down the alimentary canal and is absorbed by the intestinal villi, there can be reuse of the RNA configurations necessary in the construction and performance of the tissues recently broken down.

This is really how we retain tissue memory. There is both neurological and chemical memory, and the chemical memory in addition to the crude RNA addition, is also mediated and organized by the thymus and the parotid.

The neurolymphatic reflex for the thymus is in the fifth right interspace, and the fifth right interspinous transverse space at the fifth thoracic posterior.

The neurovascular reflex discovered by John Diamond is at the Angle of Louis and the acupuncture point is immediately below that.

Technically the thymus is a single gland even though it has an isthmus and dual structure such as the thyroid; whereas the parotid is, in reality, a dual gland. We have found that the thymus and parotid together seem to play an important part in the neutralization of many left and right brain activities. The inference is true here that in some cases the patient may only be functioning with one adrenal in terms of repair or one kidney, or one side being active and the other side being inactive. The thymus-parotid seems to control the capacity for repair and re-building of both sides, and this addition of thymus and parotid together is a very useful thing.

So in any difficult problem case—Crohn's Disease, colitis, asthma—any of the chronic, recurring, relapsing conditions, check the hyoid for its left and right, up and down position. Check that, and then challenge the infraspinatus for teres minor activity; challenge the neurolymphatic at the 5th right interspace; challenge the neurovascular at the Angle of Louis; challenge the acupuncture alarm point

just below that—and you will find that correcting the neurolymphatic reflex at the 5th right interspace will also correct the concomitant glandular related situations such as the piriformis for the gonads or the sartorius gracilis for the adrenal. It will not correct the quadriceps for the small intestine or the peroneus tertius for the bladder, indicating a highly selective position of the thymus towards glandular reproducibility of tissue. It seems to be selective toward gland cell reproduction.

In many instances, lingual receptor activation by thymus alone will not do it, nor will parotid lingual receptor activation accomplish the task, but the combined lingual receptor activation by thymus and parotid in the form of the individual ptyalotrophic or thymotrophic or parotid SP and thymus SP (Standard Process) may be used; or the new product GSF of Nutridyne in a general stress formula which contains thymus, parotid, adrenal, and spleen; or the corresponding thymus-parotid-adrenal and spleen material from V. M. Nutrifood, which is also useful.

In any condition involving tissue repair, tissue maintenance or tissue restoration of any type, be sure to check the thymus and parotid for their nutritional and structural relationships to the problem involved.

The use of the thymus-parotid combination frequently neutralizes difficult left and right brain problems which persist despite normalizing the hyoid bone balance, and it is probably a very useful method to insure proper bilateral adrenal use, proper bilateral kidney use, and proper bilateral use of the potential in any area of the body, and especially in the glandular system. The so-called Limbic Technic will be discussed later; it also has an effect on left and right patterns.

Naturally, do not neglect to eliminate the primary switching patterns of the Umbilical K-27 variety, or the nasal tap pattern which we very often find with the eyes closed and lateralize left or right. These are primary, naturally, and the thymus parotid is a much finer subdivision, but we should not get the cart before the horse, and certainly attention to primary switching patterns in observing the patient insures a good response.

My father had a favorite story which reflects both the doctor's and the patient's point of view.

A patient once asked my father, "How long do I have to keep coming here?" Since this was in the early days of his profession when he was striving very hard to make a living and at the same time do as much good as he could, my father looked at him and said, "Until I get someone to take your place."

This represents the dichotomy of thought which exists sometimes both from the patient's and doctor's point of view. The doctor is basically interested in the help he can provide, the patient is interested in the duration, and the economics of both are a concern to both. Concern for the patient should be paramount, and the aphorism "If you take good care of your patients your patients will take good care of you" was no truer then than it is now.

Chapter 30

ARTHRITIS—BURSITIS—TENDONITIS

Arthritis:

The term "Arthritis" seems to hold everything, most of which is junk, so it should be considered a "wastebasket term." The term is generally misused and misunderstood by the general public, and even doctors sometimes use the term much too loosely. Arthritis comes from the Greek "arthron" meaning joint and "itis" which is a word termination denoting inflammation—so "arthritis" means inflammation of the joint.

This can be a very mild process or a very severe process. For instance, if you simply scratch or rub your skin you can have inflammation, and if the irritation is significant enough to cause redness, extra fluid accumulation, additional heat, and pain, then inflammation is present. Therefore, in the true meaning of the term "arthritis," if a joint is strained, arthritis is present. That certainly does not mean it is incurable. In fact, it will usually correct itself. Yet common understanding of the term "arthritis" means that there is an incurable situation that should be controlled by pain medication, such as aspirin, and advertising media have helped to create this erroneous impression.

The most unrealistic approach to treatment of arthritis (joint pain) is to use medication to subdue the pain rather than find out exactly what caused the problem and correct that cause, if possible.

Many people consider pain as an enemy, but in most cases it is a friend. Pain tells us when something is going wrong. It is the alarm system of the body. Some unfortunate people are unable to feel pain, which is a VERY SEVERE problem because major destructive processes can take place without the person's knowledge. In most cases, pain of a functional nature can be eliminated as the body's function is returned to normal by natural health care approaches. This is the case with most types of "arthritis."

The most important factor in arthritis is to define what type of arthritis is present, or if it is truly arthritis. Most types of arthritis are helped by treatment; some can only be managed effectively, and then only if the condition is treated before permanent damage has developed. So we can see that it is very important to change our thinking that arthritic problems must be endured throughout a lifetime because arthritis is incurable. This may be true with certain types of arthritis, but certainly not with all forms. Unfortunately, often a patient is diagnosed arthritic by a doctor, and the patient makes no effort to correct the condition and resorts to pain pills, because "everyone knows arthritis is incurable and I'll have to live with it." Most of the time this thought is erroneous.

Often a patient consults a doctor who uses applied kinesiology when arthritis has been previously diagnosed. Upon thorough evaluation it is found that there is no inflammatory reaction of the joint; it simply is not functioning normally. When the movement factors of the joint are returned to normal the pain is immediately removed.

This type of condition is generally caused by muscular imbalance. Muscles hold the joint stabilized and move the joint through its range of motion. If the muscles holding the joint are very weak on one side compared to the muscles on the other side, the joint is in constant strain and movement through its normal range causes increased strain and consequent pain. However, if this imbalanced function is allowed to persist for a prolonged period of time, osteoarthritis will ultimately develop.

A doctor uses several forms of examination and evaluation, depending upon what he is looking for, exactly. His examination will include testing multiple muscles of the body to determine their balance and strength and evaluate the energy patterns of the body, and he may use x-rays to evaluate joint structure, and laboratory procedures for metabolic evaluation.

When actual arthritis is present, it is usually one of three major types, which are discussed in the following paragraphs. There are many other types of arthritis, and if you suffer from one of these more unusual varieties, your doctor will discuss it with you.

Osteoarthritis:

This type of arthritis could be known as the "wear and tear" type of arthritis, which develops usually around age 40 to 50 or from then on, and is most commonly found in weight-bearing joints such as knees and hips. Another common location for osteoarthritis is in the hands, especially where they have been used over a lifetime of hard physical work.

Since osteoarthritis is correlated with strain to the joints, it is vital to keep weight down to a recommended level to take as much strain as possible off weight-bearing joints. As mentioned earlier, structural strain is also very important in osteoarthritis, and you can see why a knee which is in constant strain from poor muscular support is more susceptible to osteoarthritis. Postural balance is also very important, because the joints of the spine are frequent sites for osteoarthritis.

Osteoarthritis, which is known as degenerative joint disease, is commonly associated with mechanical strain to joints, but there is also correlation with specific metabolic or nutritional deficiencies which cause a weakening of the joint surfaces, making them vulnerable to wear and tear. Protein deficiency has been named as a causative factor in osteoarthritis. This does not necessarily mean the individual has a lack of protein in his diet; it could mean that his body fails to absorb and utilize the protein. Digestive function may have to be improved in this case, in order to halt progress of the condition. Indications that protein may not be digested properly are gas after a meal, brittle and cracking fingernails, and poor quality of hair and skin.

Long term osteoarthritis will cause additional calcium buildup in the joints and possible spurs formed around the joint. Utilization of calcium within the body is a very complex subject. Dietary change and/or nutritional supplementation may be necessary to improve absorption and utilization of calcium.

Sometimes it is necessary to supplement the diet with more calcium even though there is a concentrated calcium level in specific areas of the bone. This nutritional change is required because there are different ways that calcium is used in the body, and calcium must be in proper balance with the other minerals.

Osteoarthritis can develop in only one joint of the body as a result of injury to that specific joint. It is not the type of arthritis which migrates around the body from joint to joint.

Reducing weight and structural strain to joints and improving nutrition and metabolic process can markedly reduce or halt the advancement of osteoarthritis. However, most damage to joint structure is permanent, so the answer is to obtain evaluation, treatment and correction—if possible—early, before permanent damage develops.

An interesting correlation has been made in the treatment of osteoarthritis with applied kinesiology principles. An individual who has x-ray evidence of a severely damaged joint as a result of osteoarthritis may come in for treatment, and the joint structure is balanced with muscle balancing technics and manipulation. The pain is often completely relieved, although the joint structure still appears to be significantly damaged on x-ray and continues appearing so.

Osteoarthritis can be severe enough that the pain becomes totally intolerable to the individual. Because the damage is permanent, it is sometimes necessary to make a surgical repair of the joint or complete replacement of the joint. Surgical replacement with an artificial joint is becoming more common in the hip and other joints and the accomplishments are remarkable—but the most important thing is to prevent the condition from ever becoming that severe, if at all possible.

Rheumatoid Arthritis:

Rheumatoid arthritis often affects younger people than osteoarthritis. Rheumatoid arthritis frequently appears after a severe infection or some other form of stress, and is an inflammatory disease which progresses throughout the body. Unlike osteoarthritis, it can migrate from joint to joint, and as it progresses it will cause deformities. so it is sometimes known as "arthritis deformans."

Researchers disagree considerably regarding the cause of rheumatoid arthritis. Ineffective adrenal function appears to be one cause in its development, but this is not clear. In any event, improved adrenal cortex function aids the control of rheumatoid arthritis. The adrenal cortex manufactures within the body anti-inflammatory and pro-inflammatory hormones which help control inflammatory processes. The anti-inflammatory hormones manufactured by the adrenal cortex have the same purpose within the body as the artificial steroids administered in medication form which were so widely used years ago in the control of arthritis. These artificial hormones are not used as widely today, but they are still used—even though they have severe side effects.

It is better to obtain excellent adrenal gland function within the body to provide the pro-inflammatory and anti-inflammatory balance of hormones to help regulate inflammatory processes. If the adrenal gland is exhausted and incapable of handling all of its functions, it is important to eliminate the categories of stress with which the adrenal gland must work. These categories are physical, chemical, emotional, and thermal. If you are involved with adrenal insufficiency, your doctor will give you considerable additional information about avoiding stress to the adrenal gland.

It is extremely important that adequate protein intake and digestion be obtained when rheumatoid arthritis is present, and that the calcium level is in proper ratio with other body minerals, in order to keep the bones and joints healthy and capable of resisting the inflammatory attack of rheumatoid arthritis.

Most cases of rheumatoid arthritis can be identified as such in the laboratory by specialized tests.

Gouty Arthritis:

Many more males suffer from gout than females. Approximately 95% of gout sufferers are male.

Some researchers blame gout on a high level of uric acid, which is a substance generally eliminated from the body by the kidneys. However, there is a great deal of controversy as to the uric acid being an absolute causative factor of gout. Some studies have shown that there is probably some other chemical

within the body that gives capability of handling the uric acid, but this chemical has not been clearly defined as yet.

Once gout is present, it is considered as a chronic lifetime disease, but it also has severe acute manifestations. An attack of gout can be so painful that it requires bed rest, and the necessity of keeping the bed clothes off the tender joints because of the severe pain.

In applied kinesiology, gout is treated by closely evaluating the entire body and its systems for dysfunction. The kidneys are found to be significantly involved in some cases, and these are probably the cases where uric acid is not eliminated adequately. Sometimes the bowel is involved, and then its action along with normal bacterial count must be improved. Some findings by researchers indicate that intestinal bacteria help to control gout, and other areas of body function have also been indicated as being controls or possibly causative factors in gout. Therefore, in each and every gout case it is important to make a total, independent evaluation of the different systems and organs within the body and to return poorly functioning areas to normal.

Again, diet is very important in gouty arthritis. The applied kinesiologist will most likely find some deficiencies in this area, indicating need for an improved protein digestion, a decrease of purines in the diet, or some other change which may include nutritional supplementation.

The most important in all conditions of arthritis is to find out exactly what is taking place and to eliminate the causative factor, which makes much more sense than using pain medication to help eliminate discomfort.

Bursitis:

There are points throughout the body where separate structures must move freely in relation to each other, but they must have tight opposition also. A typical example would be where a tendon (the fibrous rope-like structure which attaches muscle to bone) must move around a sharp, bony protrusion in a pulley-like fashion. So that these movements can take place easily, the body has lubricating membranes, called "bursae," which are really two membranes placed close together with a slippery fluid in between.

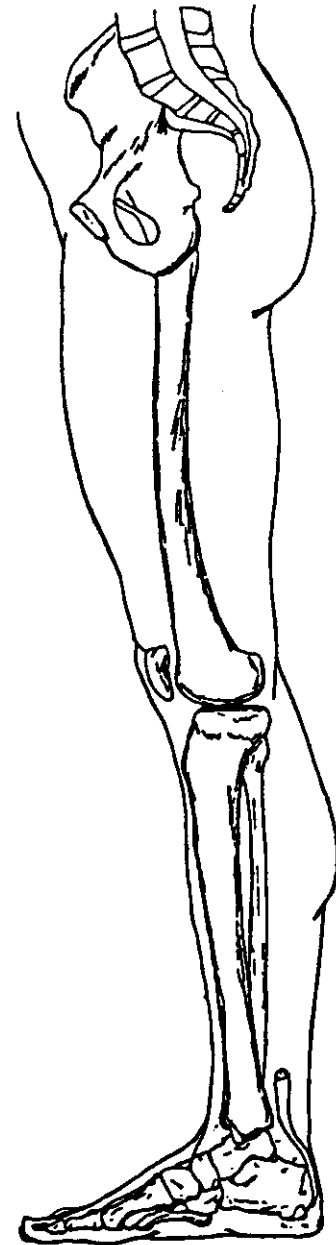
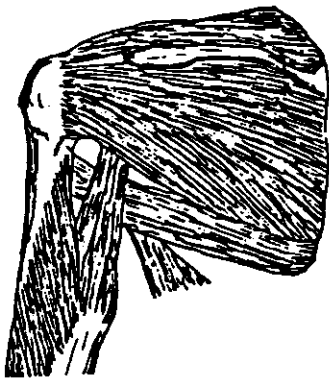
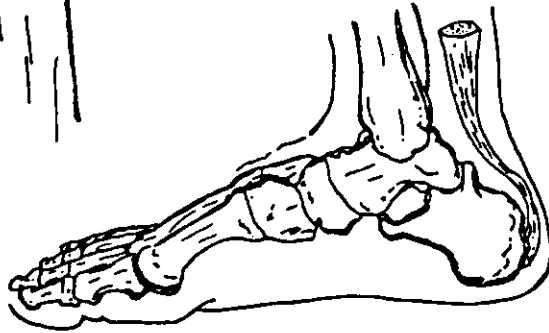
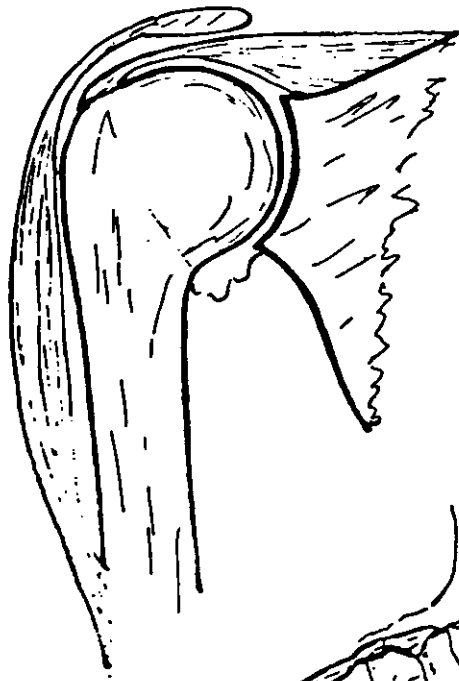
The term "bursitis" is derived from a combination of "bursa" and "itis," a word termination meaning inflammation. So when we have bursitis present we have an inflammation of the lubricating membrane, usually at or about a joint.

There are four classic signs when inflammation is present: 1) pain, 2) heat, 3) redness, and 4) swelling. Inflammatory processes develop basically because of injury to the tissue, whether as a result of physical stress or of a pathological nature such as infection.

Obviously, when the bursa is inflamed it cannot provide its primary function of lubrication, and this is particularly important because most bursae locations are at points of high stress or high wear.

The key factor when bursitis is present is to find the exact cause of the bursitis and eliminate the cause. Unfortunately, it is very common to use symptomatic treatment for bursitis in the form of pain killers and anti-inflammatory drugs instead.

Bursitis very often parallels different types of arthritis and is, in fact, caused by some of the same factors



that cause arthritis. Protein and calcium metabolism are very important in the development of certain types of arthritis, as they are in the development of bursitis. Uric acid metabolism is important in gouty arthritis and it can also be the cause of bursitis. One of the most common causes of bursitis is excessive structural strain, when the bursa becomes inflamed as a result of excessive wear in an area which already has hard wear, which often comes about because of imbalanced muscular pull. For example, a joint (such as the shoulder) has many muscles which must work in unison for normal joint movement. Some of the muscles must relax as other muscles contract, and they must do so at exactly the right time and in the right amount. If this muscular balance is not present, it must be regained or—regardless of the treatment to the bursa itself—the condition will remain, flaring up again after the medication has worn off.

Bursitis will often develop because the membrane, which makes up the bursa, has an inadequate nutritional level, in which case tissue is not as strong as it should be. It is very important for the bursal

membranes to have an excellent health level because by the very nature of the membrane it is subjected to significant stress. A lowered membrane health level is cause for breakdown during periods of wear.

An individual may go out and work extra hard in the garden or at sports or some other physical activity, and develop bursitis. The physical activity gets blamed for the bursitis, when actually the membrane—in a lowered state of health—was just waiting for some extra stress to begin manifesting symptoms. If an inadequate protein level or some other factor causing lowered tissue health is found on examination, it may be necessary to either change the patient's diet, add nutritional supplements, or improve the digestive system so the body can correctly utilize the food that it is obtaining.

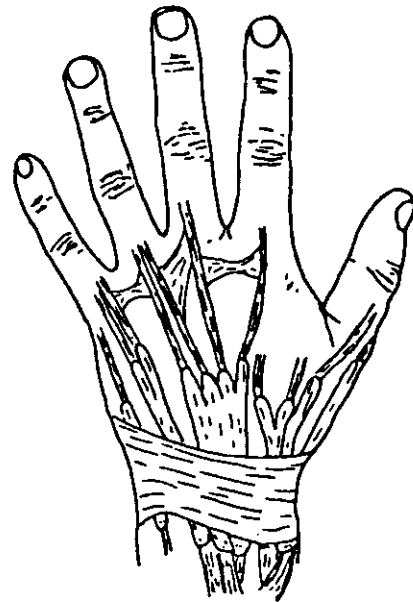
It is very important to remove the cause of bursitis because long-term bursitis can ultimately cause permanent damage—exactly the same way that a bearing in your automobile wears out when it does not obtain adequate lubrication.

Your doctor may use many methods of evaluation to determine the exact reason for the bursitis: laboratory tests, x-ray, and specialized tests of applied kinesiology for muscular balance and function.

Tendonitis:

A tendon is a fibrous cord which attaches muscle to bone. Very commonly, tendons must go around sharp corners, through narrow spaces, and be in contact with other points of high wear. Commonly there is a bursa which lubricates the sliding tendon, decreasing the wear present. It may be at one of these joints that bursitis develops; or a condition known as "tendonitis" may develop.

"Tendonitis" means inflammation of a tendon. The same basic principles indicated in reference to bursitis are present in tendonitis. The only major difference is the tissue involved, the sliding activity of the tendon, and the locations within the body. The same thorough evaluation of the cause of tendonitis is very important in eliminating the condition—not just overriding its symptoms.



The Acid Alkaline Balance and Patient Management:

Many individuals have symptoms of either acidosis or alkalosis and since these pH changes relate directly to the nervous system in that acidosis is an overactivity of the sympathetics and alkalosis is an overactivity of the parasympathetic nervous system, changes in the acid-alkaline balances are very important. A high normal pH throws calcium out of solution, which inevitably becomes associated with an allergy, migrating neuritic and arthritic pains and complaints of a type of insomnia that is often associated with stiffness on rising. This dissipates with activity as the blood lactic acid begins to rise with muscular activity, since lactic acid dilates the capillaries.

The human body is an acid consuming, acid producing and acid eliminating organism. It eliminates acid so that we find the expired air is acid, the skin is acid, the urine is acid, as is the vagina. A gastric deficiency of acid is probably the most common condition after 50. Research has shown that at age 50 there is only 15% of the amount of acid present as there is at the age of 25.

Thirty-five percent of all individuals over 65 do not secrete any hydrochloric acid at all. Many individuals who have allergies also have a hypochlorhydria. These patients complain of fullness, nausea, even vomiting, and a confusing symptom of "heartburn."

They also have a palpitation and a complaint of shortwindedness and frequently complain of pruritus ani. These people have much flatulence and a sensation of distention of the stomach immediately after eating. This is sometimes relieved by belching. The pancreas is influenced by the degree of acidity of the stomach in that the pancreatic secretion is increased in quality and quantity through proper acidity of the stomach.

"Diagnex" by Squibb, procurable from your local pharmacy, is a simple test that allows a doctor to quickly tell if the patient is secreting enough acid. It is quick, simple, reliable and inexpensive. It relies on a simple color comparison on a urine sample which the patient brings in after taking the test (resin dye) by mouth. It is a standard method, well accepted.

In a survey of patients in Southern California by Dr. Harold Hawkins, he found that 48% were too alkaline and only 32% were too acid. In this survey he did not refer to the stomach but to the blood stream, and he found that the saliva closely paralleled the blood, and this provides an excellent method of measuring the patient's progress as therapy continues.

Briefly, specific stomach acid problems are measured by the "Diagnex" method and routine body measurement can be accomplished by the use of pH "Hydrion" test papers that can be obtained through your local supply sources.

The average case of acidosis or alkalosis cannot be changed by changing the percentage of acid alkaline ash foods alone. The cause frequently lies in a structural fault in the upper cervical or the pelvic area. Correction of subluxations in these areas along with intelligent changes in the diet provides an excellent approach to these problems. The measurement of saliva is a much better index than the urine and is a much more convenient method, for the urine does not accurately reflect the blood reaction, where the saliva does. For example, fats and oils when oxidized and absorbed increase the alkalinity of the body but if there is liver sluggishness or poor choice of fats, the expected alkaline reaction from increasing these foods fails to appear. The saliva will nicely show the success or failure of your efforts, whereas the urine reacts in an opposite direction and is influenced by many other factors.

In general, alkalosis conditions are characterized by a slow pulse, itchy crawling sensations, stiffness of joints and symptoms which occur after rest such as night cramps, night coughs and an abnormally high hematocrit.

In general, acidosis symptoms relate to oxygen uptake patterns such as frequent sighing and breathlessness. They have insomnia associated with breathlessness and complain of a "lump" in the throat, have a cold sweat type of perspiration pattern alternating with a dry skin and a dry hard stool. Basically the pattern is one of dehydration.

A word of explanation on the oxygen pattern of the acidosis complex might be in order here. When Bicarbonates, which are the normal bases that the body uses to prevent acidosis symptoms, become depleted and the carbon dioxide accumulates in the tissues, oxygen cannot be utilized; is not taken up, and is carried off by the venous blood, unutilized. Thus the patient suffers from suffocation, dehydration and hyperirritability symptoms.

In alkalosis, many of the symptoms undoubtedly are due to calcium deposits forming in the increased pH environment. The paradoxical deposition of calcium with the obvious calcium deficiency has been discussed before but the key factor is the fact that calcium precipitates in an excess alkaline environment even though the patient is calcium deficient on a dietary level.

The orange juice or grapefruit habit so common in our urban diet with the usual lack of activity fails to allow the 48% of those tested by Dr. Hawkins for example, the opportunity to oxidize these acids and combining with the usual amount of sodium in the diet forming sodium citrate, an alkaline substance useful interestingly enough, as a means of alkalinizing the urine.

The recent popularity of cider vinegar and honey as a universal remedy as published in "Folk Medicine" was based on good common sense and is an excellent dietary approach to the prevalent alkalosis pattern masquerading as "arthritis, bursitis, neuritis, and sciatica.

The endocrine glands regulate the blood pH more than the diet as you have already imagined and therefore the support of the endocrines is important especially the kidney. In this regard adequate fluids and sufficient vitamin "A" are very important. Natural sources of this material are to be preferred since there are fourteen different forms of vitamin "A" in the whole Vitamin "A" complex.

As mentioned earlier, pancreatic function is influenced by the level of HCL in the stomach. Lack of proper triggering of pancreatic function may lead to improper protein digestion adding to the lack of initial protein digestion, creating a state of hypoproteinemia. Inevitably this leads to further problems with digestion and protein levels, since all enzymes digestive or otherwise are protein in nature. The body will try to conserve protein in protein deficiency and the obvious but faulty reasoning of increasing the protein intake will usually be met with failure, since it cannot be digested and leads to accumulation of tissue poisons such as guanidine, which precipitates calcium in a dreary round of pain patterns.

Again, treat by the intelligent use of methods to raise the HCL content by upper cervical adjusting, attention to dorsal lesions, and temporary HCL supplementation. The elimination of normal and abnormal protein waste is by way of the bile. Bile of some exclusive meat eating animals is so toxic that it is used by natives for arrow point poison.

The necessity of maintaining good liver function by the use of good quality fats and oils and the sharp decrease in baked and cereal goods is indicated in the initial stages of treating disturbances of the acid alkaline balance.

The liver and the pancreas are on opposite ends of a metabolic "teeter totter" and the indiscriminate use of vitamin "B" to pick up pancreatic function will depress liver function. It is best to use low concentration of these materials and to balance any Vitamin "B" depression of liver function and fat assimilation by using stimulation of bile production by bile itself temporarily and using liver pumping methods on patient's visit.

There is a definite antagonism between Vitamin A and Vitamin B, so the use of multiple concentrates in difficult cases is advised only after an initial period of careful observation and manipulative care. Liver function is greatly helped by sun exposure and is one of the best methods of improving it. An alkaline stool is generally the indication for the use of bile and HCL stimulation. A high HCL, as in peptic ulcers, is a definite indication for the improvement of liver function by all means possible.

Phosphorus cannot pass from the intestinal wall or be eliminated thru the kidney without the use of high quality fats and oils, for all food phosphorus passes into the circulation as phospholipids—the unsaturated unsatisfied chemical valences acting as attachment points. The whole problem of proper endocrine and acid alkaline balance is associated with proper fat intake, liver, and kidney function. The use of proper control of phosphorus metabolism is especially important in alkalosis and strangely enough in gastric hyperacidity, for it is deficient in both of the conditions even though they apparently contradict. Phosphorus stabilizes and balances the overactive parasympathetics that are too active in gastric hyperacidity. It contributes to lowered blood viscosity and combats the calcium carbonate formation one finds in alkalosis.

Acidosis is often caused by pathology as in diabetes, but hypoadrenia is a most common cause, as is the excessive perspiration one finds in hot humid weather where there is NaCl lost by way of the skin. Restriction of sodium is also a source of acidosis since the sodium reserves are important in the alkaline reserve. An acid ash diet can cause a gradual shift to acidosis and this can be well shown by the saliva test. Normal blood pH is 7.3 to 7.4, 7.0 being the neutral point. The normal saliva pH range is about 6.5 to 7.0, but for all intents and purposes the saliva parallels the blood and is a good index of change. If the test paper is quite yellow as opposed to a definite green, the patient has an acidosis problem. These people can not hold their breath more than 20 seconds and complain of a dry mouth. They fail to calm down after excitement, respond violently to loud noises, have a dilated pupil and wink infrequently and also seem to stare a lot.

They respond to upper cervical and pelvic correction remarkably well and are benefited by increasing the leafy vegetable content of the diet. They respond well to increased sodium such as crude or sea salt, calcium lactate such as in milk or in concentrated form, and also respond to an increased urea function by increasing the liver function. Urea is naturally formed by the liver and it serves to open the flood gates of the kidney, allowing the kidney to eliminate waste as well as water. The significance of a low specific gravity of the urine shows poor liver function and often is found with acidosis. Urea is formed of the carbon dioxide we breathe out which as you know is acid, and the ammonia from the protein breakdown of the meat we eat. It can release ammonia when needed and is one of the means by which the body maintains a chemical equilibrium.

Normal blood contains buffering substances that prevent acids or alkalies from changing the pH. The blood is always alkaline in life, but it can become less alkaline or more alkaline. Infectious diseases cause a rise in temperature but a drop in pH. Enzymes are regulated by pH changes and enzymes that are constructive in activity, reverse their activity and tear down tissues when the pH drops in an acidosis.

A particularly useful and dramatic method is to compare the appearance of the pH HYDRION test paper after the patient has placed the test paper in his mouth, with the appearance of the test paper of that of the doctor. Granted of course the doctor follows the ancient wisdom of "Physician heal thyself."

There seems to be little correlation between the pH test paper result and that of the Diagnex reagent

which measures gastric HCL only. A general impression over a long period of time has shown a low pH test paper result, a yellow color, to accompany a lack of HCL in the stomach, but as mentioned, there seems to be no direct correlation. Both tests therefore are advised, with the saliva test paper best for routine daily use. A low pH, a yellow color, shows a need for alkaline minerals and leafy vegetables. A high pH, a blue color, shows the need for the acid minerals and noncitrus acids such as cider vinegar. Calcium and sodium are good examples of alkaline mineral. Phosphorus and potassium are good examples of acid minerals. Cider vinegar is a dilute solution of acid potassium and is very useful in alkalosis.

Potassium seems to be a mineral that can act equally well on either side of the acid alkaline fence. It is sometimes needed in both conditions.

An attempt has been made to show the interaction of the sympathetic and the parasympathetic nervous system with the endocrine system, and the continuing interrelationship of calcium, phosphorus, potassium, and sodium. A few minutes' thought on these relationships is just one more way to advance chiropractic, yourself and your practice.

Nutritional Factors in Chiropractic Practice:

Many doctors and many patients may suffer from a need for the riboflavin or niacin factors of the B complex. The excessively worried patient, the moody, apprehensive, suspicious, or even depressed patient, is a candidate for nutritional support from the riboflavin niacin family. A bright red tip on the tongue is a good indicator for riboflavin, niacin help. This condition of an irritated mucous membrane may exist not only in the parts of the digestive tract available to visual inspection, but to other parts more difficult to observe. Lack of digestive juices may inflame the entire digestive tract with pronounced irritations of the rectum, which can also irritate the vagina. Frequent crying for no cause is a symptom of thyroid trouble, as you know, but it also is involved in the riboflavin, niacin pattern which we will refer to as the R.N. syndrome.

The strawberry tongue may also have sort of a purple color as well, if the riboflavin of the "R" deficiency is prominent. The cracking of the lips especially at the corners is a well known indicator of the R.N. pattern; however, a little known but common pattern is the loss of substance of the upper lip; it becomes smaller and smaller until it almost disappears.

The first tissue to suffer from an R.N. deficiency is the endothelium of the capillary system, with a loss of tone and function. The lips are highest in capillary numbers (witness their red color) so it is reasonable that they should show signs first, such as wrinkling or cracking. These signs are at their height in highly specialized mucocutaneous structures such as the mouth, rectum and vagina.

The strawberry or purple color to the tongue is the result of capillary dilation and sluggish blood flow, the characteristic lesion of the R.N. pattern.

The loss of capillary tone produces the one prominent symptom that is usually related to the R.N. syndrome—the "blood shot" eye. The "blood shot" eye is the characteristic that allows an understanding of the physiological relationship of thiamin and its partners riboflavin and niacin.

Thiamin is water soluble, as are riboflavin and niacin, but thiamin is readily soluble in alcohol where riboflavin and niacin to all practical purposes are not. This chemical difference is the key to their different functions in relation to the enzyme systems of the body. The R.N. complexes are fundamentally

catalysts or trigger chemicals for oxidative processes. They transfer hydrogen and oxygen to suitable acceptors of these elements in the body. They also act as go betweens in sugar metabolism, and as such intermediaries they are of immense importance to the eyes, where levels of oxygen are most critical for proper function. This lack of oxygen transport that can occur in the R.N. pattern produces the photophobia, burning and itching and blepharospasm of the eyes. As you know, the cornea can directly absorb oxygen from the atmosphere, but the lack of riboflavin and niacin interfere with its utilization just as transportation of warehouse supplies interferes with their ultimate use by the consumer.

A peculiar pattern that sometimes occurs in the severe R.N. pattern is why some patients describe how objects come into vision and then disappear. Sometimes, they say, they see only part of printed words. There is often a pallor of the temporal or outer half of the optic disc when examined by an ophthalmoscope, and this is often seen in the author's experience if it is looked for. This is a valuable sign in this condition. All these signs relate to oxygenation, which is an essential part of the enzymatic actions of these substances.

A good general way to think of these factors of the B complex as opposed to the B1 factors is to remember that they are concerned with oxygen transfer and fat metabolism, while the B1 complex is associated with the nervous system.

They were first identified to be different when they were precipitated by alcohol from the beri-beri preventing materials of certain foods. This chemical reaction identified them as protein in character and enzymatic in action. The engorgement of the capillaries seen in the tongue, as previously mentioned, can take place at other areas as well, and this sets up the stagnation at the capillary level which follows the engorgement. This can sometimes be seen easily in the "blood shot" eye and may be noticed in a finer or less discernible way by examining the cornea for circumcorneal vascularization following minor irritations. Normally these blood vessels are not seen, and if they appear following chemical or mechanical trauma, they quickly disappear. When they persist it is a sign the diet should be changed to include high levels of these materials so important to the health of our patients.

Now, as you recall, glucose is not directly oxidized in the body but is subjected to a series of changes until pyruvic acid is formed. Since the nervous system utilizes only carbohydrate for its energy, the proper metabolism of glucose requires the normal amount of B complex that usually accompanies the carbohydrate food in its normal state. The myelin sheath of the nervous system produces acetylcholine with the help of the "B" complex. This chemical helps in the propagation of the nerve impulse and we as chiropractic physicians should be vitally interested in this phase of nutrition since it influences the results we obtain from our basic therapy. The acetylcholine produced by the body at the myoneural junction is necessary at one stage for the nerve stimulus. Once it has been produced it is just as rapidly destroyed by an enzyme which the body, with its innate intelligence, provided for just this purpose. The promotion of the right amount of cholinesterase that neutralizes the potentially dangerous acetylcholine is a function of the R.N. complex.

The spastic reactions that occur when there is a failure of sufficient cholinesterase to neutralize the constant production of the necessary but dangerous acetylcholine are well known. High in the incidence of troubles caused are gastritis and ulcer cases. These are the cases that are treated by anticholinergic drugs, when in reality there is an interference with the nervous system at some point, and usually a deficiency in the production of cholinesterase due to an R.N. deficiency or lack of uptake.

Depending on which organ system is involved, you can see the problems that such spasticity can cause

and the resulting difficulty in the function of the nervous system. The same gears that make a watch run on time can make it run slow or fast, as the case may be. You adjust the watch properly and it performs its function as it was built to do. BUT YOU HAVE TO WIND THE WATCH. The piling up of acetylcholine is the accumulation of biological dynamite setting off vasospastic explosions in various parts of the body with little apparent provocation, for this particular form of dynamite comes pre-capped and ready to blow if it is not defused regularly.

Without this cholinesterase there is little chance of the accumulation of the vitally necessary nutrient choline in the tissues. Taking in certain natural fats aids in the production of choline, since it can come from a partitioning of lecithin, found in many fats. This splitting up of lecithin is accomplished by lecithinase, which, as you probably can surmise, is found in large quantities in R.N. rich foods. So you see, God does not make mistakes, but we do, in the poor choice or the lack of opportunity of choice of R.N. rich foods.

The accumulating quantities of acetylcholine can produce an arteriosclerosis which defies correction until these factors are taken into consideration. The coronary artery is probably the most active artery in the body and the atherosclerosis so often seen here, even in young individuals, should be seen as perhaps just one more evidence of this acetylcholine biological dynamite which can be taken out of harm's way by an intelligent knowledge and use of proper dietary regimes.

The unavailability of the choline interferes with the proper fat metabolisms by the liver, which in turn produces digestive disturbances, failure of detoxification of sex hormones, and a bewildering and complexing number of other conditions, all brought about by nutritional failure.

Emphasis of one fraction of the B complex over another can produce problems of its own, so use of foods high in all is best, or the use of natural sources high in all components in the form of nutritional supplementation is also indicated.

The three "D's" of diarrhea, dermatitis and dementia are the classic symptoms of pellagra, but there are many subclinical states. The nerve normalizing action of the B1 complexes should be supplemented by vasodilating antispasmodics and lipotropic actions of the R.N. group. Too much B1 can aggravate the R.N. state, so use intelligent appraisal of the patient's history and nervous system work-up. Make the proper nutrition be the springboard for the proper response to your adjustments. Treat the whole body, the whole man with your whole effort, and watch the response of the patient to this concept.

To my knowledge, my son has never directly lied to me, but he has strained the truth rather severely at times, as most young boys do.

Early in his life I asked him, as a good father would, if he had washed his hands before dinner. I said, "Mark, did you wash your hands?" He looked at me, hesitated, and said noncommittally, "Yes." I asked, "Today?" And he said, promptly, "No."

So the next time I asked him the same question, I asked, "Mark, did you wash your hands today?" And he said, noncommittally, "A-h-h, yes." And I asked, "Before dinner?" And he said, "No."

So the next time I asked him the same question, "Did you wash your hands today, before dinner?" And he said, noncommittally, "Yes." And I asked, "Both hands?" And he said, "No."

So the next time I asked him the question, "Did you wash your hands today, before dinner, both hands?" And he said, non-committally, "Yes." And I said, "Both sides?" And he said, "No."

I have learned to ask patients questions and make the questions quite particular, because many times the patient will answer the face value of the question if you do not penetrate. For example, if you ask a Hungarian if he eats spicy foods he will say no, because to him it is not. The same is true of a person of Mexican origin—to his taste it is no so. However, many times the rectal mucous membrane doesn't know the nationality of the person and sometimes irritability of that area stems from changes in diet.

Another episode I remember about my father—a rather unscrupulous builder had milked and bilked a group of patients of my father's, of funds that he had taken from them to build them a house. He would build a basement and then go no further, but kept a model which he would use as a demonstration for the relatively low priced but attractive building he said he would erect on their property. In each instance he would simply make the foundation and then go no further, accumulating funds as he went.

He came in to see my father with a very, very painful lower back which had him almost screaming in agony, and when my father attempted to treat him, one of his patients who had been fleeced out of his down payment for a house remarked that this was the builder who had fleeced so many other patients in my father's practice.

This did not deter my father from correcting the man's problem, and he was soon free of pain and walking, and great praise was given by this man to my father for his technical ability. When the man asked what the charge was for his office visit, my father said very blandly, "It's \$500." The usual fee for treatment at that time was \$10.00. The man said, "I won't pay it." My father said, "Well, get back on the table and I'll put it back." Then the man said, "No, no, I'll pay it," and with much reluctance he made out a check for \$500.00.

My father took me aside and said, "Go down to the bank and cash it as fast as you can, because he will stop payment on the check.

Take \$10.00 out and give \$490 to the man who is waiting out there that this builder has fleeced, and tell him to get a lawyer."

So the man paid for his own prosecution and eventually made good the building of the houses.

This was typical of the attitude my father had towards people.



Chapter 31

SHOULDER PROBLEMS

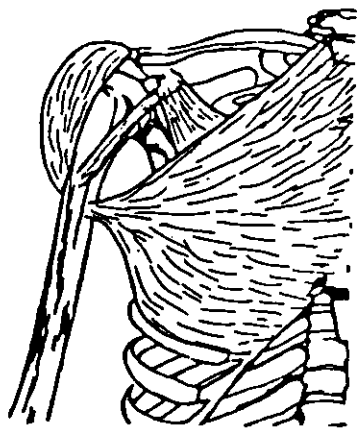
The Shoulder:

A normally functioning shoulder is a marvel of motion and integration of muscular activity, although people usually consider it a relatively simple joint, made up of the upper arm bone joining into the shoulder socket. In reality, the structure is very complex and we must consider many factors when looking at the shoulder as a functioning unit.

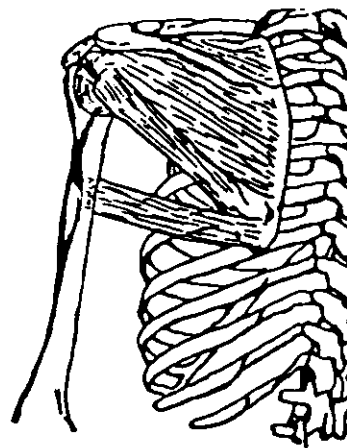
The shoulder socket is a part of the shoulder blade (scapula), which attaches to the breastbone in front by way of the collar bone. The scapula is held up to the back chest wall by muscles and has no direct joint attachment in the back. A symphony of muscular action takes place every time the arm goes through its range of motion. To raise the arm, certain muscles contract and other muscles relax at precisely the correct time to allow freedom of motion and smoothness of movement. There are over 20 muscles directly or indirectly involved in shoulder action, which causes a need for very complex integration of the activity of these muscles.

To a greater or lesser degree, almost all shoulder problems correlate with improper muscle activity, so the muscles should always be examined whenever there is a shoulder involvement. They should be tested for strength and length, as well as integration of activity with one another.

Some form of injury is usually what causes muscles to become weak or over-strong. Specific damage to ligament, joint, or muscle is often noted after an injury, but the muscular imbalance resulting as a secondary problem of the injury frequently is not noted by the physician. If this muscular imbalance is left untreated it leaves symptoms long after the injury itself should have healed and may cause a constant strain in the shoulder which opens the way for easy recurrence of problems.



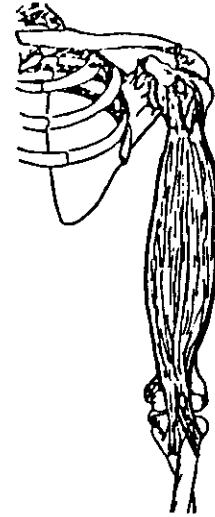
Front of shoulder



Back of shoulder

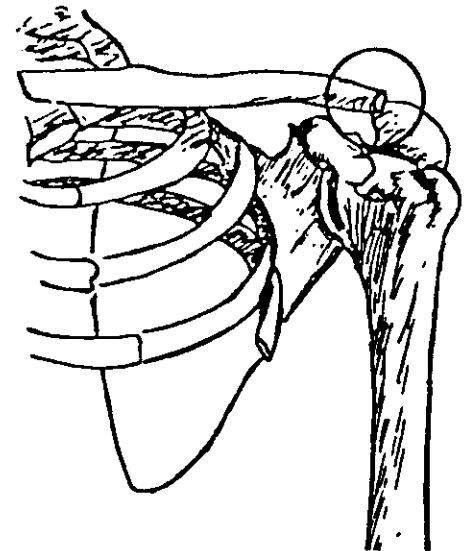
Common Shoulder Problems:

Slipped bicipital tendon. A tendon is a fibrous band attaching a muscle to bone. The large muscle in the front of your arm, called the biceps muscle, attaches by way of a tendon up to the scapula. This tendon lays in a groove and can slip out of the groove if it is injured. This injury usually happens because of a sudden jar while the biceps brachii muscle is contracted, while holding something up. An example would be two people carrying two ends of a plank, and one person dropping one end, which would cause severe jarring to the arm of the person carrying the other end. To treat this condition you would replace the tendon in the groove and then immobilize the shoulder while it heals.



Acromioclavicular injury. The joint between the collar bone and the shoulder blade is often injured, especially by athletes, and the treatment frequently consists of manipulation of the joint in such a way as to not cause any strain to the already injured ligaments. Sometimes you may be immobilized after treatment, and surgery may be necessary if the ligament injury is extremely severe.

Ligament injury. Trauma to the shoulder is frequently the cause of ligament injury. Ligaments are fibrous bands that hold bone to bone, and are a component of almost all joints. Along with immobilization to aid the healing process, whenever ligaments, tendons or bones are injured there may also be a need for specific nutritional supplementation to aid healing.



Dislocation. This means that the arm portion of the shoulder joint has come completely out of the socket, usually caused by a severe injury. If an individual has improper muscular and ligament function he might have a shoulder that slips out of place with certain shoulder motions, even when there has been no injury, and this can often be corrected by an applied kinesiologist who makes the indicated corrections after examining the muscular balance and integrating muscle activity.

Frozen shoulder. This is the inability to raise the arm past a certain point, and is relatively common. It is often attributed to factors such as ligament inflammation, arthritis, bursitis, etc., but it is most commonly the result of improper muscular function. As stated earlier, every shoulder motion involves a symphony of muscular activity, and if the muscles that act in the opposite direction fail to relax at the appropriate time, the muscles that attempt to lift the arm are incapable of doing so. Activity of certain muscles is necessary when lifting the arm in order to keep the socket from "jamming," and impeding elevation of the arm. Even if the arm has not risen above a certain point for years, an applied kinesiologist can achieve complete correction of this "frozen shoulder" minutes after examination. It is absolutely necessary to determine the muscular coordination and strength in order to obtain successful treatment of this condition.

Arthritis/bursitis. Arthritis refers to inflammation of the joint and bursitis refers to inflammation of the bursa, or lubricating membrane of the joint. Either of these is often secondary to a different primary problem, and inflammation develops as a result of some irritating factor. A shoulder becomes very irritated when it is not moving with synchronization and inflammatory processes develop, and this synchronous movement of the shoulder joint is absolutely dependent on all the muscles involved in shoulder activity acting in harmony. When arthritis or bursitis is diagnosed, anti-inflammatory drugs (commonly steroid hormones) are often given, either in tablet form or by direct injection into the shoulder structure. While these medications may give temporary relief, they do nothing to remove the cause of the original inflammation. It is much better to remove the cause and allow the symptoms to subside by themselves without the possible harmful side effects of drugs. Whenever arthritis or bursitis is present in a shoulder, the muscular strength and coordination of all the involved muscles must be examined.

Other causes of shoulder problems. The problems listed above are some of the more common ones directly associated with the shoulder, but there are many symptoms of shoulder involvement such as pain or limitation of motion where the primary problem is not in the shoulder at all. The primary cause might be in the neck, pelvis, feet, wrist, or internal organs, and this remote problem could cause symptoms in the shoulder by structural stress, interference with normal nerve action to the shoulder, or by referred pain.

The total body should be examined whenever a shoulder is involved. If there is an injury to the shoulder after the original healing process is completed the shoulder should be re-examined for muscular strength and harmony, which will help to prevent problems in the future that might not even be associated with the initial injury.

The "Frozen Shoulder" Syndrome:

Many patients suffer from the so-called "frozen shoulder syndrome." many doctors also have this bothersome restriction of movement of the arm and shoulder girdle. A variety of explanations have been offered as well as a variety of treatment suggestions. Forceful manipulation under anesthesia has been offered as a method, barbaric though it may seem. A variety of physio-therapeutic measures have been suggested, but all these doubtful therapies have all offered treatment without diagnosis—a cardinal sin.

The obvious lack of upward motion, stopping a few degrees above horizontal with the patient straining to alleviate the frozen shoulder-arm combination by futilely bending the lower back into an increased lordotic pattern, is a familiar sight in many doctors' offices. The scapula floats free on the posterior chest wall, as you know. The only limiting structural factor is the spacing plus or minus of the acromio-clavicular joint.

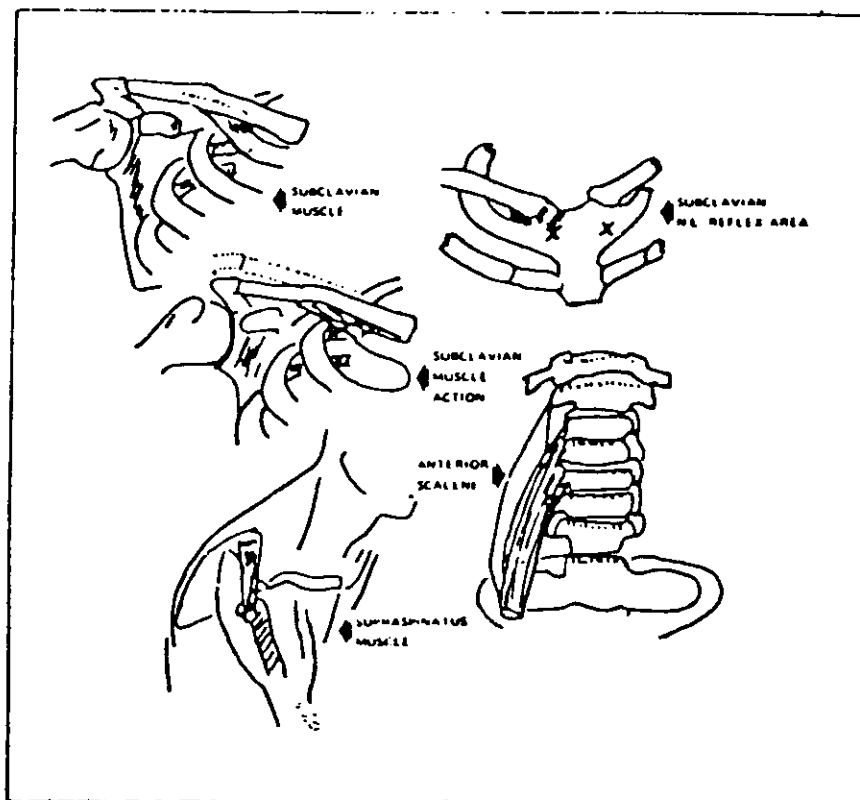
Now it is recognized that there are acromio-clavicular, coraco-acromial ligaments and there are bicipital tendons which along with the ligaments are capable of adding to the confusion of the so-called frozen shoulder syndrome. However, these structures play only a minor role in this drama of limited body motion, with the attendant added features accruing from the lack of movement. Long, arduous exercises have been prompted and promulgated for the relief of this frequently met condition, but here again the obvious lack of motion always seems to overshadow the need for **CHIROPRACTIC DIAGNOSIS!**

The free floating scapula must operate a movement pattern which is a symphony of inter-related and sequentialized movements. Rather than indulge in an anatomical description of the total structure which we are all familiar with, a wiser course would be to analyze the motion pattern itself. When you bend

your elbow for whatever reason, the action of the biceps and the brachialis as well as the brachioradialis, start the movement of a filled glass of liquid to the mouth for example. But to accomplish this simple act, the triceps must simultaneously relax, as well as the anconeous.

As the elbow bends, the corabrachialis activates, and as before, the teres minor relaxes reciprocally. Then, as the elbow is bent, it is abducted and lifted away from position of rest against the rib cage by the most important muscular bundle, namely the supraspinatus. This is the only skeletal muscle other than the heart, diaphragm, and sphincters that works while we sleep. It used to be thought that the deltoid muscles held the humerus in the glenoid. This is an error in all innocence, for although the deltoid has the appearance of maintaining humeroglenoid opposition, electromyography shows without question that it is the supraspinatus that does this job. And when the supraspinatus has the right nerve and blood supply, it performs beautifully. But if the supraspinatus is compromised in any way it will complain loud and clear all day and all night long, since it must work all the time. It is absolutely essential that it be intact to perform its most important job. Remember the supraspinatus starts the first 20 degrees of movement of the arm away from the body, then the deltoid takes over. This sequentialization of reciprocal contraction to relaxation is, as you know, under the control of innate intelligence. This finely ordered and adjusted motion pattern continues to show deltoid activity until the arm with the bent elbow is almost horizontal.

The individual drinks the fluid, but decides to place the empty glass on a high shelf above the level of his shoulder. So the deltoid continues to act, but now the most important and most overlooked action takes place. The subclavian muscle now begins to contract, and in so doing pulls the clavicle outer end to the medial, thus allowing the encroaching acromial process to have room to also move medially.



When this small but vital action does not take place, the upward motion of the humerus is stopped and the patient strains to overcome this mechanical block—and as stated before, even lordoses the lumbar spine to gain a little more elevation. The subclavian muscle, as you remember, has its origin at the sternal end of the first rib as well as the costal cartilage, and this all important muscle inserts on the under surface of the middle third of the clavicle. This action starts as the humerus gains an almost horizontal position, and continues to activate as the arm goes up to vertical. Since the origin is slightly anterior to the insertion on the under surface of the middle third of the clavicle, it also rotates the clavicle downward as it pulls the clavicle out of the way of the inward movement of the acromial process of the scapula.

This muscle is the key factor along with any other muscle found weak by testing. Activation of the neurolymphatic center for the subclavian can be accomplished by firm, hard pressure at the Neurolymphatic point, a small nodule located at the junction of the clavicle, sternum and the first rib. This is a small match head sized nodule which is exquisitely sensitive to pressure. The posterior reflex is located at the intraspinus transverse space of the first dorsal vertebrae. This also happens to be the acupuncture point K27 which is the common point of stimulation for all the spinal vertebrae.

In the so-called “frozen shoulder” it is essential to realize that pressure at the carpal tunnel can produce not only a problem with the opponens muscle as described in the chapter dealing with the “Carpal Tunnel Syndrome,” but a nerve entrapment at the wrist can cause a dysfunction of the supraspinatus, for example. Frequently we see a tight anterior scalene on the “frozen” side which is entirely secondary to the pronounced weakness of the opposite anterior scalene, and treating the origin and the insertion with a hard, heavy pressure on the weak side will greatly aid in restoration to normal in cases where there is a history of trauma. Naturally, this applies to any muscle of the arm and shoulder girdle which you find weak on testing the specific muscle.

Testing the individual muscles is a vital necessity in the rapid correction of this painful problem. It responds to an intelligent application of the principles of applied kinesiology in a very rapid and satisfactory way. Those who have witnessed this technic on the lecture platform have observed the arm attain the vertical position quite readily, usually during the approximate ten minute period it takes to test, describe and explain and then treat and explain the technic. In other words, the arm gains at least 70% function in less time than it takes to talk about it.

This is not the occasional lucky accident, but a constant pattern presented to any sponsoring group that contains a member that has this affliction. Generally this individual has had the opportunity for frequent treatment and it is not to consider previous treatment inadequate that these statements are made, but to amplify the fact that nerve entrapment and reflex disturbance must be carefully and painstakingly sought out and rapidly treated. The latissimus dorsi is frequently found weak on the opposite side, with a corresponding hypertonus on the same side as the frozen shoulder. The obvious inference here is, again, treat what you find or diagnose, not what you think, hope, feel, expect, or believe with a limited appreciation of the entirety of man's nervous system. The results speak for themselves, as many who have seen these principles applied to a member of their group can testify. The key is not to abandon what has brought us this far along the therapeutic roadway, but to add the newer methods of muscle testing and treatment to an already proven but not necessarily totally complete therapy. Out of the intervertebral foramen emerges a **blood vessel, a lymphatic vessel and a nerve**, and there should be evidence of the original subluxation in all these three areas.

If all there was to the frozen shoulder problem was to find the subluxation, fix it, and leave it alone,

this chapter, or your reading it, would not be necessary. But as you know, there is more to it than that. The proper adjustment at the proper time does perform miracles. We all know this, but sometimes the body's innate intelligence pops out lymphatic vascular and C.S.F. circuit breakers to limit the damage accruing from the primary spinal subluxation, these also must be treated. The body has perfect neurological recall, it but waits for the proper application of the proper therapy for it to turn on its simple intricacies in an intricately simple way.

Innate intelligence does exist, not as a philosophical concept, but a living, breathing, actively correcting entity. But you must turn it on by the method it prefers, and if you know only one word or method of communication or command, it may fail to react, not because IT isn't there, but because YOU are not there, at the right place and the right time. Occasionally it is necessary to put a hard spindle cell double thumb pressure into the belly of the apparently hypertonic muscle, the latissimus dorsi for example. Treatment of each individually found weak muscle is essential and imperative for the spectacular result that you will obtain from this approach to the frozen shoulder syndrome. The activation of the subclavian N.L. receptors at the sterno-costo clavicular junction is also vital to success. The subscapularis is sometimes involved in a post myocardial infarct problem and here you must also apply remedial therapy to the cardiac structures as well. It naturally goes without saying that structural correction of the upper cervical and sacral lesions as well as other adjustments must be made. The total body structure must be treated regardless of the area of complaint. The muscle testing is the key to diagnosis. Treatment of the neurolymphatic and neurovascular reflexes as well as cranial contacts, unlock the amazing potential of the body's innate intelligence.

There are variable factors in each case; a slipped bicipital tendon can complicate the natural recovery pattern. Your attention is directed to the original article on "Arm and Shoulder Pain" for further discipline of this and other complicating factors.

A chronically shortened pattern in some muscles may exist and attention to the cross crawl technic described in other sections is a valuable factor in these minority percentage problems complicating the usual frozen shoulder case. Naturally, if the x-ray shows signs of extreme ankylosis, this alters the prognosis, but here again this is a minor percentage problem.

Again, in a finalization of this discussion of an extremely difficult situation, the supraspinatus must receive activation of the neurolymphatic as well as the neurovascular reflex and the original technic of hard, heavy pressure at origin and insertion should also be used, for this muscle must work unceasingly morning and night without respite, and it does so willingly when it receives the proper help.

The neurolymphatic area for the supraspinatus is located immediately lateral of the coracoid process at the anterior, and the posterior reflex is located at the most lateral area of the atlas transverse. The neurovascular reflex area is located at the anterior fontanel. Here, as opposed to the hard pressure relatively used on the neurolymphatic area, the lightest possible tugging touch is used until a definite pulsation is felt. This is then held for at least twenty seconds. The pressure used on the neurovascular reflex is that which you could barely stand on the eyeball. Do not exceed a period of forty seconds in the neurolymphatic reflex.

Rapid, sure and precise correction of the "frozen shoulder" syndrome is just one more way for you to advance yourself and your profession. The perfect neurological recall that innate intelligence possesses, requires but the knowledge of its precise existence, for nerve pressure can exist in many places, and

when nerve energy flows unimpeded, natural health and recovery naturally follow as surely as night follows day.

The love affair we have had with bones has blinded us to the total realization of the total body unity in health and disease. There are more circuits in the human body than in any Apollo space craft. Recognize they exist and the programming of the body's circuitry will follow your therapeutic direction from lift-off to splash-down.

A Study of Arm, Shoulder Pain:

Shoulder pain may arise (1) in the supraspinatus, in infraspinatus and in the subdeltoid bursae (2) in the muscles and tendons about the shoulder (3) in the acromioclavicular joint (4) by reflex from tissues at the base of the neck and upper thorax including the cervical nerve-roots (5) by reflex upwards from the nerve sheaths in the arm and the elbow.

Pain arising in the structures that form and control the shoulder joint may be felt at a distance only. Pains which, in fact, often arise at the shoulder joint may be felt most intensely at the lower deltoid area or in the arm just above the elbow. Occasionally the symptoms are ascribed to the forearm or even the wrists. The pains may entirely omit the shoulder region and often radiate to the hand. Identical pains may arise from different lesions, the same lesions may at different times give rise to pain at different sites. No matter what the position of the trouble, if it's severe, the patient often complains of a deep burning ache running down the arm and forearm. The patient has little idea of its source.

To deal with the difficulties with the shoulder joint is, indeed, a difficult task but, on a percentage basis, the most frequently met condition in the average patient is a bursitis of either the subdeltoid or the infraspinatus tendon. Witness the often-found calcification found in the tendon and compare its appearance to that of another found condition, calculi in the renal pelvis or possibly in the bladder. The same conditions occur and develop which allow calcification. In a general way, it has been our observation that calcium will precipitate out of the bloodstream and out of the tissues while in its colloidal state and precipitate into a calcareous deposit only when the reaction of the tissues becomes of a greater alkalinity than can be tolerated by the patient's acid base equilibrium. Frequently the patient will complain of "bursitis" and, just as frequently, we may find the condition to be neuritis or some other common condition, but, in true bursitis we must find a calcareous deposit. Occasionally, the calcium is in a state of precipitation where it is visible and simple x-rays generally do not suffice because frequently the deposit is situated in such a way that it will not become immediately visible if one takes the simple AP view of the shoulder.

It has been our practice when the patient complains of symptoms referable to the shoulder, to perform a fluoroscopic examination of the patient's motion pattern about the shoulder and instruct patient with the arm hanging loosely at the side to put the arm into extreme supination very slowly and then into extreme pronation very slowly and observe the shoulder joint carefully for any signs of a calcareous deposit. Frequently there will be a calcareous deposit behind the greater tuberosity of the humerus and unless there is some change in the position of the humerus, one is apt to miss the calcareous deposit which lies quite often just beneath the floor of the bursa or possibly at its posterior area.

Frequently we see calcareous deposits in the supraspinatus tendon close to the greater tuberosity and sometimes in the subscapular and infraspinatus tendon. The cause of the deposit is undoubtedly related to blood supply rather than any change in toxemia or infection but primarily we feel changes in the

acid-alkaline balance directly relate to the precipitation of the calcium deposit in the kidney or in the ureter forming when the urine maintains at a highly alkaline level.

Now for the purposes of explanation, it is assumed the reader recognizes that not ALL kidney stones are formed of basically an alkaline urine calcareous deposit. But, in the main, this is the pattern, and we feel a similar situation occurs in the shoulder, in the shoulder bursae, and treatment designed to acidify the tissues frequently is of great value in reducing, first, the period of disability the patient has and, second, in completely clearing the calcium deposit in the bursa and without any vigorous regime or unnecessary or unusual dietary or physical therapy methods, even though these may be efficacious.

The following technic has been found useful and practical in the management of an acute bursitis. The patient is seen and the diagnosis has been made as to the presence of a calcific bursitis. He is given immobilization by an adhesive strapping on the shoulder in such a way that the arm is lifted up to take the strain off the bursa depending on the location of the bursa, which can be established by fluoroscopy, or by simple observation. The direction of the pressure pull of the tape is determined by the relief or by the observation of where the bursa is located. Any existing lesions are removed. Frequently associated with this bursitis we find a sacroiliac condition on the same side, causing a great deal of muscle pull.

Frequently there is a subluxation of the acromio-clavicular joint, but because of the extreme pain that these patients complain of, any work about the shoulder is generally deferred until such time as the patient can tolerate manipulation of the shoulder.

He is given directions to take one A & C tablet, one E tablet hourly, with one tablet of acid calcium 4 times daily. This acid calcium allows first a diffusion of the calcareous deposit by presenting the tissues with a normally acceptable form of acid calcium.

It is our view that in the light of the so frequently observed calcium deficiency of the modern urban dweller that the paradoxical calcareous deposit in the shoulder in the presence of a calcium deficiency requires explanation. Frequently the patient is calcium deficient on a dietary intake or on a metabolic pattern. This calcium deficiency quite frequently causes a pull of the bony reserves of calcium to maintain the blood calcium phosphorus ratio and although this effort of the body to provide a calcium phosphorus ratio which will be acceptable to the blood does suffice, the bony calcium which is derived from the bone is usually not acceptable by the tissue when it is needed and frequently this calcium is then deposited as a waste product in some hard-working joint or bursa in a vain effort of the body to over-protect some critical area of muscle bone friction. This will explain the position of the deposit in the bursa and it would also explain the frequent presence of olecranon bursitis of other areas which we find quite often.

After the patient has been given the A & C, the E and the acid calcium product with directions to take the A & C and the E one hourly and directions to take the acid calcium until he begins to yawn—if he is taking 3-a-day, then cut to 2—if he is taking 2-a-day, cut to 1, if yawning supervenes. Yawning generally represents the effort of the body to shift into an acid pattern. This allows dissolving of the calcium deposit and as the calcium deposit reduces or diffuses into the tissue, there is much, much less pain. This generally takes between 24-48 hours. The patient is instructed to expect a relief within 24-48 hours and X-ray evidence invariably will show a dissolution of the calcium deposit within a week if he maintains this schedule. X-rays before and after are an excellent medium to prove your point on the modus operandi of, first, the calcium deposit and, second, the ability of your therapy to relieve it. Use sulkowitch urine test for calcium and watch it change as patient improves.

We must frequently find the second cervical, the third cervical and fifth cervical subluxated to the inferior on the right in these bursitis cases. This seems to occur regardless of the side of the bursitis and adjusting with the patient's tolerance to receive it yields good results. It has been our observation once the adjustment has been accomplished to withhold any further adjusting until such time as it can be definitely proven that there is a disturbance in the position of the previously mentioned segments.

Muscles and Tendons About the Shoulder:

The most frequently met condition in pain referred to the shoulder is a slipped bicipital tendon. This slipped bicipital tendon generally is complained of by the patient in his inability to place his hand in his hip pocket. Frequently he has difficulty in raising his arm past the horizontal until he's reached a certain point. Then, the raising of the arm past the horizontal becomes a little more easily accomplished. Slipped bicipital tendon frequently follows trauma. The biceps has two heads—one has its origin from the top of the coracoid process and the other from the upper lip of the glenoid fossa. It's the biceps head which has its origin on the upper lip of the glenoid fossa which we are concerned with. The head of the biceps slips from the groove over the humerus (from the bicipital groove of the humerus) and immediately causes an automatic shortening of this biceps tendon, which then interferes with the accidental reduction back in position. This causes subsequent pain, swelling, and much disability. The therapy is simple. The arm is allowed to hang loosely at the side, elbow is flexed so forearm is at right angles to the floor, a steady lateral (rarely medial) pressure is exerted on the slipped bicipital head and the elbow is pushed straight posterior hugging the patient's thorax, until the limit of motion is reached. Continuing the lateral, rarely medial, pressure on the bicipital tendon, the elbow is then taken away from the chest, brought out forward and returned to its previous position. A slipping back of the tendon into the bicipital groove of the humerus should be observed. When this is accomplished, it may require repetition. Following the reduction of a slipped bicipital tendon, traction taping to hold the slipped bicipital tendon into its position is recommended. Efforts made to elongate the muscle by carrying heavy weights, massage of the insertion at the bicipital tuberosity of the radius is recommended, as well as other forms of physiotherapy, but the main element is to reduce the slipped bicipital tendon. This constitutes the most frequently found condition of the muscle and tendons about the shoulder joint.

One should not forget the fact that the teres major and the subscapularis as well as the infraspinatus are capable of contracting in a cramped fashion and causing a posterior rotation of the humerus which in turn sets up the compensatory contraction of the pectoralis major causing difficulty in movement of the shoulder. Manipulation heavy, deep, of the belly, the teres, the subscapularis and the infraspinatus are productive of much good results along with secondary manipulation of the belly of the pectoralis major. The coraco-brachialis very seldom enters into the shoulder joint conditions as this is not a very powerful muscle. The latissimus dorsi is frequently involved in shoulder joint conditions and it is wise to always examine the status of the pelvic girdle and the sacroiliac joint as well as the sacro-lumbar joint and carefully reduce conditions here. The material written on disc lesions would accord an excellent method of investigating this area. Muscle testing for weak muscles is essential in most shoulder cases.

Acromio-Clavicular Joint:

Disturbances of the acromio-clavicular joint, which is basically the butt joint between the coracoid process of the scapula and the distal end of the clavicle, can be classified as lesions which cause a separation of the acromio-clavicular joint or an approximation of the acromio-clavicular joint. Generally, if the shoulder joint (the acromio-clavicular joint), is separated the patient carries his arm away from his body. Generally

if the patient has an approximation of the acromio-clavicular joint, he carries his arm near the body. Manipulation to reduce this is directed to the scapula and, since the scapula floats free on the posterior thorax, a steady pressure designed to either open up or reduce the acromio-clavicular joint is all that is needed many times. Pressure applied on the scapula diagonally inferior on the supraspinatus ridge along with simultaneous headward pressure at the lower margin of scapula will generally allow an approximation of the previously separated joint to occur if one holds it long enough—approximately 4 to 5 minutes.

The opposite is true if in the case of an approximation of the acromio-clavicular joint a medial diagonal pressure is exerted below the supraspinatus ridge along with a separating pressure on either the coracoid process or the clavicular border this will suffice to cause a normal separation of the acromio-clavicular joint.

Taping to insure either approximation or separation of the joint is seldom necessary, but in difficult cases this is occasionally recommended. Severe tearing of the acromio-clavicular joint heals slowly and surgery is frequently recommended in a severe tear.

Reflexes from Tissues About the Base of the Neck, Including the Cervical Nerve Roots:

A.A.O. combination lesions produce much brachial pain and frequently disturbances in cervical two, cervical three and cervical five produce referred pain in the arm and shoulder and can easily be reduced by attention to these particular segments. Reflexes from various viscera produce pain in the brachial plexus and most frequently met are digestive visceral reflexes. The gall bladder and the stomach, are the most frequently indicated and attention to gall bladder and gastric reflexes and gall bladder and gastric function in terms of nutritional support will aid in the reduction of any painful process arising from these areas and having a referral point in the shoulder and arm. Your attention is directed to the usual technics of treating reflex pain, such as thumb-web areas, foot areas and belly reflexes.

Reflexes Upward from Nerve Sheath in the Arm and in the Elbow:

The most commonly met condition which causes referred pain to the shoulder and to the upper arm is a separation of the radial ulnar joint. This is generally caused by a fall or some trauma which is experienced when the wrist is held in extreme extension with weight being borne upon the extended joint.

The separation of the radial ulnar joint produces what is called the carpal tunnel syndrome and nerve pressure is exerted because of the traction exerted upon the carpal ligaments producing pressure by traction. The reduction of the separation between the radius and the ulnar at the wrist joint is the therapy of choice to reduce the referred pain. Frequently the pain is referred to the elbow or to the biceps area. Reduction and maintenance of the reduction by proper adhesive strapping or the wearing of a leather wrist band is productive of good results.

Changes in the elbow joint are also productive of pain referable to the arm and the shoulder and the elbow generally requires a pronation extension to realign the humerus to the radius and ulna. This is a relatively simple maneuver in which the arm is flexed, carried into moderate pronation and then with pressure exerted upon the acromio process, the arm is brought into full extension and mild pronation. Generally a palpable click is heard with the great reduction.

Occasionally in children, more often than adults, the radius can enter into a pronation or supination pattern. There is generally an occurrence of heavy traction with pronation or supination being exerted at the same time with the radius head slipping out at the time supination or pronation is produced. Flexion with the thumb on the head of the radial and then mild extension along with pronation or supination, depending on the pattern involved, frequently causes a reduction of the moderate subluxation of the head of the radius with the subsequent reduction in pain.

As was previously mentioned, this occurs much more often in children than in adults but it does occur and it is frequently a cause of referred pain both to the arm, to the shoulder, and to the wrist.

It is hoped that in this brief survey of conditions in and about the shoulder joint may prove useful and practical. The main points primarily being proper diagnosis, proper therapy, with proper nutrition. Muscle testing and muscle balancing technics are very useful and practical.

In the case of bursitis, the use of A & C, E, and an acid calcium product is essential for the dissolution of the calcareous deposit and the reduction of the muscle and tendon disturbances.

We have frequently found that Vitamin E Complex and manganese B12 combinations are of great value in chronic dislocation as is also the case in acromio-clavicular joint separations and in reflex disturbances in the shoulder joint. Attention to both gall bladder and stomach functions in terms of nutrition is practical and useful with the use of appropriate A. F. and possibly Betaine products for the liver and gall bladder, along with other lipotropics and attention to the hydrochloric acid level either reduction or increasing depending upon results of simple tests for gastric function by Diagnex (Squibb).

In neuritis associated with fatigue, B Complex is indicated; in alkalosis association, acid calcium and phosphorus compounds are needed. Shock doses of E Complex occasionally are required in syndromes following excessive use of synthetic fats.

My youngest daughter, who is now twenty-one and has graduated from Skidmore College and is teaching skiing in Vermont, once looked at me when she was ill and said to me, "Daddy, I know this kind of treatment works, but how?" I used to treat her, and she would feel better, but she asked a natural question.

Many times I find that this is symbolic of what patients ask, so as a result I often explain "how" before they ask. I find it helps as much as the actual process of doing what is to be done.

In this regard it was very interesting, when she was quite young and feeling not well one day, that she came to me and said, "Daddy, I think I need a treatment," and then put a hand rather protectively up to her neck and added, "but, if it's possible, not my neck," indicating her relative dislike of the cervical type of adjustment.

This is a natural response too. Therefore, it is sometimes a wise thing to explain what you are going to do before you do it, why you are going to do it, and what the patient should expect.



Chapter 32

THE SPINE AS AN INTEGRATED STRUCTURE

Many people come to a doctor of chiropractic because of a backache or a neck problem. In the process of obtaining results on the spinal problem, they are amazed to find that other health problems improve. It could be a long-term menstrual problem, a kidney problem, sinus, or hay fever which responds favorably. This does not surprise the chiropractor, because he works with the nerve system and other controlling factors of the body. Interestingly enough, the nerves of the lower back correlate with the glands of reproduction, kidney, bladder, and other structures of that area. Likewise, the nerves of the neck and cranial bone function correlate with sinus, hay fever, etc. The neck may be involved even when it doesn't present pain or discomfort.

The total person is taken into account in the applied kinesiology approach to natural health care, which is necessary because a health problem which is a single entity in itself is very rare. There is usually a chain of events taking place when something in the body is functioning abnormally, and this causes many ramifications in the individual's total health picture.

The structure, chemical, and mental aspects of body function are looked on as the triad of health in applied kinesiology. You will find your health improves in many ways you didn't expect when you first saw the doctor of chiropractic for a back or a neck problem, because this "total health concept" is applied.

Applied Kinesiology, first developed in 1964, is a system of examination which tests the muscles of the body to determine normal or abnormal function of the body's nerves and energy patterns, and also tells how the muscles support the spine and other areas of the general structure.

Examination and understanding of the spine has improved considerably over the past several years, and has given much greater understanding of how abnormal spinal function causes typical back pain and neck pain. Even more important, additional knowledge has been developed concerning the effect of the spine on other areas of the body, and the effect of other areas of the body on the spine.

The small bones of the spine, known as vertebrae, can become misaligned and cause irritation on the nerves which come from between the vertebrae, causing abnormal nerve function of whatever organ, gland, or tissue is supplied by that nerve. This is the basic principle upon which chiropractic was founded, and has caused this natural approach to health to boom in a very short period of time.

We find, as examination procedures improve, that spinal misalignments can not only affect the various areas of the body—but the various areas of the body, when they malfunction, can affect the spine. Here are some of the various integrations that are present in spinal function:

Synergism Within the Spine:

A low back problem is frequent, and in the past the doctor has confined his examination of the spine to the area of complaint, and made a correction of the localized problem. In most cases the results obtained have been satisfactory, but sometimes the improvement is not of a lasting nature and the individual suffers from a recurring problem.

The reason for this may be that the entire spine was not examined. Because there is a synergistic

action between the vertebrae of the spine the total spine must be examined, since it works as a total integrated whole rather than as segmental units. During spinal movement, breathing, and general activity, there is a synergistic movement of the bottom vertebra of the spine with the top vertebra, and if the bottom vertebra malfunctions as the result of injury it places a stress on the top vertebra because they are no longer working in a synergistic manner. This stress will eventually cause the upper vertebra to malfunction if it is left uncorrected, and then the upper and lower vertebrae will be working synergistically because they will both be malfunctioning. This additional problem in the upper area may or may not cause symptoms, and then if the doctor locates and corrects the problem in the lower area but does not correct the problem in the upper area, the upper area will tend to recreate the original lower problem.

This synergistic action is present throughout the entire spinal column. The second vertebra from the bottom works with the second vertebra from the top—the third vertebra from the bottom works with the third vertebra from the top, etc.—until the vertebrae meet in the center of the spine. This synergistic motion of vertebrae is called the Lovett Brother action, and is why your doctor examines both the upper and lower areas of your spine.

The Foundation of the Spine:

The spine is on a foundation made up of the pelvis and legs, and this foundation must be balanced and working normally or it will create strain throughout the spine. If an imbalance in the foundation is the cause of the spinal imbalance, the spinal imbalance will recur until the foundation is balanced. An excellent example of this is a house sitting on a crooked, shifting foundation. When the foundation of the house shifts, the walls are no longer aligned, doors and windows won't work, and the plaster develops cracks. If an experienced carpenter comes in he can patch the cracks and make the doors and windows fit and everything looks and functions well—temporarily—but if the foundation is not corrected it won't be long before the same conditions occur in the house.

Pelvis:

Three bones make up the pelvis: the two hips and a triangular-shaped bond joining them called the sacrum. This structural circle is called the pelvic girdle, and when a torquing or other misalignment takes place in this foundation structure it causes strain throughout the body, especially above the pelvic girdle. In addition to the spinal involvement, an adaptive torquing of the shoulder girdle takes place which can cause shoulder, arm and hand symptoms. Again, we find the integration within the body and the shoulder problem will never respond adequately until the pelvic torquing or misalignment is corrected.

Feet and Legs:

Structural imbalance throughout the body can occur because of an original problem in the foot, ankle, calf of the leg, knee, or thigh. Both the foot and ankle have nerve endings which send information throughout the body for muscular coordination, and if there is a problem such as flat feet, ankle instability, etc., these nerve endings send confused information and cause poor coordination of body movement.

Although the knee is not involved as often as the foot and ankle, it can also cause structural imbalance throughout the body. Abnormal knee function is usually correlated more with a walking problem, which can create strain through the spine and the rest of the body.

Muscles of the Legs:

Many muscles in the legs support pelvic balance and general body balance, and when these muscles do not adequately support the structure above—such as the pelvis—the situation is similar to a television antenna with imbalanced guy wires. The structure comes out of its normal position and is in constant strain.

Position and Movement Examination:

Applied kinesiology has revealed the need for examination with movement, and in different positions. A doctor usually evaluates your spinal problem while you are lying on an examination table, which does not give a true picture of your normal existence, since your life is not lived lying on an examination table, but sitting, standing, walking, running, etc.

Therefore it is often necessary to examine you in a weight-bearing standing position, and while walking or running. The foundations of your body may appear normal while lying down but be grossly distorted and function abnormally during your usual standing or walking pattern.

Your doctor may place stress upon your foundation's system by striking the bottom of your foot and then test a muscle to determine if a weakening takes place. This examination tests the shock absorber mechanisms of the foundation structures. The shock to your feet and legs while walking does not ordinarily affect your body, but if there is abnormal activity taking place in the joint the shock will cause a shock to your nerve system which will cause poor function.

These are just a few of the more recent approaches to examining the spinal column. Many back pains were not relieved in the past because the examination did not take into account the integration of the spine with the rest of the body. Today the percentage of results has increased dramatically, due to the improved examination procedures of applied kinesiology.

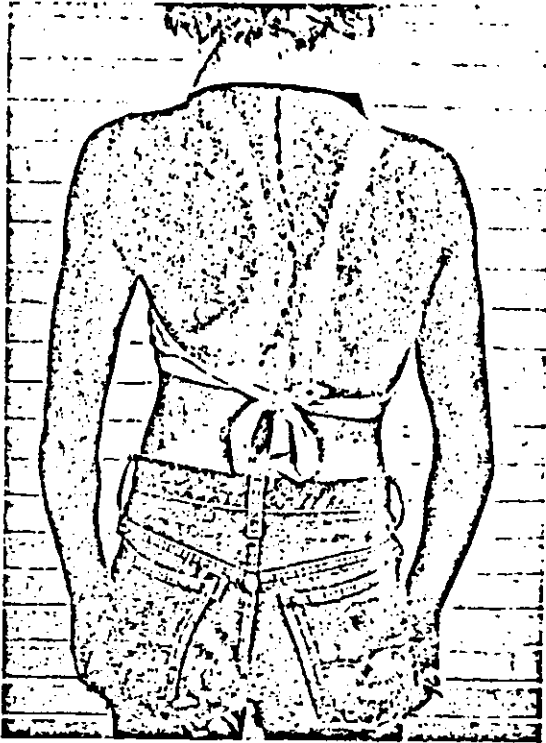
Idiopathic Scoliosis:

“Curvature of the spine” is termed “Scoliosis” and some types of scoliosis have known causes, such as scoliosis secondary to the muscular weakness of polio, different types of nerve degeneration, and birth defects.

This section deals with the type of scoliosis known as “idiopathic scoliosis.” “Idiopathic” means “of unknown origin,” and when idiopathic scoliosis was named, the origin was unknown, but applied kinesiology research has shown the cause of this type of scoliosis to be an imbalance of the muscular support to the spine from imbalanced nerve function, or from imbalance of other energy patterns.

The key to correcting this condition is early detection, before irreversible changes take place.

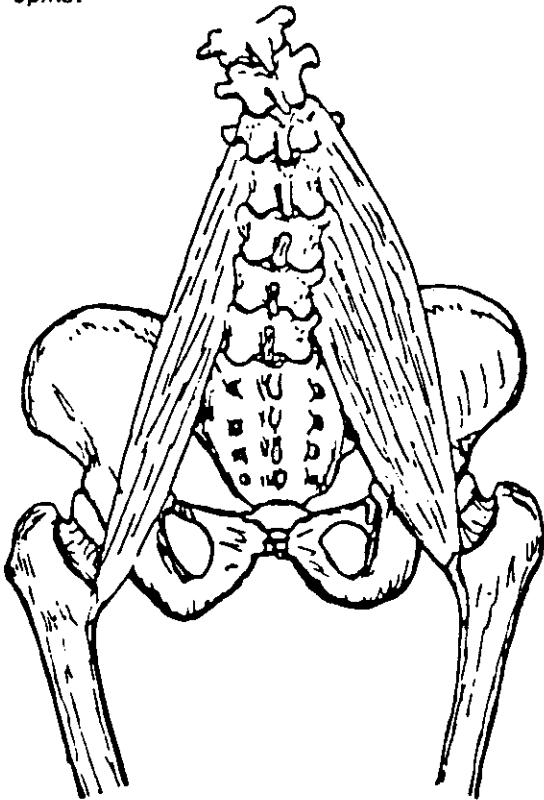
Curvature of the spine develops because the muscles that support the spine have unequal strength from side to side. The illustration on the following page shows how muscles that are strong (normal) on one side naturally pull the spine over to that side when there is no opposing pull from weak muscles on the opposite side, and normal strength must be regained in the weak muscles in order to correct the condition.



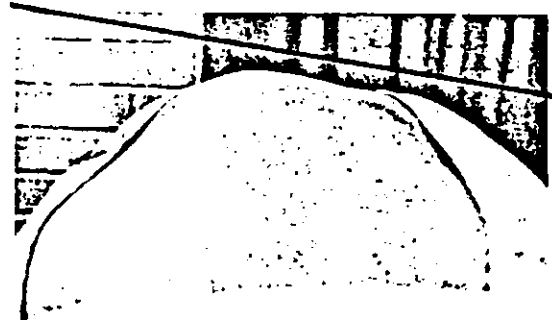
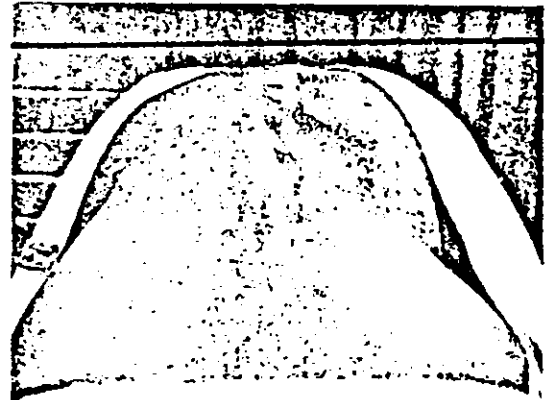
This picture shows how subtle the postural deviations can be in a major curvature. The dotted line conforms to the position of the spine.



The shoulder blade and shoulder are higher on the left. Note the right arm turning in as observed by the elbow position.

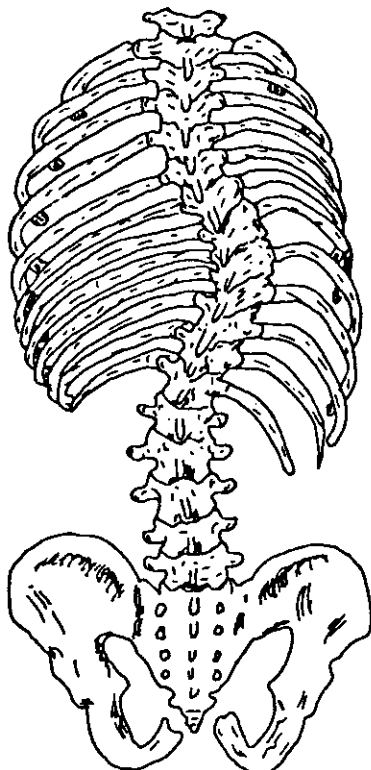


The muscle on the left is too weak to oppose the strong muscle on the right. The spine, consequently, deviates to the right.

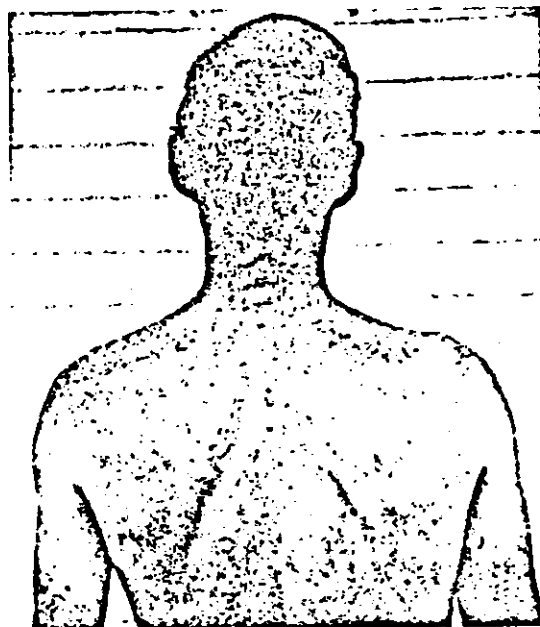


Note the change in the balance of the back on bending forward into Adam's position. As the spine bends forward, balance should be maintained.

Applied kinesiology—a study of motion, structural balance, muscle strength and the energy patterns of the body—has made it possible to restore this muscular strength rapidly, and usually on a permanent basis.



Note how the ribs and vertebrae change shape to fit the curve.



The left shoulder slopes at a different angle; the head is higher on the left (note the level of the ears).

It is only when the scoliosis has progressed far enough for bone adaptation to take place that it is difficult to obtain correction.

Scoliosis usually begins developing in pre-teen or early teen years when the body is growing rapidly, and because this is a rapid growth period the vertebrae, normally square and level, grow in a wedge shape and the rib cage adapts to the bend and twist of the spine causing a spinal curvature. It is almost impossible to obtain correction with the bones form in this position, but even then treatment can retard or halt the progress of the scoliosis.

The obvious way to circumvent this, of course, is to find the imbalance when it first develops and prevent the abnormal bone formation.

Occasionally a doctor may spot a developing scoliosis, perhaps during treatment of some other condition. The youth rarely discovers his scoliosis himself, because it usually develops with no pain or other symptoms. Most cases of scoliosis are observed and reported by parents, but unfortunately usually after the condition has progressed considerably because the early signs of developing scoliosis are not usually recognizable and it is not recognized until the condition is relatively advanced.

There are many signs of developing scoliosis every parent should know in order to make it possible to obtain early treatment.

The child's general structural balance should be noted. The pelvis, shoulders, and head should be carried level. The shoulder blades should be balanced and of equal distance from the spine, with no "flaring" or "winging out." The arms should have a slight rotation so the palms face backward slightly when the child is standing erect, and this rotation should be equal on both right and left sides.

There should be equal balance of the sacrospinalis muscle on both sides of the spine. When a child is either standing or lying down, look for a "ropey," stand-out appearance of sections of this muscle.

"Adam's position" is an orthopedic test to help visualize rotation of the spine and trunk. With your child standing in front of you, have him bend forward as if to touch his toes, and as he bends forward, observe that his head, shoulders, trunk, and pelvis stay balanced all the way down. It is very important to watch the actual bending process of the child, because imbalance at any stage of this action is important.

Walking and running should be graceful, smooth movements. As the right leg goes forward the left arm should flow forward easily, and when the left leg goes forward the right arm should flow smoothly forward. If this smooth movement is not present and the child looks awkward either walking or running, there may be confusion in the nerve system. At present, this is one of the primary reasons for scoliosis.

Preventing scoliosis is extremely important to a child's future health and general well-being, so it is imperative to recognize an imbalance and obtain evaluation and possible correction, as early as possible in its development.

YOUR BACK—HOW TO CARE FOR IT:

Check Your Carriage:

Your postural balance is maintained by the muscles that support the body, all the way from the feet to the head. The applied kinesiology examination is designed to find improper muscular support, which will cause postural distortions, and then the weak muscles are usually corrected by neurologic reflexes, adjustments to the spine, and corrections to other nerve and energy centers of the body. Look at the illustrations on the following page. Some of these could be the result of improper foot balance, pelvic balance, lower back balance, or the trunk itself.

You must become aware of your body structure position and avoid structural strain as shown in these figures:



If the position is correct, there is less strain on the muscles, the organs have ample room, and the body is graceful.



Upper back is stooped, lower back is arched, and abdomen sags. This position crowds internal organs.



Lower back is arched, or hollow. Excessive strain is present because of the increased curve of the lower back.

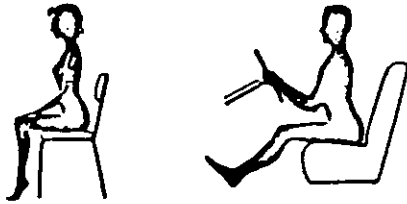


Increased curves. The figure shows how forward tilt of the pelvis increases the spinal curves.

Sit to Reduce Strain:



Slumping increases strain on neck and shoulders, and develops abnormal curves.

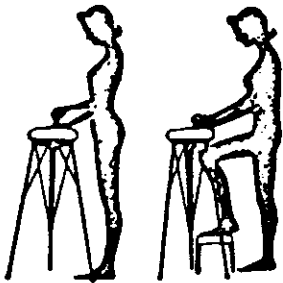


Do not sit so that the lower curve of the spine is greatly increased.

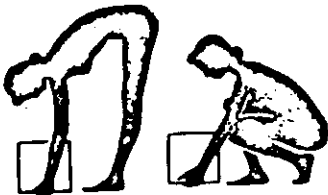


Keep neck and back in a straight line, maintaining relaxed balance.

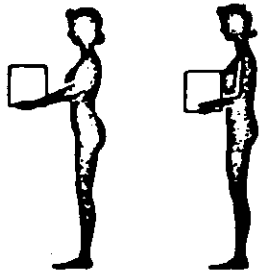
Maintain Activity Without Fatigue: (First figure Excessive Strain, Second figure Good Function)



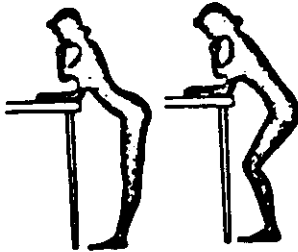
Alternate the use of a footrest to change the point of strain.



Use strong leg muscles when lifting.



Make leverage work for you, not against you.



Avoid increasing lower back curve.

Correct Sleeping:

Many spinal problems develop because of poor sleeping habits. Some positions may feel comfortable, but may still place an abnormal strain on the spine. Habitually sleeping in these strained positions causes the body to assume an imbalanced posture, which is the beginning of many serious backache and spinal problems. Like any habit, changing poor sleeping positions are difficult to correct and require persistence.



When sleeping on your back, use small pillow to support the curve in neck.



When a high pillow is used it strains the neck and shoulders.



When sleeping on side, use a small pillow to hold neck and spine straight.



Never sleep on your stomach as this places a strain on the neck and shoulders.



Do not read in bed. When convalescing, a straight-back chair used behind a pillow makes a serviceable backrest.

Your back mirrors your body function. Many backaches stem from organ dysfunction radiating pain to the back, or from nutritional deficiency. Conversely, many health problems are created by an improperly functioning back or spinal column which can affect the nerve control of body function.

Another type of backache is called "emotional backache," which does not mean that "your backache is all in your head!" It correlates with a specific glandular imbalance that develops as a result of stress of any type, which may frequently be emotional stress. For example, if a businessman pushes very hard and keeps himself constantly under the pressure of his business, he may develop this type of backache. Modern society presses many emotional stresses on us, and the glandular imbalance resulting from this stress causes a hormone imbalance, which in turn weakens the ligaments that help to limit motion and support the joints of the spine.

The emotional backache requires accurate diagnosis and treatment to obtain relief, the same as all other forms of back problems. Applied Kinesiology gives the ability to search out the exact cause of involvement, including testing many muscles to determine the nerve and energy function to the various parts of the body.

The ideal approach to health is to prevent problems, but if prevention is impossible, accurate early diagnosis and treatment, followed by a prevention program, can add years to life and life to years.

The Intrinsic Muscles and the Persistent Subluxation:

Many doctors and many patients have problems related to recurrent subluxations. These may exist in the upper cervical area or in the lumbo-sacral or in the area in between. It is obvious that they resist correction since, following seminars on various technics, there are usually a large number of doctors who apparently need personal attention for their personal problems with their own body structure. This interest in their own health is commendable, but it raises a question as to the permanence of the care they have previously received.

The staying power of an adjustment properly given has been a subject of much discussion for some time, but the one factor that has hindered the thorough thinking-out of the problem has been the "bone concept" that we have been saddled with in our concept of the subluxation. That "bone" just does not sit out there in space—it is attached to muscles and muscles move bones. In the case of the spine, it is moved as a unit by the extrinsic muscles of the body. As individual units, the vertebrae subluxate because of imbalances of their intrinsic muscles, and in the main this is the usual situation. Occasionally, with severe trauma, bones move muscles, but this is the exception not the rule.

Ligaments do limit motion and ligaments do become loose, as Hackett, the pioneer of sclerotherapy, has proven by injecting the loosened ligament with a sclerosing solution, thereby getting a response. Gillet, who thinks just the opposite to be true, also succeeds.

Muscles move bones, and the vertebrae have the pattern of moving in units of threes because of the arrangement of the intrinsic muscles—namely the rotatores brevis and the rotatores longus. The brevis runs from the transverse process of one vertebra across almost horizontally to the spinous process of the vertebra above, and inserts on the spinous process and lamina.

In the case of the rotatores longus, they start at the transverse process of one vertebra, skip the vertebra above, and insert onto the transverse process of—NOT the vertebra above the transverse attachment—but

onto the spinous process of the vertebra TWO ABOVE.

As is well known by now, the basic principle of Applied Kinesiology states that muscles do not contract in abnormal conditions, but only apparently contract in the presence of a weakness of their antagonist or contralateral opponent. So carry this concept on to the rotated vertebra—carry this concept on to the tipped or inferior vertebra. Do you not see that in general most vertebrae have either a combined tipping and rotation or a major component of rotation and a minor component of tipping, or vice-versa.

Now, all of this comes about in the case of the rotation of a vertebra because a rotatores brevis becomes weakened for many reasons. The resulting vector of forces produces a posterior transverse opposite the weak rotatores. The weak rotatores allows the opposite side to act unopposed and the transverse opposite to the weakness goes posterior, and the spinous process of the vertebra above moves slightly toward the posterior transverse.

Generally, the rotatores longus is also involved, and in this situation the weak rotatores longus allows the transverse opposite the weak side to go superior and slightly posterior. Now, it is not a scholastic point as to whether the one side contracts or the other side weakens! The apparently contracted side does so **ONLY BECAUSE THE OPPOSITE SIDE IS WEAK. THIS IS A FACT, AS ANY INDIVIDUAL WHO HAS SEEN OR PRACTICED KINESIOLOGY PRINCIPLES CAN TELL YOU. THEREFORE, IT IS OF VITAL IMPORTANCE THAT THIS POINT BE MADE CLEAR.**

In the discussion of common extrinsic muscular patterns, if the occiput is tipped low on the left, for example, attention to the apparently taut muscles will not alter the head level or the testing strength of the muscles concerned, but attention to the **WEAK** muscles by either a hard rotary pressure to the origin or the insertion for ten or twenty seconds, or activation of the neurolymphatic reflexes just below the clavicle in the midline on either side and just below occiput base by a gentle rotary pressure, will produce a rapid leveling of the head with a rapid response in the testing result of the particular muscles.

This same principle, so often demonstrated to various professional groups throughout the country, validates the concept of the weak muscle as opposed to the apparently strong muscle. It will be this principle that we will discuss in relation to the restoration of both rotated and tipped vertebrae. If for some reason, cranial, visceral reflex, postural adaption to fixation patterns, injury or foot lesions, the rotatores brevis or longus becomes weakened, the vertebra in question moves out of its normal range and position, and stays out because of the relative imbalance of the rotatores. The intertransversarii muscles participate in this pattern, but only to a small degree. This opinion is based upon research treatment of them alone. A hard rotary pressure applied for approximately 20 seconds to the origin and insertion of the weak rotatores brevis muscle opposite the posterior transverse allows normal tone to take place and frequently the vertebra adjusts itself.

Have you not experienced this pattern before, where the vertebra moves as you prepare to contact it prior to adjustment? Have you not seen a perfectly level femoral head, level with a level sacrum, a level iliac horizontal line, and then somewhere in the spine see a tipped or severely rotated segment? Have you not wondered at the modus operandi of such a vertebral lesion? The inter-spinous muscles again do not seem to participate in this situation to any degree, and the treatment is generally confined to the rotatores brevis or longus, as the vertebra condition dictates.

Muscles move bones, and there is an inter-related integrated feedback circuitry that maintains postural control, not only with the extrinsic muscles of the spine and body, but also to the intrinsic muscles of

the spine. This feedback circuitry is under cranial dominant hemisphere control, as so ably demonstrated by Alberts Cranial technic, and is mediated by the postural control of Magnus—again so ably demonstrated by the late F. Mathias Alexander, who so greatly influenced B. J. Palmer in his emphasis of the upper cervical. The body has perfect neurologic recall, and this neurological recall is what restores the vertebral position to normal and keeps it there. There is a NERVE AND A BLOOD VESSEL AND A LYMPHATIC VESSEL that pass through the inter-vertebral foramen, and the skeletal musculature is the starting point for the precision diagnosis of the primary problem.

The posture is the key to the pattern of weak muscles with the compensatory hypertonus of their opposite number. The muscles are tested and the correlation between X-ray and muscle testing is a perfect one. There is a lymphatic component to the primary problem—there is a neurolymphatic reflex that permits rapid treatment response and recovery of muscle tone in seconds. There is a vascular component which is easily treated and the response is again immediate via the neuro-vascular reflexes, mainly on the skull, first discovered by Dr. Terence Bennet. This was found to be the missing link of the primary vascular block that accompanies the neurolymphatic block. Both occur after the primary subluxation has occurred, and perhaps even after it has been corrected, for they are the perpetuating factors.

If you have a sterilizer that boils dry, and if that sterilizer has a circuit breaker to protect it, and if that electrical circuit breaker has the proper type of fuse, before you can get the sterilizer running again you have to refill it with water, turn it back on, activate one or both circuit breakers—THEN the sterilizer will work as before, since it has perfect electrical recall because of the way it was built. So does the body have perfect neurological recall, because that is how it was built. However, don't oversimplify the complex marvel of the body as a single over-simplified bony concept.

Palmer did not oversimplify the subluxation. He may have over-claimed its total therapeutic effectiveness, possibly, but he did not endorse the simple nerve pressure idea causing a lack of nerve force. This is an example for lay people to quickly grasp, BUT THERE IS MORE TO IT THAN THAT. There is a hypotonicity of one set of rotatores and a hypertonicity of the opposite number. There is a weakness of an end organ, namely a skeletal muscle. This is detected by testing and by postural analysis.

There is a neurovascular, neurolymphatic approach to this postural pattern of the extrinsic muscles. There is a neurovascular neurolymphatic component to the end organ muscle weakness. This total approach to the problem corrects the result as well as the cause, and by using the end organ's nerve supply origin, you can backtrack and test the vertebral area associated with the nerve supply of the particular muscle or muscles that the testing technic has revealed. Usually the skeletal muscle balancing has eliminated the subluxation about 60 percent of the time in the author's experience, but regular scrutiny of the spine based on this pattern of investigation yields excellent results.

The upper cervical presents a peculiar pattern of muscle activity as well as anatomical activity, for, as you know, there is no disc between the occiput and C1. Nor is there a disc between C1 and C2, nor are there any "side rails" or the slight lipping of the outer surface of the articular facets, so these segments are peculiarly susceptible to subluxations.

The literature is now full of references to subluxations such as Dr. Ruth Jackson's excellent monograph on the "Cervical Syndrome." Alterations in the rotatores longus and brevis equivalents here are the rectus capitis posterior and the oblique inferior. There is also the oblique superior. It is the imbalance of these muscles that precipitate and perpetuate the cervical subluxation pattern, especially the commonly occurring pattern of axis posteriority on one side and atlas posteriority on the opposite side. When

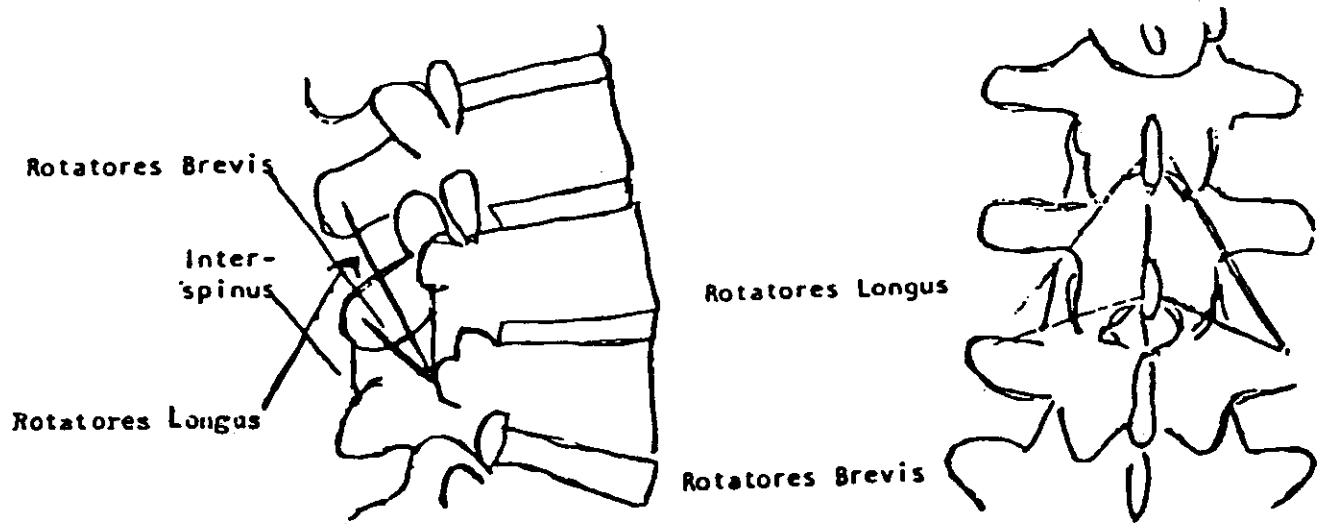
the rectus posterior and oblique inferior becomes weak on one side, the opposite side pulls with less opposition. In the case of the inferior oblique it has to pull on something, and this something is the transverse of the atlas. Correct the origin and the insertion of the rectus and inferior oblique with a hard, heavy rotary pressure for about 20 to 30 seconds; repalpate the posteriority of the axis and the usual posteriority of the atlas on the opposite side, and they will be remarkably reduced if not totally so. If not—adjust.

Keep in mind that many cervical subluxations are compensatory in reverse order and reverse position to lumbar rotations, to quote De Jarnette: "Do not expect one thing to do another."

There is an indefinite variety of patterns of the upper cervical. The smaller intrinsic muscles are too small to be tested, but the lack of testing allows a postural analysis as well as a vertebral position analysis by palpation or by X-ray. Correct the extrinsic muscles of the neck first by testing as dictated by posture, then by correction by the original kinesiology pattern mentioned above, or if necessary, by the vascular component.

Use the anatomical neurological and vascular systems of the body to gain a faster, more effective, and above all a more intelligent approach to the chiropractic point of view, which is, above all, the neurological approach. Do not neglect the longissimus, for it is often a factor. Rediscover the fascination of the total anatomy of the structures we deal with. So often there is only a bony concept in mind. Rediscover the enthusiasm of intelligent understanding of what Palmer the senior talked about when he said, "The reader will observe that a nerve may be impinged upon without being squeezed, pinched or compressed. An impingement consists of pressure on one side, pressure against; whereas a nerve must be between two substances to be pinched. It has never been proven that subluxated vertebrae pinch, squeeze or compress nerves as they pass through the intervertebral foramen.

We should re-examine what we do, why we do it, and why things heal the way they do—for we treat the entire body whether we acknowledge this fact or not. Chiropractic is a fascinating art and science. Treat it with the intellectual respect it deserves and watch your practice grow. This is just one more way the chiropractic physician can put service above self and advance his practice, his profession and himself.



The spinal joints are limited motion, heavy load-bearing joints, the portion of the musculature that stabilizes the joint must act with great force, exactness and smoothness. The diagrams show the brevis and longus rotatores muscles. Sometimes one or the other acts to sublunate a vertebra. The general rule would be to check the extrinsic muscles by postural analysis and muscle testing as outlined in Applied Kinesiology, then check the intrinsic muscles. Analyze via palpation and X-ray, then, for example, if there is an inferiority on the left of any vertebra (excluding the two upper cervicals) use a hard heavy pressure on the inferior transverse and a hard heavy pressure on the side of the Spinous 2 above the previously mentioned inferior transverse. Use this pressure on the Lamina and spinous process on the same side—for example, a left inferior transverse calls for pressure on the left inferior transverse and the left Spinous 2 above it.

In the case of a posteriority, use a hard heavy pressure on the anterior transverse and on the spinous process on the same side as the anteriority, but on the spinous process of the vertebra above the sublunate vertebra. Various combinations may be dealt with by using these principles. In the case of an anteriority with the spinous process showing the soreness to anterior pressure at the inferior tip that is typical of an anteriority, use a double thumb pressure between the Lamina and the transverses of the vertebra immediately below the anterior vertebra, and have the patient force his breathing for a few seconds. All pressures are applied for a very brief period, perhaps 20 seconds, in all cases of both inferiorities, posteriorities and anteriorities.

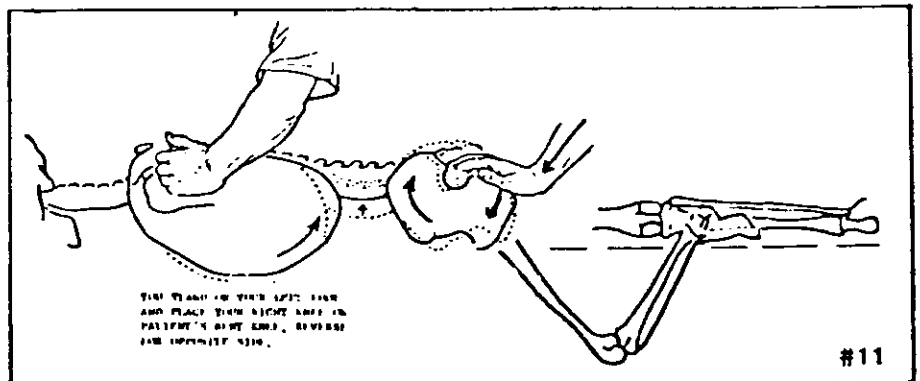
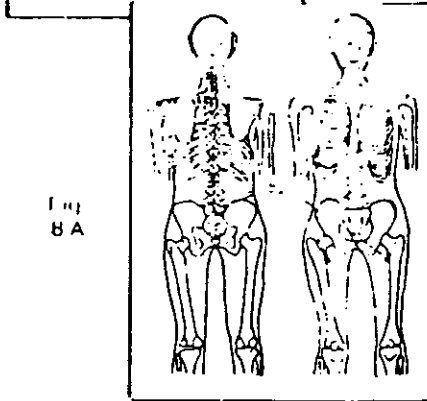
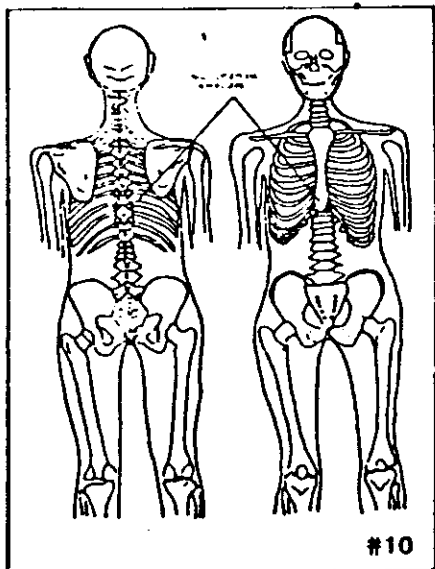
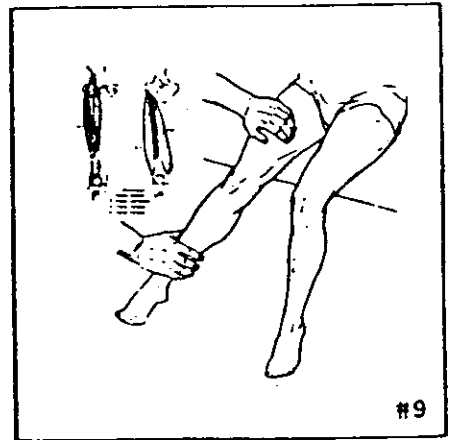
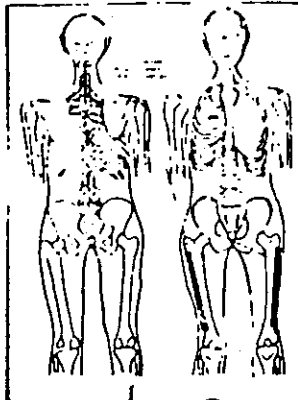
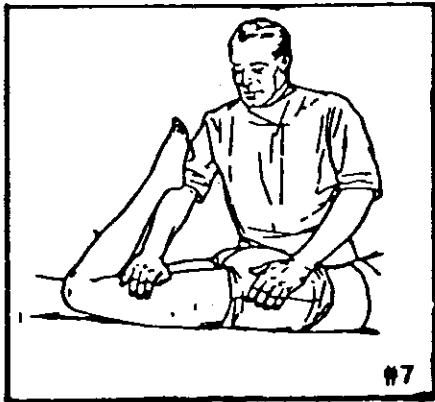
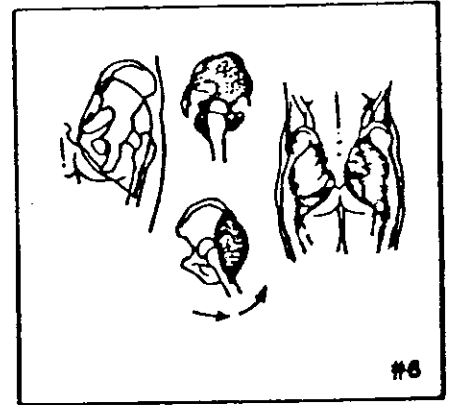
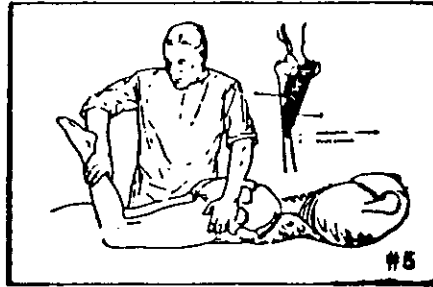
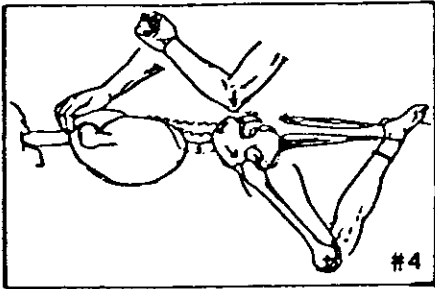
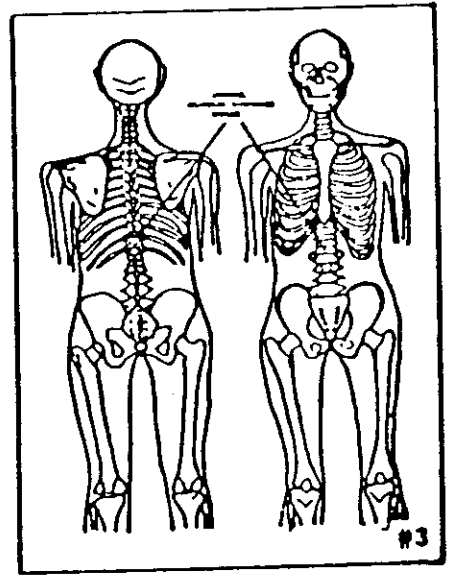
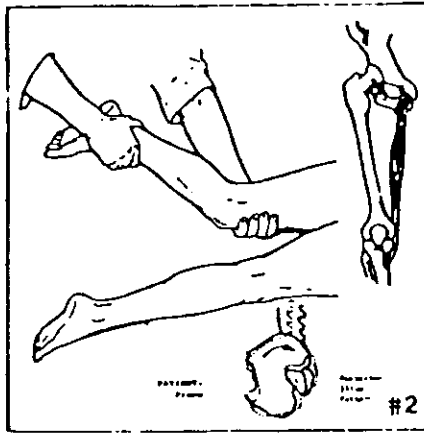
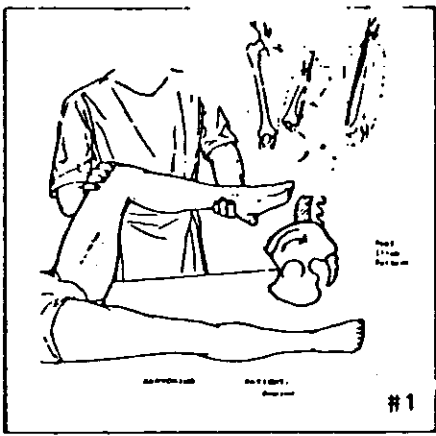
Sacroiliac and Ilio Sacral Problems:

Many patients suffer from lower back problems, and many doctors also suffer lower back disabilities. The pelvis as an assembly unit, and the subassembly of the sacrum and the two innominates are a potent source of difficulty—for man, although unique in his biped stance, pays a penalty for unique erect position. This penalty is a relatively narrow range of functional tolerance between the assembly of the pelvis as a unit and its subassembly sections. Structural disturbances beyond the minimal tolerances of position produce definitive changes with corresponding changes in body language.

The gracilis muscle is the most superficial of the medial inner thigh muscles. Its function is to act as a flexor and to rotate the thigh inwardly after it has flexed the knee. It also acts importantly as a “tie down” muscle to the pelvis, permitting both anterior and posterior rotation of the ilium. Here the sartorius and the gracilis are both involved, and when weakness of either muscle occurs, or both, a posterior rotation of the ilium becomes a potential reality and it only takes a very slight trauma—even the stress of everyday living—to further deplete the now minimal tonus pattern, and thus permit the ilium to escape normal muscle tone. And with the sartorius and gracilis becoming weak, the ilium will sublunate posteriorly, and this is due basically to the failure of the sartorius and gracilis to hold the ilium forward, firm, and to “tie it down.”

Now, when the ilium sublunates posteriorly, as you all know, the leg becomes short on that side when examined in the supine position, the medial malleoli showing a marked difference when the ilium is posterior. On the posterior ilium side that medial malleoli will be very short, sometimes up to half an inch, because the sartorius and gracilis are straining to hold the ilium in a normal balance position, because the gracilis and sartorius are straining to keep the ilium from sublunating further posterior. Both the upper end of the sartorius and the gracilis will be sensitive to pressure and be painful.

To recapitulate: The upper attachment of the sartorius, and also the upper attachment of the gracilis on the anterior aspect of the ischium or short leg side, will be sensitive. The lower attachment of both



THE HEAD OF THE LEFT ARM
AND PLACE THE RIGHT ARM IN
POSITION AS SHOWN, REVERSE
FOR OPPOSITE SIDE.

muscles in the lower third of the thigh on the short leg side will be sensitive to pressure in the medial one third, right down to the tibial tubercle. Here is the diagnostic key, therefore, to the posterior ilium, based upon body language. Body language indicates here that the gracilis and sartorius, although lacking sufficient tone to make an adjustment, are pulling desperately in an effort to hold the ilium in a more normal position. Therefore, their attachments will be sensitive to pressure. (1) The upper attachment of the sartorius muscle will be sore to palpation on the short leg side. (2) The upper attachment of the gracilis muscle will be sore to palpation on the short leg side. (3) The lower medial one third of the thigh, or both the sartorius and gracilis muscles forming the fleshy part of the inner thigh three to four inches above the knee on the medial side, will be sore.

This soreness will be at the sartorial canal, which is approximately four fingers above the medial malleoli of the knee, and this soreness will extend down to the attachment entrance of the gracilis and the sartorius muscles on the short leg side. All these measurements are accomplished with the patient lying in a supine position. It takes about 10 or 15 seconds to validate the existence of a posterior ilium. The short leg exists on the posterior ilium side because of the eccentric rotation of the ilium. The ilium acts like a wheel on an axle, with the leg pulling up where the leg is attached to the periphery of the wheel, and since the axis of the rotation is also at the periphery, X-rays taken when standing or lying in an AP or PA position will show a greater millimeter vertical height difference on the posterior ilium side. This is a constant you can depend upon and will always be found in conjunction with the previously mentioned signs given above.

The upper groin sign on the short leg side and the medial thigh pain sign were first mentioned by Dr. DeJarnette as early as 1945. Although he made no mention of the obturator sign, namely the attachment of the gracilis in a posterior ilium, he most deservedly should receive credit for first publishing and researching this particularly ubiquitous pattern of the sacroiliac joint. It is the observation of many individuals who must treat disturbances of the lower back that there is a definite stress pattern involved in the production of many of these disabilities. The sartorius and gracilis muscles are both drained by the same neurolymphatic reflexes as that of the adrenal, and if weakness of either muscle occurs, posterior rotation of the ilium becomes a potential reality as mentioned before; and with further stress the adrenal fails, the lymphatic drainage blocks, the sartorius and gracilis fail to hold the pelvis in position, and it then subluxates easily, producing the classic signs.

Diagnosis should consist of first eliciting the above mentioned signs testing the sartorius gracilis muscles as per the accompanying diagrams. Having found weakness to exist on the short leg side, treatment may commence. The treatment should consist of activating the adrenal reflex, which is an inch on either side and two inches above the umbilicus; and a firm hard pressure, as much as the patient can tolerate for approximately 30 or 40 seconds, will activate the adrenal reflex, allowing a temporary increase in the lymphatic drainage of the associated channel that the adrenal sartorius and gracilis share. Many times activating the adrenal reflex on the anterior and posterior between the 11th and 12th interspinus transverse space for 30 or 40 seconds allows a normal osseous recovery of the posterior ilium in about 60% of the times this occurs. The palpatory pain previously discussed disappears within 20 seconds following activation of the adrenal reflex as shown in the adrenal reflex drawing, but many times there is not sufficient tone in the adrenal sartorius gracilis combination to maintain proper position.

Ask the patient to stand and walk a few steps and then lie down again. This puts further postural stress on the patient. Many times the previously mentioned posterior ilium signs will reappear. Here the pelvis needs to be adjusted to correct the osseous subluxation to insure 100% recovery. In our experience this temporary pattern occurs about 40% of the time.

When testing the sartorius gracilis and finding it weak, and where there is no history of trauma, or the response is poor, checking the neurolymphatic reflexes to the adrenal is important. In all cases of hypoadrenia there is a weakness of the sartorius gracilis and the sartorius or the gracilis are often found weak. In many cases the adrenal is depleted from infection. There will be a postural hypotonus with a dropping blood pressure from the prone to the erect position, and generally there will be pupil dilation to light or paradoxical reactions consisting of alternation to light. The adrenal neurolymphatic reflex, as mentioned before, is two to two and one half inches above the umbilicus, and an inch on either side of the umbilicus, and the posterior aspect in the inter-transverse space on both sides of the 11th and 12th dorsal vertebrae, midway between the spinous process and the tip of the transverse process.

Generally when you find the sartorius and/or gracilis weak on one side, the neurolymphatic reflexes on the posterior aspect will only be on that side also. Many times these patients complain of extreme fatigue, especially in the morning. They feel that they never have enough rest and are continually tired. These patients improve as the day goes on, and frequently there is an accompanying disturbance of the knee joint. This particular knee joint problem many times resists therapy. The section on hypoadrenia gives a good background for this particular problem. The adrenal reflex forms a basis for the production of many posterior ilium patterns.

The Posterior Ischium:

The hamstring muscles which act as the posterior "tie down" muscles to prevent anterior iliac movement, many times become weakened. When they do, along with the associated weakness of the gluteus maximus, they allow the anterior flexors of the hip to pull the ilium forward, subluxating on the sacrum, producing a so-called posterior ischium or anterior ilium. The biceps femoris especially is weak in a posterior ischium, as also are the pectineus and the vastus lateralis, as well as the adductor longus. These muscles are consistently found weakening in posterior ischium conditions, and as mentioned before, allow the muscles to subluxate the hip anteriorly on the sacrum.

The attachment of these muscles will be sore to the palpatory touch of between 5 and 8 pounds. Diagnostic signs for a posterior ischium therefore are: (1) Upper pectineus and upper adductor longus will be sore to palpatory touch roughly one half of the inguinal right down to and including the lateral aspect of the symphysis pubis. This is on the long leg side and measured with the patient lying supine. (2) The lower attachment of the vastus lateralis and the lower attachment of the biceps femoris will be sore to the palpatory touch on the long leg side, roughly the lower one-third of the long leg on the lateral aspect, down to just below the knee. (3) Directly over the ischium at the attachment of the biceps femoris on the longer leg side, it will be sore to the palpatory touch using between 5 and 8 pounds. When testing both the outer and inner hamstrings and finding them weak, and when there is a history of trauma, and when the response to avulsive technic is poor, check and treat the anterior reflexes for the rectum, which are located at the lesser trochanter of the femur, just adjacent to the ischia, located by finding first the ischium and passing onward to the femur.

Also check the posterior neurolymphatic reflexes close to the ilium at the upper end of the sacroiliac joint, where the sacrum meets the ilium at its upper contact. This reflex which, as you know, is useful in cases of hemorrhoids, is also useful when the patient complains of fatiguing in the leg, restless legs, weak legs, and invariably when treated will cause an increased response in rectal problems. It always seems to improve those patients that cannot seem to eliminate fecal material from the rectum. These reflexes, along with the gluteus maximus weakness, forms a basis for many posterior ischium problems. (4) The long leg exists because of the eccentric rotation of the ilium with the leg attached at the periphery

and the axis, and rotation on the periphery. X-rays taken standing or lying in the AP or PA position show a shorter total length on the posterior ischium side, or millimeter vertical height. This a constant of the long leg posterior ischium position pattern.

You will recognize by now that there are many and multiple causes for a short or long leg. The findings so far characterize the reasons for their appearance and describe the reasons for their presence, and also the means by which they are corrected.

The amount of movement of the ilium on the sacrum is minimal and is measured in a micro fashion, yet the amount of movement in terms of short leg or long leg is maximal and is measured in a macro fashion because of the muscular pattern involved; and it is the body language attempting to correct the problem that produces the relatively short leg or the relatively long leg and its macro dimensions, and it is due to the effort of the body to try and correct this problem. First, the palpatory pain is present, and second the relative signs of imbalance are present, as measured by leg length. The amount of movement in the sacroiliac joint, despite the presence of Illi's ligament, is something like a speck of dust in your eye. The size of the speck is very small, but the amount of trouble it can cause is very large.

After activating the appropriate neurolymphatic reflexes in a posterior ischium, again have the patient stand and walk about, and then lie down once more, to check for the signs of the posterior ischium. If they are still present, or possibly reappear, then the ischium must be adjusted in the mechanical position. If you find signs of the posterior ischium, have the patient lie on the short leg side with the long leg side up. Place the toe of the long leg side behind the knee of the short leg side and roll the patient over until he is practically lying face down; hold his upper shoulder back. Press down with your hands on the ischium and you then give a satisfactory thrust to the ischium, restoring its position to normal. In many instances, especially with a heavier individual, it is wiser not to lock the toe behind the knee but to let the leg hang simply downward to allow weight of the leg to assist in the eventual restoration of the posterior ischium position. Recheck the indicator signs at the upper groin and on the lower lateral thigh, and over the ischium. They should show a disappearance of the signs of the previously mentioned posterior ischium and the legs will even out.

One thing to consider in the iliac conditions is that the percentage has always been a preponderance towards a posterior ilium. One of the reasons why the posterior ilium is more apt to occur is because of the presence of stress. Stress naturally depletes the adrenal and when the adrenal becomes depleted, the neurolymphatic reflex to the sartorius and gracilis becomes blocked. When they become blocked there is a corresponding over-action of the muscles on the opposite side, basically the quadriceps, and this causes the ilium to subluxate posteriorly.

Normally the rectus abdominus muscles have a tendency to pull the ilium in a posterior direction, but when they have become weakened, the rectus abdominus muscles allow the ilium to be rotated forward, producing the posterior ischium, and this is another reason why the sign of the palpatory pain in the lower half of the ilioinguinal ligament adjacent to the pectineus is present.

Many times the fascia lata of the lateral lower one-third of the leg on the long leg side is palpated for soreness. It is oftentimes a therapy by which accidentally the neurolymphatic reflexes for the gluteus maximus is activated. There is also a concomitant lymphatic engorgement of the lower one-third on the long leg side in this condition, but this is not a constant finding.

When you have a posterior ilium think in terms of stress, emotion, anxiety, fatigue, infection and so forth.

When you have a posterior ischium think in terms of hamstring muscle weakness, rectal pathology such as hemorrhoidal conditions, disturbance in the anus, imbalance in the lower colon, disturbance in the prostate or uterus; or think in terms of disturbances of the digestion of the small intestine, since the neurolymphatic reflexes to the small intestines are related to the quadriceps. When blockage of the neurolymphatic reflexes to the small intestines occurs there is a blockage of the neurolymphatic reflex to the quadriceps, as evidenced by the accompanying diagrams.

As mentioned before, any osseous movement of the ilium creates within the body an effort to effect the adjustment, and any osseous movement of the ilium always disturbs and distorts the neck because of the compensation as the body attempts a vain effort to effect an adjustment of either the posterior ilium or the posterior ischium.

The Acupuncture Point K-27 and the junction of the first rib, the sternum and the clavicle, should be activated by heavy, hard pressure for approximately thirty seconds. This greatly assists any pelvic adjustment.

External and internal movement of the posterior superior iliac spine, complicates many back problems.

External and Internal Rotations of the Ilium:

External and internal rotations of the ilium often accompany and are associated with either a posterior ischium or an anterior ilium. Sometimes they are present by themselves, sometimes in association with posterior or anterior subluxations of the ilium. The X-ray signs show changes in the size of the obturator foramen as well as in the width of the iliac transverse distance; and most often, when there is a weakness of the gluteus medius and minimus muscles on one side, this will allow that particular ilium to elevate on the same side and as it does, (elevate because of the weakness of the gluteus medius) there will be an associated external movement of the posterior-superior iliac spine.

This movement of the ilium in an external direction at the posterior-superior iliac spine, will cause a corresponding movement of the symphysis pubis in the opposite direction. When this occurs there will be an extraordinary facilitation of the inward rotation of the leg and foot on the same side. When you turn the foot toward the medial, there will be an extraordinarily inward rotation sometimes (in children) the toe of the foot pointing almost directly posteriorly with the patient lying on the back. This weakness of the gluteus medius frequently is the cause of an external rotation of the ilium and adjustment of the external rotation should be accomplished as well as activation of the gluteus medius either by the O.I. technic or the N.L. reflex technic, depending on your response.

Have the patient stand. Then resume the supine posture once again. Recheck for the inward rotation and when the inward rotation diminishes, following activation of the neurolymphatic reflexes, nothing further need be done. However, if the inward rotation reappears following the assuming of the supine position after standing, adjust the ilium so as to bring it into a more normal position. This can be accomplished in a number of ways, but the easiest method in our experience has been to place the patient with the affected side up and instead of putting the upper toe behind the lower knee, put the lower toe behind the upper knee. Thrust the patient's ilium as far posterior as possible while holding the patient's shoulder and thrust directly backward on the anterior-superior iliac spine.

There will be an audible movement, and since you have made a definite muscular correction prior to this, there will be a permanent alteration toward normal of this so-called external iliac movement.

Weakness of the abdominal muscles, especially the transversalis abdominalis, allows the gluteus medius and minimus to pull unopposed and as a result there is a tendency for the posterior superior iliac spine to move internally on the sacrum, widening the iliac margin of the transverse diameter of the ilium and narrowing the obturator. This requires activation of the neurolymphatic reflex to the abdominals, which is related to the duodenum.

Testing of the abdominal muscles will generally reveal weakness of one or another abdominal muscle and quite often there is a compensatory spasm of the gluteus medius and minimus. A hard pressure applied to the belly of the gluteus medius and minimus following activation of the neurolymphatic reflexes to the abdominals is many times sufficient to correct this internal iliac rotation.

Have the patient stand, walk around, resume the supine position, and recheck for leg turn-in. If the leg turn-in has improved, leave well enough alone. If the leg turn-in has resumed its normally restricted position, which one has in an internal iliac rotation (internal referring here now to the movement of the posterior-superior iliac spine) then adjustment of the ilium with the patient lying on the unaffected side and thrusting directly downward on the lateral aspect of the anterior-superior iliac spine in an effort to open up the sacroiliac articulation at the posterior is indicated.

Therefore, when there is an internal movement on the sacrum of the posterior-superior iliac spine, there will be a greater width of the ilium on X-raying, along with a narrowed obturator, and there will also be restricted turn-in of the leg on the same side. Following activation of the abdominal muscles, there should be an increased turn-in of the leg on the affected side, on the wide ilium side. If there is not, adjustment of the ilium is accomplished. When there is an external movement of the posterior-superior iliac spine away from the sacrum, there will be a narrowing of the transverse width of the ilium with an increase in size of the obturator, and there will be an abnormal leg turn-in. When there is an abnormal leg turn-in along with the X-ray signs mentioned above, activation of the neurolymphatic reflexes to gluteus will cause an activation of the neurolymphatic reflexes to the uterus or the prostate and seminal vesicles causing a corresponding increase in tonus of the gluteus medius, allowing the hip to move externally, producing a better and more balanced rotation of the foot on the affected side. Both feet should now turn in equally. The leg turn-in or failure of the leg turn-in is the sign for the external or internal rotation of the ilium. When the ilium has moved its posterior iliac spine internally, there will be diminished leg turn-in. When the posterior-superior iliac spine has moved externally on the sacrum there will be increased rotation of the femur and leg on the affected side. Correction will change and normalize this structural alteration.

An effort has been made to demonstrate the more common sacroiliac and ilio sacral problems. This is by no means a complete evaluation of this area.

Further Sacroiliac and Ilio Sacral Problems:

Utilization of proper structural correction using muscle balancing, kinesiological technics, will benefit you, your patient, and your profession. Give more of yourself in an informed keen awareness of patient problems and you will gain tenfold. You can only keep what you give away. Give knowledge, kindness, expertise and professionalism, and this will be the product you will keep.

External and internal rotations of the ilium often accompany and are associated with either a posterior ischium or an anterior ilium. Sometimes they are present by themselves, sometimes in association with posterior or anterior subluxations of the ilium. The X-ray signs show changes in the size of the obturator

foramen as well as in the width of the iliac transverse distance; and most often, when there is a weakness of the gluteus medius and minimus muscles on one side. This will allow that particular ilium to elevate on the same side, and as it does elevate because of the weakness of the gluteus medius, there will be an associated external movement of the posterior-superior iliac spine. This movement of the ilium in an external direction at the posterior-superior iliac spine will cause a corresponding movement of the symphysis pubis in the opposite direction. When this occurs there will be an extraordinary facilitation of the inward rotation of the leg and foot on this same side. When you turn the foot toward the medial, there will be an extraordinary inward rotation. Sometimes in children, the toe of the foot will point almost directly posteriorly with the patient lying on the back.

This weakness of the gluteus medius frequently is the cause of an external rotation of the ilium and adjustment of the external rotation should be accomplished, as should activation of the gluteus medius by either the O.I. technic or the N.L. reflex technic, depending on your response. Have the patient stand, then resume the supine posture once again. Recheck for the inward rotation, and when the inward rotation diminishes, following activation of the neurolymphatic reflexes, nothing further need be done. But if the inward rotation reappears following assuming the supine position after standing, adjust the ilium so as to bring it into a more normal position. This can be accomplished in a number of ways, but the easiest method in our experience has been to put the patient with the affected side up, and instead of putting the upper toe behind the lower knee, put the lower toe behind the upper knee. Thrust the patient's ilium as far posterior as possible while holding the patient's shoulder, and thrust directly backward on the anterior-superior iliac spine. (Note that the position of the doctor in this move is reversed from the usual lumbar roll position and the doctor is facing the back of the patient.) There will be an audible movement, and since you have made a definite muscular correction prior to this, there will be a permanent alteration toward normal of this so-called external iliac movement.

Weakness of the abdominal muscles, especially the transversalis abdominalis, allows the gluteus medius and minimus to pull unopposed, and as a result there is a tendency for the posterior-superior iliac spine to move internally on the sacrum, widening the iliac margin of the transverse diameter of the ilium and narrowing the obturator. This requires activation of the neurolymphatic reflex to the abdominals (illustration 1-B) which is related to the duodenum. Testing of the abdominal muscles (illustration 1-A) will generally reveal weakness of one or another abdominal muscles and quite often there is a compensatory spasm of the gluteus medius and minimus. A hard pressure applied to the belly of the gluteus medius and minimus following activation of the neurolymphatic reflexes to the abdominals, is many times sufficient to correct this internal iliac rotation.

Have the patient stand, walk around, resume the supine position, recheck for leg turn-in. If the leg turn-in has improved, leave well enough alone. If the leg turn-in has resumed its normally restricted position that one has in an internal iliac rotation, internal referring here now to the movement of the posterior-superior spine, then adjustment of the ilium with the patient lying on the unaffected side and thrusting directly downward on the lateral aspect of the anterior-superior iliac spine in an effort to open up the sacroiliac articulation at the posterior. Therefore, when there is an internal movement on the sacrum of the posterior-superior iliac spine, there will be a greater width of the ilium on X-raying, along with a narrowed obturator, and there will be restricted turn-in of the leg on the same side.

Following activation of the abdominal muscles there should be an increased turn-in of the leg on the affected side, on the wide ilium side. If there is not, adjustment of the ilium is accomplished. When there is an external movement of the posterior-superior iliac spine away from the sacrum, there will be a narrowing of the transverse width of the ilium with an increase in size of the obturator, and there

will be an abnormal leg turn-in. When there is an abnormal leg turn-in along with the X-ray signs mentioned, activation of the neurolymphatic reflexes to the gluteus will cause an activation of the neurolymphatic reflexes to the uterus or the prostate and seminal vesicles. This causes a corresponding increase in tonus of the gluteus medius, allowing the hip to move externally, producing a better and more balanced rotation of the foot on the affected side. Both feet should now turn in equally.

The leg turn-in or failure of the leg turn-in is the sign for the external or internal rotation of the ilium. When the ilium has moved its posterior iliac spine internally, there will be diminished leg turn-in. When the posterior-superior iliac spine has moved externally on the sacrum, there will be increased rotation of the femur and leg on the affected side. Correction will change and normalize this structural alteration.

Sacral Posteriorities and Inferiorities:

The piriformis muscle runs from the anterior surface of the sacrum in its upper one-third and sacral foramina 1, 2, 3 and 4, inserts on the greater trochanter. There is normally equal balance between right and left piriformis, but when the piriformis becomes weakened on one side, muscle testing of the piriformis (illustration 2) will indicate weakness and there will be a corresponding posteriority of the sacrum on that side. Activation on the neurolymphatic (illustration 3-A) reflexes (illustration 3-B) for the piriformis, which are the same as that of the gluteus medius—namely the uterus and seminal vesicles—will cause a rapid restoration of the piriformis to its normal tonus, correcting the posteriority (illustration 3). This posteriority can be elicited by having the patient in the prone position and palpating over the upper two-thirds of the sacrum from the midline upward. Check to see which side is the sorest, and just as in a vertebra which moves posteriorly on one side, there will be corresponding soreness, so also will there be corresponding soreness of the posterior surface of the sacrum when the sacrum has moved posteriorly due to a weakness of the piriformis on that side. There will be a corresponding contraction of the piriformis on the other side.

Another sign will be in the presence of a normal X-ray pattern in terms of transverse iliac width and normal obturator foramina. Yet increased midline lateral sacral distance and this X-ray sign will be corroborated by a physical sign of failure of the leg to turn in on the normal side, and an abnormal rotation inward of the leg on the weakened side. In other words, the posterior sacral side will show an unusual inward rotation of the leg and foot, whereas the contracted side will show diminished rotation. There will be an increased midline to lateral sacral distance on X-ray. There will be palpatory pain over the posterior aspect of the sacrum and there will be alterations in leg turn-in when there is a sacral posteriority.

Normally the effort of the body to correct itself in a sacral posteriority will cause a corresponding rotation of the neck, and generally speaking there will be weakness of the splenius capitus. The origin and the insertion of the splenius capitus will be sore on the same side as the sacral posteriority. This will be on the high occiput side 90% of the time in uncomplicated cases. So, when there is a sacral posteriority, there will be: (1) Palpable soreness over the upper two thirds of the posterior aspect of the sacrum from the midline out to the lateral sacral margin. (2) The piriformis will be weak on testing on the posterior side. (3) The spinous attachment as well as the mastoid attachment of the splenius capitus will be sore on the posterior sacral side, since the body attempts to counter rotate the cervicals to vainly correct the sacral posteriority. The occiput will be high on the posterior sacral side 90% of the time and the splenius capitus will test weak on the high occiput side. (illustration 4).

The sacral midline to lateral sacral margin millimeter distance will be increased in an AP, X-ray, standing

DUODENUM

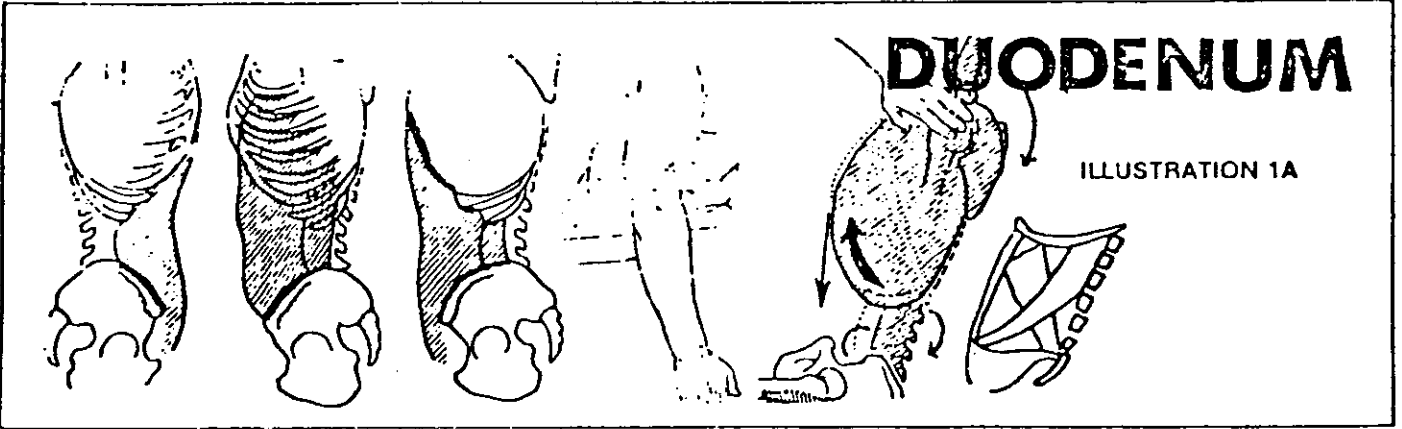
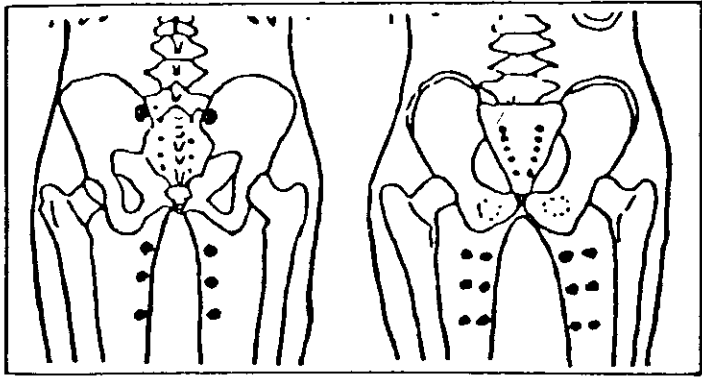


ILLUSTRATION 1A

ILLUSTRATION
1b



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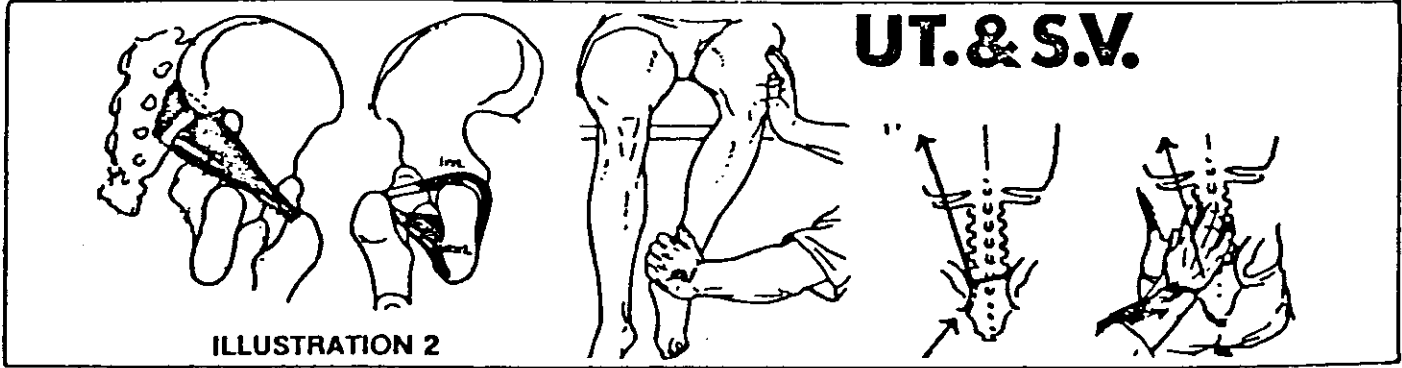


ILLUSTRATION 2

ILLUSTRATION 3A

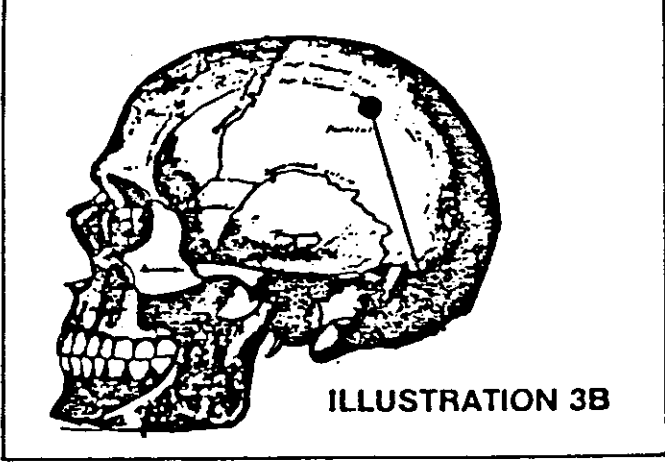
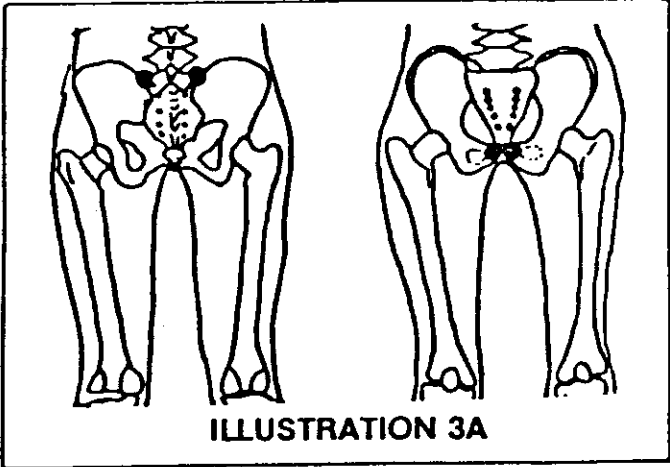
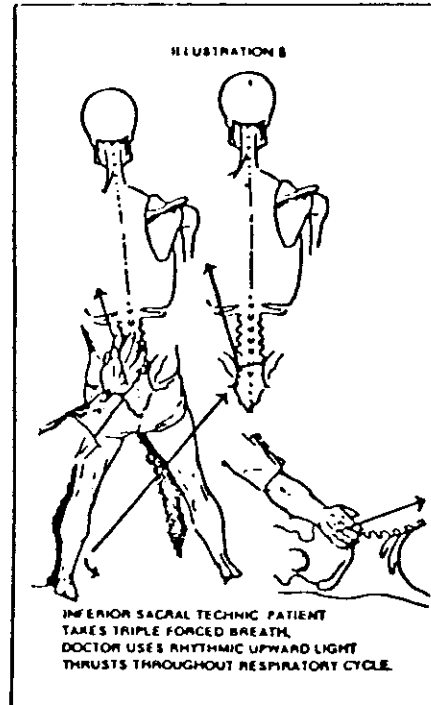
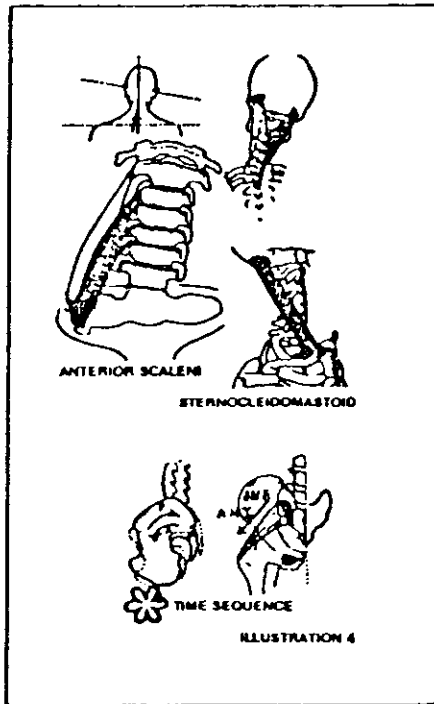


ILLUSTRATION 3B



lying, or frogleg position.

If, on checking the piriformis and treating it via the neurolymphatic reflex or the kinesiology technic, there still presents evidence of the posteriority on palpation, adjust the sacrum posteriorly. Have the patient lie on the side with the knees drawn up to a 90 degree angle, the lower arm hanging off the table. Instead of having the patient rest on his shoulder, the patient's arm is behind in this position. The patient lies on the side with the shoulders practically lying flat on the table, with the knees drawn up to a 90 degree angle. Have the patient use a cooperative breathing and muscular action to replace the sacral posteriority, so the sacral posteriority is reversed by a direct action with a guiding force, using a respiratory and muscular coordination of the patient.

Place the patient's knees against your thighs so that the weight of the patient's legs is resting on your thighs. Place your hand over the patient's upper shoulder. Then have the patient inhale and exhale. Instruct him to slowly reach toward the floor with the hand closest to you. Take up the slack with an increased pressure of your hand on his shoulder. Repeat the breathing phase about three times. The knees are carried toward the head a slight amount with each exhalation. This increases the rotation and reversing mechanism of the spinal action, allowing the sacrum with the forward bending torsion to replace itself in an anterior direction. It is simple and easy and uses the respiratory and muscular coordination of the patient.

The patient responds very well to this technic and the sacral posteriority palpatory pain should be gone by the time you replace the patient face down and recheck. Many methods of adjusting the sacrum on its posterior side can be attempted. This is useful and works readily and easily.

Inferiorities of the sacrum are based on the same pattern of piriformal weakness. Where there is evidence of sacral inferiority, the piriformis muscle will be weak on the sacral inferior side. There will be generalized

palpatory soreness over the sacrum, both from midline out on either side, but this is not too significant a factor. There will be a very definite tenderness on the same inferiority side of the splenius capitus attachment, both at the spinous attachments of the splenius and the mastoid. There will also be a very definite long leg on the side of inferiority in the prone position. When the patient lies face down there will be a very definite long leg in the prone position which will not always evidence itself in the supine position; and along the inferior sacral iliac junction at the lower third of the sacroiliac junction, right over the sacroiliac joint, there will be palpatory soreness on the inferior sacral side, just at the sacroiliac joint line.

This sacral inferiority can best be adjusted by many methods. Dr. DeJarnette's method of holding the ilium down with the patient in a supine position while the knee on the affected side is flexed, forcing the sacrum to travel upward past the ilium is one. But a simple method is to have the patient lie prone, with the operator standing on the side of the table of the inferiority. Take the thenar eminence of the hand (illustration 5); for example, standing on the left side of the table you would use the right hand on the patient's left inferiority. Secondly, with the patient's feet comfortably apart so there is no bind in the sacroiliac joint, ask the patient to turn the toe in medially on the affected side. This gaps the sacroiliac joint posteriorly. Then, third, have the patient breathe deeply, holding the breath in, and then take in another breath deeper without letting the breath out, and breathe again even deeper. All this time you exert a rhythmic pressure along the direction of the inferior sacroiliac joint line at the inferior lateral angle, pressing upward. Request the patient to exhale, then you use a pressure on the inferior lateral angle until the complete exhalation is accomplished. This generally allows the respiratory motion of the sacrum to free itself and your hand then guides it into position.

This generally is all that is needed once you have accomplished the neurolymphatic or the kinesiologic preliminary treatment of the piriformis, which is always involved in any posteriority or any inferiority. The neck signs disappear also, following satisfactory adjustment.

There is an unusual type of sacroiliac condition because it involves both a sacral position along with an iliac position. There is generally an interference with the normal sacral respiratory excursion.

Dr. Sutherland and many other researchers in the cranial field have postulated and stated that the sacrum moves with respiration. It moves in a position of flexion on inhalation and moves in a position of extension on exhalation. Since the sacrum also moves in a gyroscopic fashion when the individual walks, there is actually both a rocking motion forward and back, and a gyroscopic twisting motion left and right, on a transverse axis, when the patient is walking and breathing. It is essential that the sacrum be allowed to perform this vital task of movement and it is because of this fact that it moves in this way that Dr. Illi's discovery of the Illi ligament, which actually restricts sacral movement and iliac movement, is important.

When there is an uncorrected sacral posteriority or inferiority, which restricts the sacral movement on one side, there is a tendency for the body in its innate wisdom to throw the ilium out on one side or another by causing a contraction of muscles which can produce either a posterior or an anterior rotation of the ilium. Always associated with this distortion is the characteristic head tilt with pain present on the high occiput side at the attachment of the splenius on the mastoid, along with pain at the spinous attachment of the splenius at the 3rd, 4th, 5th, 6th, and 7th cervical laminae on the same side as the sacral inferiority or posteriority. (Illustration 4).

There seems to be a time element in production of some sacroiliac lesions, and this particular type

of sacroiliac lesion generally is accompanied not only by a weakness of the piriformis on one side, but, generally speaking, there is a contracture of the piriformis on the other. There will also be pain in the belly of the piriformis halfway between the sacrum and the greater trochanter, deep in the buttock muscle. This pain in the piriformis is the indicator for the pelvic lesion side, the piriformis generally going into spasm.

Correct the weak piriformal side first. Use a hard, heavy pressure on the tight piriformis side. Second, have the patient turn over, having noted which side had pain in the belly of the piriformis. Then examine the patient in a supine position for either a short or a long leg. Then check for pain on either the medial side of the leg if it is short, or the lateral side of the leg if it is long. There should be pain along the previously mentioned lower one-third, but because this is apparently a time element sacroiliac, there has not been sufficient time for pain to develop in the upper ends of the muscles. This still requires an adjustment and it still requires the neurolymphatic reflex for the adrenals if it is a posterior ilium, or if it is a posterior ischium it still requires the neurolymphatic reflex for the rectum and the small intestine. Many times these also require a specific adjustment to correct the posterior ischium or the anterior ilium, but this is apparently a time sequence sacroiliac condition, which is very often present in conjunction with sacral posteriorities or sacral inferiorities.

Bilateral piriformal weakness or bilateral piriformal contraction will produce sacrum changes. In a bilateral piriformal weakness, there will be a posteriorly based sacrum along with a very marked inward rotation of the foot on both sides. In a bilateral piriformal contraction, there will be an anteriorly based sacrum. The sacrum will be in flexion and there will be extreme limitation of inward rotation with almost a "Charlie Chaplin" type of walk and foot position with the feet in external rotation, whether the patient is supine, prone, or standing. Any hard pressure over the piriformal belly will release a piriformal spasm, and pressure over the origin or the insertion of the piriformis will tone up a weak piriformis. Or, as mentioned before, use the neurolymphatic reflex for the piriformis which, as stated, is the same as the gluteus medius, as shown on the accompanying drawing.

Utilization of proper structural correction using muscle balancing, kinesiological technics will benefit you, your patient, and your profession. Give more of yourself in an informed keen awareness of patient problems and you will gain tenfold, as stated previously.

In an effort to arrange the proper type of program for a meeting, I had visited the Rotary office several times. While I was there I saw in a Rotary magazine, a little anecdote about a young boy who was very fond of jigsaw puzzles.

His father traveled, and had gone to New York several times. When he returned from one of these trips, he brought back from Abercrombie and Fitch an enormous jigsaw puzzle of all the emerging nations of the world. He was told by the salespeople at Abercrombie and Fitch that it would take four men four days to completely put the jigsaw puzzle together—with all the very small nations, and all the islands, and all the emerging nations of the world.

So for Christmas he gave his son this very large jigsaw puzzle, and soon after dinner the boy was hard at work attempting to put the jigsaw puzzle together. In a matter of two or three hours he had put it together completely, much to his father's surprise.

The father thought perhaps some of the pieces had been stuck together, so he rejuggled the pieces again and asked him to try to do it again, and again the boy did it within two or three hours, despite

the fact that it was supposed to take four men four days' time to do it.

He questioned his son as to his unique ability, because despite his prowess with jigsaw puzzles the father was still puzzled by the rapid solution to the problem.

The little boy said, "Oh, putting the world together is very hard—I would have trouble getting that—but on the back of the puzzle there is a picture of a little boy, and when I get the little boy right the world is right."

I thought, what an appropriate story—I'll have to use that some time.

The occasion arose when I was asked to lecture in Casper, Wyoming and in addition to my usual stint of dispersing technical information, I was asked to be master of ceremonies at a youth program that the local society was having for athletes and both college and pre-college students, as a public relations endeavor.

There was a very fine meal served, and in an effort to provide entertainment they had a local television celebrity who put on a chef's hat and proceeded to try to demonstrate, as on television, how to make a fruit cake. In an effort to provide humor he kept sampling the various alcoholic beverages necessary for the proper construction of a very popular fruitcake, but the labels kept falling off the bottles, and in an effort to identify which alcoholic liquid he was dealing with, he would try a little bit and show mock inebriation. Finally, towards the end, his chef's hat was falling off, complete with his toupee, and he was mumbling a great deal of the procedure for making a fruitcake, including the mispronunciation of words such as "Ingredients," and achieved a very, very humorous and very, very fun-filled atmosphere.

Then he stopped abruptly, and the Association president announced that I would now deliver a very inspirational address to the young people attending as guests of the local society. The audience included about fifty youths, as well as about 200 other associate guests, and several rather elderly ladies were up in the front, near the podium.

In an effort to change the mood of the audience from the almost ridiculous patter that had preceded, I decided to tell the story of the little boy putting the jigsaw puzzle together so quickly, and saying that the world was very difficult, but that when the little boy was right the world was right.

I noticed one elderly lady wiping away a tear from her eye, and I saw this one waitress practically transfixed and I thought that I really must be getting through to this young lady. I was deliberately trying hard for an emotional response, as I wanted to change the atmosphere of laughter and humor to one of interest in youth, and also in the future. So in sort of an "Onward and Upward Christian Soldiers" effort I deliberately tried to evoke an emotional response in the audience.

I finished, and many people congratulated me on the fine presentation that I gave to the youth in the audience, and as I walked over to the bar to share some hospitality with some of the friends who had invited me, I noticed the waitress who had appeared so transfixed by my talk, motioning to me and indicating that I should see her in about five minutes. I thought she was perhaps pointing to the bartender and I turned inquiringly to see if he was watching, but he was distracted elsewhere, so I pointed to myself questioningly. She nodded her head in affirmation that I should see her in five minutes. So in about five minutes I came down to see this charming young lady, in the very fine hotel that the Ramada

Inn people have in Casper, Wyoming, and which is open twenty-four hours a day because of the uranium mining that exists in that area.

I looked at her inquiringly, and she said with an arch smile and an inviting look, "Would you like to go out?" much to my surprise.

Her response to my story was indeed one of emotion, but she had completely misinterpreted my effort. I thanked her very much for the beguiling invitation but mentioned that I'd have to get my wife's permission, and was there some way that she could get someone to take care of our children, and this seemed to turn off that situation and she left rather quickly.

So sometimes people misinterpret the most innocent of efforts—and here again, don't be surprised!

Chapter 33

HEADACHE

A Many-Faceted Problem:

You must find the exact cause of the headache problem to cure it, since there are so many different reasons for having one.

The total body is beautifully designed to be healthy, and has many mechanisms to keep it healthy in spite of the way it is abused. When it cannot cope with a disturbance the body has warning mechanisms, usually in the form of pain. Therefore, when you have a headache your body's warning mechanism is telling you something is wrong. We think of a headache as an enemy, but if we look at it in its proper perspective we should consider it a friend, because it is giving us a warning of some health problem that needs attention.

Some people obtain relief by overriding the pain with some form of medication, but numbing the pain this way is similar to disconnecting a ringing fire alarm because it annoys you rather than realizing why the alarm is ringing.

A doctor working with natural health approaches the problem by conducting an examination to look for the reason the pain is present, because he recognizes the fact that the body is designed to operate in a harmonious, pain-free way. Foremost among the most important aspects of his examination will be the evaluation of the control systems of the body, such as the nerve system.

The body's organs, structures and systems are governed by these control systems, and they must function without interference to maintain our health at peak level. Any disturbance must be returned to normal before we can regain health, and if we attack the problem by overriding the symptom of head pain by medication we are approaching it at a superficial level.

Following are some types of headaches, and the natural health approach to correction:

Migraine Headache:

The term "migraine" is widely misused. It is not necessarily connected with the severity of the headache, and refers only to a specific type of headache, although many people use the term "migraine headache" when referring to a very severe headache, regardless of the nature of the headache. A true migraine headache is of a vascular nature, when something interferes with the normal circulation of blood to the brain. Although it is usually very severe and incapacitating, it is possible to have a migraine headache which is not severe. It is also possible to have another form of headache just as severe as a severe migraine. People who have had migraine headaches over a long period of time can recognize the onset because of the symptoms they feel, which may include visual disturbances or nausea or both. Several direct nerve involvements and nerve reflex factors influence the migraine headache.

Toxic Headache:

Material which is poisonous to the body is the cause of the toxic headache. It can be either endogenous or exogenous in nature; in other words, it can come from either inside or outside the body. Environmental

poisons such as insecticide, household chemicals or chemicals around work may be the outside source, and are usually identified fairly easily because the headache develops shortly after association with the chemical. Look for possible leaks in your automobile's exhaust, or fumes from your furnace or your neighbor's pesticides, or similar causes.

The inside sources of poison (endogenous) are harder to identify and should be evaluated by your doctor. Improper function of the organs of elimination may be the source—either bowels, kidneys, or liver. Any one of these organs not functioning correctly fails to properly eliminate toxic waste products, and a build-up of toxicity might result in a headache, or in many other forms. Of course, if you regain normal elimination of the toxic material you will eliminate the headache.

Digestive Headache:

If there is a failure in the breakdown of food material so it can be absorbed and utilized by the body, it may well lead to a "digestive headache," which correlates very closely with the endogenous toxic headache. If there is failure in the normal breakdown of food it can lead to the development of putrid, toxic food materials, and if these are absorbed by the bowel they are toxic to the body. Many other symptoms besides headaches may develop with this type of digestive disturbance, and when the disturbance is corrected, general health and energy levels will improve along with relief of the headache.

Allergic Headache:

An allergy develops due to an abnormal reaction to something which is commonly in the air or in food. Most times the approach is to seek to eliminate the allergen from the person's food supply and environment, but it would be more realistic to examine the function of the body to ascertain what causes this particular body to be sensitive to that allergen when other bodies are not. Most of the time when body function is improved the reaction to the allergen no longer occurs.

One allergic reaction headache is caused by actual swelling around the brain, which is not easily recognized because we cannot observe the brain as we can other tissues of the body. For instance, we can see the swelling that occurs in nose and eyes with a hay fever allergy, swelling in the windpipe with an asthma allergic reaction, or swelling of the skin in the hives allergic reaction.

Suboccipital Neuralgia:

A headache at the base of the skull, known as a "tension headache," is one of the most common. This headache is usually caused by an irritation of the nerves, called the suboccipital nerves, that arise from the spine immediately under the skull and must pass through small openings to emerge from the spinal column and through the muscles of the area.

If there is a dysfunction of the neck and muscles at this area it causes an irritation on the nerve. This is usually accentuated with tension—which is why they are termed "tension headaches" but the basic cause is not usually the tension, but an abnormal function of the structures in this area. If the bony structures and muscles that support this area are balanced, good results are produced in this type of headache.

Visual Headache:

There are two primary ways that visual strain can cause "eyestrain headaches," which are usually easily recognized because they occur after the eyes are used for intricate work or reading.

Poor visual acuity is the most commonly thought of reason for "eyestrain headaches, and it is true that it is often necessary to consult an optometrist for a visual examination and have prescription glasses made. But there is a type of visual acuity that is functional in nature and can be corrected by applied kinesiology examination and treatment. This type of poor visual acuity correlates with the function of the skull and its influence on cerebrospinal fluid activity, so when you suspect visual acuity as the cause of a headache, you would be wise to consult an applied kinesiologist for an eye examination and control of eye function before having glasses made. When the visual acuity is improved by applied kinesiology methods, often the glasses that were prescribed previously have to be remade.

If the eyes do not work together correctly it can also cause visual strain, because it is very important for the two sides of the body to work in a neurologic organization. The visual strain is caused because the eyes are not "tracking" together while reading or engaged in some other intricate activity. Neurologic correction procedures are available, which sometimes need followup with either total body exercise for neurologic coordination, or specialized eye exercises. If the eye exercises are needed, the applied kinesiologist can either prescribe these, or direct you to a specialist on eye coordination.

Sinus Headache:

Sinusitis, or inflammation of the sinuses, occurs for many reasons, and causes the "sinus headache" which is located immediately over the eyes or under the eyes in the frontal or maxillary sinuses. When the problem correlates with allergic reaction, which is often, it requires the usual applied kinesiology approach of evaluating the exact cause of the allergy instead of trying to eliminate the allergic factors from the environment. It might be that the energy patterns, including the nerve system to the sinuses, are functioning improperly, causing sinus abnormalities to develop—but in any case, the major factor is to find the exact cause of the sinusitis and correct it.

These are the most common types of headaches, but there are many more to be considered. Naturally all of them are taken into consideration by the applied kinesiologist examining you for your headaches. He will consider tumors, nerve system disease, emotional factors, etc.—but as said before, the most important consideration is that the headache cause be found, and the recovery rate of headache conditions accepted for natural health care is remarkable.

Classification and Treatment of Headaches with Applied Kinesiology:

A patient may have the classic hemicranias or migraine, while the professional may fall heir to the "tension" type headache from the pressure of professional duties, but the fact is that both doctors and patients suffer from many varieties of head pain and headache.

Migraine is the periodic recurring headache that is usually one-sided and is often throbbing, accompanied by nausea and vomiting. A period of vasoconstriction has been postulated, followed by a period of vasodilation and severe pain which may last many hours, often days. The so-called histamine headache is usually found to occur at night, and this type literally drives the patient out of bed. The tension headache is the type that comes on AFTER the big problem has been met, or after the scholastic examination

has been completed or AFTER the difficult patient has been taken care of.

The key here is the timing of the head pain. The headache that occurs in sinus dysfunction is bilateral, frontal, occipital, and is often worse on one side than the other—this side being the concave side of the nasal septum, even though this may seem to the patient and to the examiner to be the “open” side. This type of headache is worse in the morning and improves as the day wears on and the mucous excretions are eliminated. The patient may volunteer the information that the top of his head hurts when he coughs or bends down. The neck pain at the level of the middle cervical many times overshadows the frontal or maxillary aspect of this type of headache. Regardless of the type of headache or its classification, there is a sound solid structural fault at the bottom of the classification pile. The therapy is uniquely chiropractic, since structure determines function, as you know. The effect of a low blood sugar in the production of much head pain has been previously discussed, and the role of hyperinsulinism in producing any and all of the various types of headache is familiar to all of you. Hyperinsulinism diets are an essential part in the management of any type of headache with hyperinsulinism overtones.

A basic distortion which is found in much cephalgia is the jammed occiput. This syndrome is manifested by a tilted occiput, and the accompanying muscle weakness will always show on the high occiput side. Test in the standard method for muscle weakness of the anterior scalene and the sternocleidomastoid. It will always test weak on the high side. Activate the neurolymphatic receptors just below the clavicle midway between the proximal and distal ends of the clavicle. Use a rotary manipulation for about 30 seconds. Do the same to the posterior reflex between atlas and axis spinous-transverse space. Retest the muscle. It will now test strong and muscle balancing will have been accomplished.

Recheck for skull level, and if still slightly tilted palpate the gracilis and sartorius bellies with the patient supine. Palpate the gracilis and sartorius muscles on the short leg side and compare to the same area on the long side. The short leg will show sharp palpatory pain on the medial lower third of the short leg side. In the jammed occiput the same conditions obtain when the patient is prone or supine. The same leg remains short to the same extent, and the palpatory pain remains the same over the same areas. If the occiput is sideslipped as well as jammed, side movement of the head will be restricted in one lateral movement opposed to the opposite direction. In any event, release the jammed occiput by a superior thrust on the low occiput side with the patient's head turned so as to allow the low side to be up and available for the superior thrust to unjam the occiput. If there is sideslipping as well as jamming, thrust on the most sore area of the high side of the occiput. Thrust toward the base of the nose with the patient's head facing straight up. The thrust is a simultaneous double thrust towards the nose and a quick simultaneous lift of the low occiput side, lifting headwards as the occiput is adjusted. The same forces that jammed the occiput on one side generally side slip it as well, since the lateral portion of the anterior neck flexors and posterior neck extensors have side slipping action as well as their primary action. These muscles maintain, perpetuate, complicate and add to any primary subluxation regardless of cause.

Another pattern of subluxation in head pain is the lateral atlas with its switching pattern of self correction that somehow a somewhat confused body wisdom cannot quite self correct. The body knows how to adjust subluxations; it has been doing it for centuries.

We live in A.D. time with B.C. bodies, and what was true yesterday is true today. In other words, the body adjusts its own subluxations. It must have had to. When it fails to do this, it leaves a postural structural sign that is unique to that particular problem.

This is chiropractic diagnosis as opposed to the more classic type of symptom grouping diagnosis used to classify headache at the beginning of this chapter. It is THIS type of diagnosis that is sorely needed and often available, but little known due to the communications gap so characteristic of our profession.

The lateral atlas shows a pattern of short leg in the supine position with medial thigh pain, as does the previously mentioned jammed occiput, but in the case of the lateral atlas the short leg pattern exactly reverses as well as the pain on the gracilis and sartorius bellies. In other words, if the right leg was short supine, the left leg will be short prone. If the right medial thigh hurts to pressure supine, the left medial thigh will hurt prone. This is the body language of a lateral atlas, and it is a unique characteristic of the lateral atlas.

It responds immediately to the right corrective measures. The inferior oblique and the superior oblique allow, when weak, the atlas to move laterally beneath the occiput. Since the opposite side superior and inferior oblique muscles pull with lessened opposition, they either maintain or perpetuate or interfere with the innate correction of the subluxation. Pressure over the origin and insertion of the inferior and superior oblique on the lateral atlas side of the subluxation will quickly help to balance the structure. Adjust in your usual manner, recheck the leg length and medial thigh gracilis sartorius pain pattern, and you find these indicators will now be completely gone. Dr. M. B. DeJarnette pioneered in the analysis of body indicators in chiropractic diagnosis, and we as a profession owe a great debt of gratitude for the unstinting efforts he has put forth in our behalf. Men like DeJarnette, Nimmo, and the late Alberts, have done much for us, but more should take advantage of the material they have organized and presented.

The most outstanding feature of the average patient with headache, regardless of its classification, is a marked difference of head tilt relative angle and the relative angle of the interpupillary line or the angle formed by some portion of the orbits, such as similar parts of the zygoma, the zygomatic tubercle for example. This variation of tilt level, or in other words the deparallelizing of the occipital orbital line, points directly to a cranial fault.

The temporal bone is capable of a slight range of motion. This is well known and has been demonstrated by Sutherland, DeJarnette, Alberts and other researchers in cranial therapy. Muscles move bones—this is axiomatic. The cerebrum and the cerebellum rest, as you know, on the tentorium cerebri and the tentorium cerebelli.

Imagine within the skull, a trampoline type mechanism but shaped like a circus tent with the tent poles forming a middle sort of partition between the hemispheres of the cerebrum and cerebellum. The periphery of the tent with the tent stakes are the attachments of the dura to the skull bone structure. Imagine two enormous beach balls resting on the circus tent, separated by the falx cerebri. The meninges act as a water-filled shock absorber, the skull bony structures acting as the astrodome cover does for the stadium of the same name. If part of the movable astrodome cover were to jam or malfunction, the total structure would malfunction. So does the skull malfunction when the sutures are approximated or spread. The temporalis, the occipitalis, the epicranious and the frontalis all are primary skull bone movers. Occipital tilting with deparallelizing can be divided into superior and inferior temporal bone movement. The temporal bone moving in an eccentric rotary fashion, the inferior mastoid process moving superior and slightly posterior with the orbit narrowing in this syndrome of cranial bone movement. In the opposite pattern, the inferior portion of the mastoid bone moves inferior and anterior, with the orbit widening.

Observation of the patient with the cranial pattern of low occiput with a widened orbit will show a retruded eyeball on the low occiput side. The reverse being true on the high side.

These two skull distortions are not the only pattern one sees in headache. Occasionally there is side-bending rotation as well, with the skull bulging at one temporal area and not another. Correction of the two main types, though, is relatively easy and can be presented without too much difficulty.

For the low occiput pattern, contact anterior to the mastoid process on the low side and gently press backwards, or posterior, with a very light touch, letting the tentorium "trampoline" mechanism do the work. For the opposite pattern of the high side, contact posterior to or in back of the mastoid process and gently press forward again, letting the tentorium "trampoline" mechanism do the work.

Since muscles move bones, contact the neurovascular reflexes to the temporalis with a simultaneous hold on the gastric and psoas area on the skull. If not familiar with these areas, check the neurovascular text. Balancing the skull musculature is just as important as balancing the extrinsic or intrinsic musculature. Remember the fact that as the occiput moves so does the sacrum, and though perhaps you were taught that the skull was a bony box incapable of movement, the reverse is true. The skull structures do move!

Remember the sacroiliac joint was regarded as immovable, but again, the reverse is true, as you know. There is predictable regular, diagnostically discernible movement to each skull bone member and to each sutural union. These unique structures allow movement just like the cracks between the sidewalk slabs allow contraction and expansion between segments.

Jamming of these structures complicates, perpetuates, and activates many if not all causes of headache. Some cases of headache require special handling. For instance, the "miss a meal—I get a headache" patient needs a hyperinsulinism regime with attention to pancreas adrenal and liver. The tension type requires corrective attention, generally to the pelvis subassemblies. Test of head rotation invariably will show greater rotation to one side more than the other when the head is rotated by the doctor in an extended patient neck or nose up position. Irritation of the sacroiliac ligaments on the pelvic lesion side will quickly rebalance the neck structures if this was the original or perpetuating case. It goes without saying that the pelvis must be precisely analyzed and adjusted.

In the sinus case, use an orifical ultraviolet quartz applicator to contact trigger areas within the nose. Generally the lower turbinates are the prime area and need to be contacted intermittently until pain turns off. This requires about a minute for each nostril. A cotton tipped long probe properly lubricated serves a poor second if the U.V. applicator is not available.

One sided neckache following meals, especially following coffee, suggests gall bladder disturbances, and the avoidance of sources of rancidity (most coffee is quite rancid) is essential in this management sequence.

Most headaches are complicated by hyperinsulinism and hypoadrenia and there is usually both upper cervical and/or cranial faults. Correction of the cranial faults gives tremendous response to good chiropractic management.

Headache can be a demoralizing, debilitating, irksome thing and you will earn the patient's undying love and admiration as well as recommendation if you help him. Help him you will if you apply the "whole man concept" to your patient—and to yourself for that matter.

We succeed many times by accident; why not succeed on purpose with the God-given innate recovery indicators and methods available for the asking. There is a reason for everything if we but look behind the obvious and see the hidden but revealing view of the innate wisdom of the body, frustrated though it may be temporarily. All it waits for is your hand and your heart to unlock its fantastic ability to recover, so reawaken within yourself that inner enthusiasm which radiates to the patient and builds the true confidence that so greatly helps recovery.

One of my best friends in chiropractic is Dr. Otis Thomas of Houston, Texas. He and his wife Peggy are real friends, and through them I was in Austin, Texas early in my days of lecturing, at the Commodore Perry Hotel.

While I was lecturing, as is sometimes the case, the microphones were having a lot of annoying feedback and squealing, which produced efforts on the part of the sponsoring group to continually change the type of outlet and the type of microphone. We finally discovered that I had to talk in a very circumscribed area behind the platform, perhaps two or three feet wide, in order to be heard, and if I exceeded that limit there would be an annoying squealing feedback situation which almost stopped the use of the microphone.

For demonstration purposes, I had chosen as a patient the secretary of the state association, who had a very difficult, very bad whiplash from an injury and had been considerably debilitated. When lying on her back she had great difficulty in raising her head, much less moving it.

I proceeded to find thirteen or fourteen different things wrong with her which I was able to correct, and afterwards she was able to move her head with great ease and no pain, and everyone present was duly impressed. During this period of time there was almost constant squealing feedback, an annoying situation with the microphone, and I had to work in a very circumscribed area as I mentioned earlier.

In an effort to demonstrate that there is a sort of tape recording of the patient's symptoms that is literally capable of being "retraced," a word the early chiropractors used to use. As patients would recover they sometimes went through different phases of types of illness that they had experienced on their way into their present illness. I tried to show that this was actually a fact, using the so-called cross crawl technic, popularized by Drs. Doman & DeLacato, which is a sort of a simultaneous movement of the arm and the leg on OPPOSITE sides of the body, with head turning. This can improve the body's coordination. By using this simultaneous movement of the Same arm and same leg on the SAME SIDE of the body, it causes a reversal of the problem and literally plays the tape backward, and all the fourteen factors that I found in this patient came back in the exact fashion I was able to demonstrate.

I thought this was a unique method of demonstrating the existence of a so-called tape recording in the body, so I brought all her problems back, including the great difficulty with her ability to move her head or raise her head.

Then I proceeded to show them that it wasn't necessary to repeat the fourteen therapeutic adventures again, but simply to cross crawl, moving the opposite arm and opposite leg, with the head turning in a particular direction. This removed all the evidences of all the fourteen different things, but did not have any effect whatsoever on her ability to move her head. If anything, now it was much worse.

By this time, as they say, the natives were getting restless, and a lot of the people started to murmur about this "damn yankee" coming down there and ruining their very well loved and well regarded and

rather beautiful secretary, who ran their association in a wonderfully feminine sort of way.

In an effort to collect my thoughts, I asked the young woman to get up and walk about a bit, and at that exact moment I learned that the muscles of the posterior part of her body also had to be cross patterned, because when she returned to lie once more on her back she could really move her head with a great deal of ease.

In an effort to show that this was not a freak chance association, I proceeded then to "homo lateral crawl" her again, bringing back all the fourteen factors including the difficulty in moving her head, and then proceeded to cross crawl with the anterior and posterior muscles, with an excellent recovery.

This was close to the time we left for a dinner break, after which we came back later in the evening. In an effort to send the audience off to dinner with an inspirational pattern, I leaned over the podium and looked at them very earnestly and said, "If you do the right thing in the right way at the right time to the right person, you'll get the right response." Just as I said that, hoping to leave them with that particular message, out of the microphone I was using came the last sixteen bars, in a blaring fashion, of "The Star Spangled Banner," blaring into the loud speakers and creating a tremendous volume of musical cacophony which was precisely timed to the end of my lecture.

The place broke into a pandemonium and there was an enormous roar of applause with much stomping of feet and clapping, and one enormous fellow came lumbering up to me to shake my hand, and he said, "I never heard anything like that in my whole born life. I really want to shake your hand." I said, "Well, if you do the right thing at the right time in the cross crawl ..." and he interrupted me with, "Son, I don't mean the cross crawl, I mean the 'Star Spangled Banner'," apparently thinking it was part of the whole presentation.

Dr. Otis Thomas and associate Dr. J. P. Johnson were seated in the back, but decided I was divinely inspired and decided to sit in the front, and we have been good friends ever since then.

I tell this story as much to provoke a smile on audiences' faces as anything else, because probably nobody believes it happened as it did—but that's exactly the truth.

Chapter 34

FATIGUE AND THYROID

FATIGUE:

Functional hypoadrenia is a very prevalent condition in today's society. It is not a disease process per se, but a condition in which a particular gland—the adrenal gland—is not capable of meeting all the demands required. This gland is responsible for many different actions, so functional hypoadrenia causes a multitude of symptoms: fatigue, dizziness, moodiness, mental anxiety and nervousness, joint pain, allergies, digestive disturbances, asthma, palpitations, back pain, mental sluggishness, headaches, impotency, colitis, chest pains, shakiness—etc.

Today's doctors in the health care system are geared to thinking of disease rather than functional problems, so they do not recognize functional hypoadrenia until it reaches the stage where the adrenal gland fails to function at all, which is called Addison's disease. When it reaches the stage of Addison's disease the patient must be given hormone medication in order to preserve life. We are fortunate that Addison's disease is comparatively rare, but functional hypoadrenia is a very common occurrence in today's society.

Routine laboratory tests may not disclose functional hypoadrenia, but it can be readily determined through case history, general clinical examination, and applied kinesiology examination. There are three main factors which usually result in a functional hypoadrenia condition: (1) Placing too great a demand on the adrenal glands and depleting their reserves. Stress in its many forms is the major form of demand which the adrenal glands may be incapable of handling. (2) Indiscretions in diet. (3) Structural body dysfunction.

We are indebted to Hans Selye, M.D. for adding greatly to our present understanding of adrenal function. In the 1920's and 30's he described the General Adaptation Syndrome (GAS) as consisting of three stages: (1) Alarm Reaction: A call to arms of the defensive mechanisms of the body against stress—provided by the adrenal gland. During any stress—emotional, injury, a demand to fight, etc.—the alarm reaction is always present. (2) Resistance Stage: The stress which activated the alarm stage is present for a long period of time, and in order to meet the demand the adrenal actually grows in size. (3) Exhaustion Stage: When the adrenal becomes depleted you enter the stage of functional hypoadrenia.

Since functional hypoadrenia has so many symptoms, if doctors are not knowledgeable in diagnosis and treatment they have treated patients with tranquilizers and classified them as hypochondriacs or as having a "nervous" condition.

If we look at the major classifications of hormones produced by the adrenal gland, we will better understand why there are so many and varied symptoms.

Adrenal Cortex:

Three major hormones are produced by the adrenal cortex, which is the outer portion of the adrenal gland: (1) Glucocorticoids—convert fats and protein for use as sugar in the body and release sugar from storage, both of which help prevent low blood sugar. They act as the anti-inflammatory hormones of the body, and along with the pro-inflammatory hormones help to prevent rheumatoid arthritis, colitis, duodenal or gastric ulcers, rhinitis, sinusitis, bronchitis, hay fever, asthma, chronic upper respiratory

infections, skin rashes, and/or any other inflammatory disorders not serving a useful function. (2) Androgens—testosterone and estrogen—are the male and female hormones. Compared to the production from the ovaries, the female hormone estrogen is produced in very small quantities, however it is considered important in balancing the menopausal female. (3) Mineralocorticoids—Play a major role in the mineral balance of the body, because minerals affect the body's fluid balance, including fluid inside and outside the cells of the body, when they are out of balance. Blood volume is also affected by mineral imbalance. Mineralocorticoids, the body's pro-inflammatory hormones, work with the glucocorticoids to keep inflammatory processes in check.

Adrenal Medulla:

The inside portion of the adrenal gland secretes two types of hormones: epinephrine and norepinephrine. Epinephrine (also known as adrenalin) is very well known as the hormone which primarily correlates with the "fight or flight" mechanism, that gives a person the ability to stand stress. Both epinephrine and norepinephrine from the adrenal medulla assist in mobilizing sugar from storage, and in controlling the autonomic nerve system, which controls the body's organs and glands. Under these circumstances you can understand why the adrenal medulla has such a wide range effect, as sugar is needed by almost all of the body.

The adrenal gland also plays an integral role in balancing the glandular system by stimulating some glands, while other glands stimulate the adrenal gland in turn. The failure of any gland can throw the entire glandular system off balance.

Glandular patterns are inherited much the same as facial characteristics and body build. If you are fortunate enough to inherit a very strong adrenal pattern you may be capable of abusing the adrenal gland in matters of stress and dietary indiscretions without having health problems, but if you inherit a rather weak adrenal pattern cumulative stress factors may cause health problems very quickly. If one person has hypoadrenia, his relatives with the same genetic pattern should be examined for the same condition which may be causing some of their health problems.

Is There a Solution to This Problem?:

First the condition must be recognized and the factors causing it must be found, and then there are methods of effecting the correction of functional hypoadrenia. Applied kinesiology not only gives the doctor a better opportunity to find these "sub-clinical" conditions, it also gives the opportunity to find the exact reason for the hypoadrenia.

You are responsible for your own treatment, which may include reduction of stress, dietary changes, nutritional supplementation, etc., while your doctor will evaluate your nerve system, nutritional requirements, and stress involvement, and make necessary changes.

A person tends to use large amounts of stimulants to the adrenal, and carbohydrates such as sugar and starch, when hypoadrenia is present. Depression follows stimulation and eventually needs more stimulation, and this continued use of stimulants may lead to addiction eventually.

You must withdraw from stimulants in order to rebuild the adrenals, since the adrenals cannot rebuild when they are being stimulated constantly. Beware of stimulants such as caffeine, cigarettes, alcohol, sugar—and remember that caffeine is an ingredient of many over-the-counter medicines such as aspirin

compounds, cold medications, and pain relievers.

The longer a functional hypoadrenia condition has been present, the more a rebuilding process is necessary, and the more closely you follow your doctor's recommendations, the faster you will obtain the correction. You must persist with the prescribed corrective approach in order to stop "just being sick" as Selye described it.

Additional Fatigue Related Factors:

Blood sugar does not build strong, healthy muscles, bones, organs, or glands—but it is basically the fuel that operates the body, and when it is out of normal balance all types of symptoms develop because almost all body tissues depend on it to function. A muscle with inadequate blood sugar becomes weak, and both nerves and brain will not function correctly without normal sugar levels.

Two basic types of diseases are associated with sugar: (1) Diabetes mellitus—where blood sugar is too high. (2) Hypoglycemia—where blood sugar is too low. Insulin is secreted by the pancreas to lower and utilize blood sugar, and glucocorticoid hormones are produced by the adrenal glands to raise the blood sugar level.

Throughout the day the blood sugar level will fluctuate according to physical activities and nourishment. The blood sugar will raise when you eat, especially sugars, and insulin keeps it from going too high, making you a diabetic. When you go through a period of physical activity, you use up the sugar stored in the blood stream and the adrenal gland hormones then convert fat and protein to make new sugar, and they also help to release "storage sugar" into the blood stream. These body mechanisms, if operating properly, should keep your blood sugar at an ideal functioning level constantly.

Many things can cause hypoglycemia, and only the more common causes are discussed here:

Hyperinsulinism—when the body secretes too much insulin for the body's needs, causing the blood sugar level to be lowered too far. Hyperinsulinism can sometimes be the result of a person with a healthy, active pancreas simply eating high concentrations of sugar in such foods as candy, soda pop, etc., which are absorbed into the blood stream much more rapidly than the more realistic amounts of sugar contained in natural foods. Then the body overreacts to this rapid absorption of sugar with insulin, and the sugar level is lowered too far, which gives the person the desire to eat more sugar to bring the blood sugar level back up, and another vicious circle is started with another insulin response.

Functional Hypoadrenia—As stated before, when the blood sugar level is too low, the adrenal gland is responsible for bringing it up, but if a condition such as hyperinsulinism lowers the blood sugar level frequently, the adrenal glands will be depleted eventually and the blood sugar will stay low. When the adrenal gland is depleted it is known as functional hypoadrenia, and this can be the initial cause of hypoglycemia. Stress is a primary reason for causing the adrenal gland to become exhausted, since this gland is very important in handling stress, but there are many other reasons.

Malabsorption—This is a type of hypoglycemia caused by lack of normal digestive activity to absorb and utilize food materials as necessary.

Dietary Inadequacy—Inadequate dietary intake can cause hypoglycemia, particularly in weight reduction programs such as the well-known low carbohydrate diet. Not enough fat or protein in the diet can

contribute to hypoglycemia because these are utilized in the process of forming new sugar in the body when sugar stores are too low.

Hypoglycemia symptoms are often present, even though laboratory tests do not show a hypoglycemia on a 6-hour glucose tolerance test—but this situation is observed as a sugar handling stress during an applied kinesiology examination. When the glands in the body are overworked, although they work valiantly to keep the blood sugar at normal levels, they become inadequate for the demands placed on them, and a classic example of this is functional hypoadrenia, which is very common in sugar handling problems.

The refining of foods (especially concentration of sugars in different types of food) has caused sugar handling problems to become more and more common.

Since the turn of the century the use of refined sugar (white sugar) has increased many-fold, with some authorities stating that the average person uses six times as much sugar now. Both diabetes mellitus and hypoglycemia have increased as the use of sugar has increased.

Because almost everything in the body is dependent upon sugar for normal function, hypoglycemia and sugar handling stress are responsible for an extremely wide range of symptoms, including fatigue, headaches, visual disturbances, shortness of breath, dizziness, light bothering the eyes, rheumatoid-type pains, backache, digestive disturbances, loss of libido, allergies, shakiness, and numbness in the arms and legs. Also, many "nerve" conditions develop, such as inability to think clearly, poor memory, depression, anxiety, moodiness, and even a tendency toward suicide—because the nerve system, including the brain, is very dependent upon adequate sugar levels.

People with hypoglycemia or sugar handling problems are often labeled as "hypochondriac" or "nervous" by their doctors who do not understand the condition because the symptom complex is so wide and varied. The doctor often places the suffering patient on tranquilizers, or does nothing, or even occasionally prescribes a diet to include a larger sugar intake if hypoglycemia is recognized. Of course this is exactly the wrong approach, because although it gives temporary relief of symptoms for very short periods, in the long run it adds fuel to the fire and makes the condition worse.

Fortunately today's applied kinesiologist has an improved method to evaluate and treat hypoglycemia and sugar handling problems. He will evaluate the glandular patterns of the body and the energy patterns of the body, including the nerve system, by the use of muscle tests—which will give him the opportunity to pinpoint the exact cause of the hypoglycemia and provide treatment in the necessary areas. This evaluation may also include laboratory procedures and specific nutritional evaluation which is made by having the patient chew tablets while observing the body's response.

Although diet and nutritional support are very commonly used in the treatment of hypoglycemia and produce good results, this is only part of the picture, and structural, neurologic, and other energy patterns should be evaluated and treated when indicated.

Hereditary background may cause some people to be more susceptible to sugar handling problems than others, and in such cases a more rigid dietary regime and nutritional support, as well as other evaluations, may be necessary throughout a lifetime. All relatives of individuals with hypoglycemia and other sugar handling problems should be evaluated periodically either to correct or prevent this situation.

STRESS:

The advice that doctors give their patients is excellent: Avoid stress in order to improve health. The question is, how do you go about avoiding stress? Most people are not only unfamiliar with eliminating stress, they are unaware of what stress is in the first place.

It is very important to reduce stress because it is at too high a level in most of us in today's society, which can cause a glandular imbalance, which in turn can cause an imbalance of the autonomic nerve system. This is the system that controls your organs and glands.

Symptoms are developed either directly or indirectly as a result of stress. The direct effect of stress is through the "fight or flight" mechanism within the body, which is a natural activity of the body and gives you the ability to handle problem situations. It does just exactly what its name implies—gives you the ability either to fight a situation or run from it.

If a man encounters a frightening situation, he either has to meet that situation or run from it. The adrenal gland is important in the "fight or flight" mechanism because it causes an increased blood sugar for better muscle energy and thinking power, an increased heart rate and higher blood pressure to circulate energy-giving sugar and oxygen through the body, an increased respiration, and other activities to give more power and thinking ability. If it is a situation the man cannot cope with, he would run from it and hide somewhere while high levels of blood would be pumped through his adrenal glands, thus replenishing them. In other words, this is how the body should react to stress—by meeting the demand.

Research by Hans Selye, M.D. in the 1930's makes us understand stress better. When Selye observed common entities in many different disease processes present in many health conditions, he classified this group of problems as "just being sick," and then later found that this common group of problems was due to stress. He classified three factors that were affected in the body whenever stress was present for long periods of time, and called these the "triad of stress." One of the triad was adrenal gland enlargement, to try to meet the demand of the stress.

Selye classified many factors as stress, but to understand stress better for our own management of it, we can divide stress into four basic groups, which include most types of stress:

1. **Mental:** Most people think of mental stress when stress is mentioned, and it IS one of the primary types, but not the only type. Mental stress can have a very wide range, all the way from being teased to facing a loved one's death. When emotional stress is met properly as in the fight or flight mechanism example, it is usually overcome rapidly by the body, but many emotional stresses of modern society are continuing, and these take a toll on our health. For instance, the stress might be financial, being unable to meet your bills each month; or it could be working at a job you don't like, with no advancement or improvement likely in the future. This type of emotional stress that has few prospects for change is the kind that causes the most problems.
2. **Physical:** Physical stress may simply mean driving oneself past the body's endurance, whether it be not getting adequate sleep or working too many hours. However, physical stress also includes structural problems such as a spinal imbalance or other body distortion. This is made worse if there is constant pain, because pain itself is a stress to the body, which could result from an injury such as a twisted ankle, broken bone, laceration, etc.

3. **Chemical:** Our modern environment has caused this form of stress to increase. The chemical phase of stress can be divided into three major categories: (a) Environmental pollution, including emissions from automobiles, factories, pesticides, gas leaking from a furnace, etc. (b) Contamination and refinement of food supply are stresses to the body and take their toll. One of the culprits is the preservatives, food colorings, and artificial flavorings in modern foods. Another culprit is the foods that are concentrated to a high level of imbalance such as white sugar and white flour, and this imbalance causes heavy activity of the adrenal gland and the pancreas in order to keep the body in balance. (c) Medications, whether prescription or over-the-counter, create significant demands upon the stress mechanisms of the body.
4. **Thermal:** If a body becomes either overheated or chilled, a stress reaction is set up to meet the demand. For example, if you become overheated your body will set up a stress reaction to meet this, and then if you immediately put your body into a situation where it becomes chilled, your body will immediately set up a reaction to meet this, so you are creating one stress reaction right after another.

The adrenal gland is always affected by prolonged stress, and because the adrenal gland is responsible for so many body functions, the symptomatic involvement from stress is great and varied. Since the autonomic nerve system, which controls the organs and glands of your body, becomes imbalanced from prolonged stress, anything controlled by that system can develop symptomatic problems and eventual disease. It may be seen as ulcers of the digestive system, severe fatigue, nervousness, moodiness, or inability to think clearly.

Stress is common and it causes a lot of health problems, but what can we do about it? Unfortunately we cannot eliminate all stress from the body, but due to the basic fact that stress is cumulative we must control it by changing things we CAN control. For instance, you may have an emotional problem where you are employed which you cannot change, but you can stop running outside without a coat in 30 degree weather, stop missing an hour and a half of sleep each night, stop indulging in ice cream with large amounts of preservatives, emulsifiers, artificial flavorings and coloring, as well as refined sugar!

A doctor might see that the patient's health problem is the result of stress, even though the patient claims that there has been no stress change in his life. Upon questioning the patient may recall several different things he is now doing, one leading from another, and when the doctor points these out, the patient often says that he has been doing many of these things before. The point is that he may not have done all these things at the same time before, and he was never in exactly the same state of health before—and remember that stress is cumulative.

Try to eliminate as much stress as possible from your life by evaluating the four factors—emotional, physical, chemical, and thermal—and find stressful factors which you can eliminate. Eliminate the easy ones immediately and then start working on the more difficult ones. If you lead as stress-free a life as possible your health, emotions and happiness will benefit.

Fatigue Management:

Fatigue is a common symptom sometimes felt by both doctor and patient, but it is the fatigued patient with a normal blood sugar, who is not anemic or hypothyroid, or who does not have a postural problem, who is indeed a problem.

These patients who are otherwise normal complain of always being tired, but sleep does not restore their energy. They lack enthusiasm for life and complain of bizarre symptoms such as "travelling sensations," weakness, and often have a blotchy complexion or seem whiter or paler than normal. They usually have a good insight into their problems psychologically, but sometimes simply "lack the energy to get out of bed."

The blood pressure and pulse rate of these patients show normal findings in prone, supine or erect positions, but the key finding is the failure of the heart rate to increase when a demand is made upon it such as a repetition of the two-step "Master test" ten times. The Master step test can be used, or the patient can be requested to hop on one foot ten times and again on the other foot ten times. This exercise of lifting his own body weight twenty times is a good, simple, well used and approved test of the heart's response to exercise, since there should be an increase of the heart's response to exercise in the pulse rate, of approximately forty beats, which should then subside to normal within two minutes. The failure of the heart as an organ to respond to a demand is basically the result of the fatigue problem, since it is poor circulation that causes the problem in the first place. It is just as though you pressed your foot on the accelerator of your car, expecting it to increase in speed, but finding that it's still going at the same rate of twenty miles an hour because there is a failure of response.

Here lies the cause of fatigue, the lack of enthusiasm, and the waning of sex interest. Proper perfusion of the blood through the capillary bed is a prime necessity for good health, hence the aforementioned problems, plus a pale and blotchy complexion. They occasionally look as though they need to wash their faces despite frequent and regular washing.

Heartometer and endocardiographic records may show an increase in time of the first sound, longer than, for example, $\frac{3}{25}$ ths of a second, but in the main they show an absolutely normal graph. However, the relative or absolute failure of these patients to respond to a simple exercise test is the key diagnostic feature. This failure of the heart to respond to exercise is not a pathological failure of the heart, but a functional failure. It is not a pathological heart failure any more than the failure of a car that runs well on the level road to properly go up a steep hill. It represents a failure of adjustment or adaptation rather than a failure of the car or the heart.

In my experience, testing of the subscapularis muscle on one side or the other has shown a weakness always associated with this condition. This associated weakness of the subscapularis muscle is generally due to a blockage of the lymphatics, with a failure of the lymphatic drainage to the heart, and in my experience always accompanies and probably is causally related to this response pattern. Attention to the lymphatic receptors at the second and third ribs bilaterally close to the sternum and lymphatic receptors, bilaterally at the spinous-transverse interspace of the second and third dorsal vertebrae, will cause the previously tested subscapularis muscle to respond very quickly—within a minute or so. This normalizes the lymphatic drainage and at the same time normalizes the muscle tone of this part of the chest and shoulder area, and concomitantly the lymphatic drainage of the heart, since these two structures are drained by the same neurolymphatic reflex, just as two houses are drained by the same sewer pipe even though the people in those houses do not know each other or have any apparent connection.

Adding cytotropic extracts of beef heart to the nutritional pattern of these patients speeds recovery, as does the addition of beef heart meat in the patient's diet, although this may at times be a bit inconvenient. About six to eight ounces a day of beef heart has helped, as has three to six tablets a day of beef heart cytotropic extracts, available from suppliers to our profession. Approximately two weeks' time elapses before the fatigue pattern completely changes, but the heart rate responds in approximately

one week.

Upper dorsal rib and vertebral lesions should be corrected, as should careful attention be given to the upper cervicals, but the lymphatic drainage must be done as well. Just as when a sterilizer boils dry of water and a circuit breaker circuit is activated to prevent further damage, so also is the case with the neurolymphatic reflex. You must do BOTH things—one does not supercede or take the place of the other.

Taking before and after heart graphs is not only an important and dramatic method of pinpointing the condition itself, but it also shows the excellent response that you will obtain in this type of case. Some patients' heart rates show no change at all in response to exercise, while others may show a small and inadequate amount, but still require therapy. A chronically fast heart may still fail to respond to exercise as well as a chronically slow heart, but in the first instance there may be an additional requirement for more leafy vegetable potassium material, whereas with the slow heart there is a need for the Vitamin B foods.

Some but not all of these patients experience a dizziness which comes while resting in bed. Sometimes when these individuals have a virus or bacterial infection this dizziness symptom predominates and they are momentarily dizzy on change of position or on head movement. But, as is well known, there is an upper cervical component to this symptom complex which must be attended to. However, do not neglect to test for the fatigue response pattern.

Many secondary factors related to circulatory problems clear under better cardiac tone, and the subsequent increase in the perfusion of blood through the capillary interchange. Improvement in the acid-alkaline as well as changes in fat or lipid metabolic uptake factors takes place, as lymphatic drainage factors improve with activation of neurolymphatic reflexes.

Phonocardiographic and heartometer tracings form a valuable record. Some phonocardiographs have speakers built into the mechanism so the patient can hear the failure of his heart to respond, and later, following treatment, can hear the difference. Methods such as these take little additional time and aid measurably in stimulating patient enthusiasm and in creating the patient referral, which is the basis for a good and growing practice.

The Thyroid As An Overlooked Problem:

An estimated 15 million people have an undiagnosed and unsuspected borderline hypothyroidism. Because the thyroid dictates the metabolism of every cell, the symptoms of subclinical hypothyroidism may be many, mostly nonspecific. But the patient that goes to pieces easily, dislikes working under pressure, dislikes being watched, fails to lose on diets, has difficulty concentrating, with a history of chronic constipation unhelped by usual treatment, that is easily distracted, and in the case of women especially those that cry easily—these are all symptoms that often present themselves to you in your office for relief and treatment. Familiar thyroid function tests—PBI, T-3, serum cholesterol determination, BMR—are time consuming, inconvenient and relatively costly, and variations in methods and technics often distort results of single tests.

Today there is rising general acceptance of a simple thyroid test that every doctor can perform and interpret in his office quickly and easily, and which will give an accurate estimation of thyroid function. It is the Achilles tendon test and to test the patient the patient kneels on a stool or treatment table,

a "receptor- feeder" is placed near one heel and either electromagnetically or photoelectrically this unit transmits voltage changes effected by tapping the heel tendon with its subsequent tendon muscle contraction and relaxation.

These changes can be recorded on an EKG, which not many DC's have, or by a new attachment soon to be manufactured for the endocardiograph, or by direct reading of a relatively inexpensive instrument available to our profession through usual sources of supply or through your college. Measurements reveal the time span in fractions of a second between the hammer tap and the relaxation. This relaxation time is significantly longer in low thyroid patients. Dr. Kupperman, who has done extensive work with thyroid problem, has said, "If I had to use just one test for thyroid function, it would be the Achilles tendon test." Also, the use of a Burdick Photomograph FM-1 based on Gilson's design, in conjunction with a standard electrocardiograph, has revealed many cases of both high and low thyroid that would never have been suspected, and which were thereafter confirmed by conventional lab tests. The beautiful thing about this test is that the instrument is readily available, can be obtained inexpensively, and although as mentioned above some units require an EKG there are several reliable inexpensive units which do not, and are well within the range of purchase of any doctor interested in this problem.

The thyroid is susceptible to the influences of temperature, emotions such as fear and anger, and physical exertion. Diet and food intake are very important in thyroid function. The thyroid has an important function in its dominance over liver activity, and is quite important in its effect on activating bone marrow to produce blood cells. Patients that have frequent infections and poor resistance to all infections many times have poor liver function secondary to borderline hypothyroidism. The skin depends to a great extent on the thyroid, and activity of the testicle and the ovary are dependent upon thyroid. The lack of thyroid function produces specifically a low progesterone, and this certainly is at the bottom of many menstrual problems, especially those that are prolonged and frequent. The symptoms mentioned above many times can be supplemented by a peculiar state of dizziness which apparently is better in the afternoon and worse in the morning, and an unusual kind of short-windedness where the patient says he just does not seem to breath deep enough. It is well known that increased cholesterol levels are present in low thyroid patients, and certainly loss of hair, dryness of scalp, loss of hair of the outer third of the eyebrow, and brittle flaking fingernails are also well-known signs, as is the digestive disorder which obstinately resists all treatment. The patient with the frequent headache and the mild deafness, and those patients who have a big flat tongue are all members of this low thyroid fraternity.

A normal PBI may lead some unsuspecting doctor to assume thyroid function to be normal, but with the use of the Achilles tendon test you will find that measuring the level of the inorganic iodine as opposed to the PBI will lead you to cases of low thyroid function. When the thyroid function is depressed and the costo cartilages are palpated, you will find that the rib cage is extremely sensitive to very light pressure. This may be present on either the anterior or posterior aspect of the rib cage and it is a sign of low inorganic iodine and low thyroid function. Many asthmatics need iodine, and leg and muscle cramps are frequently caused by the lack of iodine relative to a low thyroid function, which can be easily checked by the Achilles tendon technic. The inorganic iodine treatment does not have to be used for a very long time, as when the iodine exceeds a certain point (3.0 gamma percent) it then depresses the thyroid function and what served to help now hinders, so you can see the fallacy of long continued iodine supplementation regardless of the claims of some purveyors of this material.

A neglected relationship that is not too well known is that of the salivary glands, the thymus gland, and the thyroid. The salivary glands return iodine to the thyroid, which is an essential part of the thyroid cycle. Those patients who had a blocked esophagus from lye or from inoperable tumors who have fed

themselves through a stomach window with a funnel, found that unless they first masticated their food with saliva it was quite inadequate in nutritional effect. The thymus is the partner of the thyroid and removes end products of thyroid function which are physiologically hazardous unless properly disposed of. In my opinion there is no better method than the use of thymus material and stimulation of the thymus by manipulative normalization of neck and clavicular function and position, in treating cases of hyperthyroidism.

When treating cases of hypo or borderline hypothyroidism, attention to the position of the clavicle and sternal relationships is important, as is attention to the cervical fascia, using a sweeping thumb movement from the second rib deeply upward almost to the occiput, with repetition of this manipulation for approximately 2 or 3 minutes.

Inunction with iodex ointment or any glyceryl extract of iodine available to our profession, directly on skin over the thyroid or by vaginal tampon, is a useful method of supplementing the above manipulation. This can be done once or twice a week along with the use of thyroid cytotropic extracts, and attention to iodine levels, as previously mentioned. Phosphorus extracts such as orthophosphoric acid, cereal sources, also aid low thyroid cases. Results are gratifying and can be readily measured by the Achilles tendon test, which takes about 14 days before it changes to any extent even though the patient may begin to respond to treatment much earlier than this.

In cases with a low thyroid—for example 400 milliseconds—but with hyper-thyroid symptoms such as tremor and nervousness, etc.; or versus a 200 millisecond time but with sluggishness, falling hair and fatigue, ribonucleic acid is indicated. In these “reversed cases,” thyroxin has been made but it is literally locked out of the cell and accumulates in the blood stream, thereby causing symptoms of both low and high thyroid at the same time. The R.N.A. unlocks the cell door and lets the thyroid hormone enter. This is a factor in many cases, and supplementation on an ascending dosage (some patients require up to fifteen tablets a day to “unlock the door”) of this yeast source material helps many patients. It especially helps failing memory patterns.

An occasional patient may have a low thyroid from overdosing himself with large quantities of Vitamin A. Since this is frequently combined with iodine “stop and go,” supplementation methods are better than a constant intake beyond approximately a three month period.

The Achilles tendon test can measure hyperthyroidism as well as hypothyroidism, and these people are more recognizable, perhaps, with their thin skin and fine features and poor balance when standing on one leg, with a fast pulse rate being a fairly constant symptom, and an increased appetite with a decreased weight, strong healthy teeth, and occasionally erratic flighty behavior. The use of Vitamin A with thymus, and perhaps long continued use of some source of food iodine along with the above-mentioned manipulations, frequently restores to normal a thyroid problem that has been overlooked.

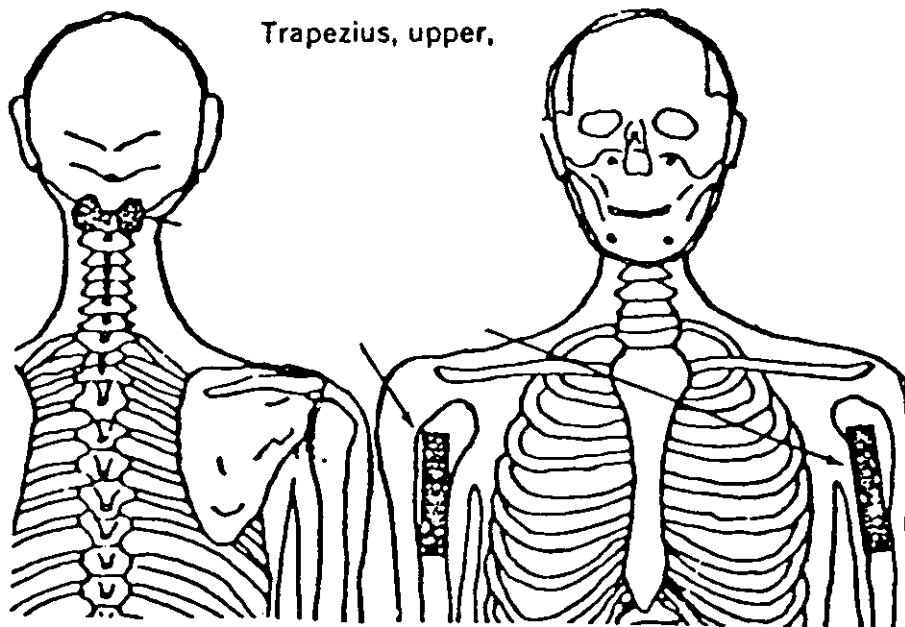
An effort has been made to describe a simple 3-minute test for accurately measuring both low and high thyroid function which is readily reproducible and is not affected by emotion, pregnancy, sciatic nerve problems, or iodine containing cough medicines, or iodized salt which so adversely affects the PBI or BMR. The equipment is available from your usual sources of supply or from your college. This is a useful, diagnostic tool which will advance you, your practice and chiropractic, and will be just one more means of rendering service to your patients.

References pertaining to "The Thyroid As An Overlooked Problem: are: Leonard A. Scheele, Chief U. S. Public Health Service. Wolf-Wolf, Human Gastric Function, 2nd, page 8, Oxford University Press. Deutsche Gesellschaft Fuen Innere Medizin 57th Congress.

I was asked to be chairman at a mothers and daughters luncheon at our Rotary Club, and before the meeting we sent out postcards asking the average age of the children of the members. The program then would be prepared accordingly.

In this instance I remember the average age was about ten, and we therefore had a program suited to that age group. One of the acts was a gentleman who could stand on top of a large inflated ball, something like log rolling, and all the children were brought down to the front of the auditorium and became part of the program, and they enjoyed his apparent dexterity very much.

Another act was a gentleman with a very, very foreign accent and much broken English, who had a trained dog who would respond to various commands. In an effort to make the program go more smoothly, he asked me to announce what the dog was going to do next. I asked him why he didn't do this, since he knew the sequence and he knew the dog. He answered, in a rather aggrieved fashion, "But Doctor, sometimes I forget—but the dog don't forget. Here's the list."



Hypothyroidism and Myofascial Relationships:

Two studies—one of 77 cases and the other of 100 cases of hypothyroidism—revealed a variety of symptoms. In study A—weakness, dry skin, coarse skin, lethargy, slow speed, edema and swelling of the eyelids, as well as sensations of cold—were present in 90% of the 77 cases studied. These 77 cases had various degrees of incidence which had similar percentage positions in study B. (J. H. Means, L. J. DeGroot, S. T. Stanbury, "The Thyroid and Its Diseases," McGraw Hill, 1963, p. 321 and 322.)

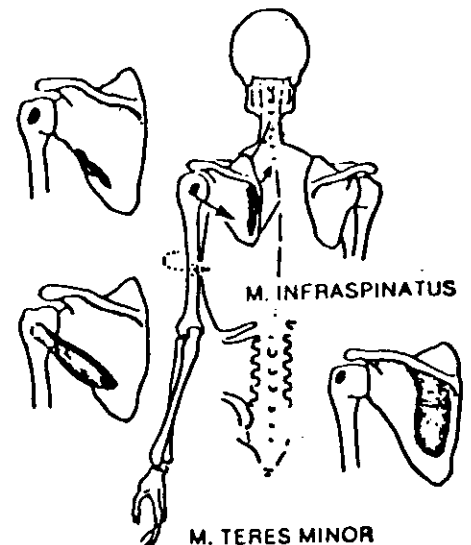
A complete percentile list and the symptoms of hypothyroid are included on the chart accompanying

Incidence of Symptoms and Signs of Hypothyroidism

	Study A % of 77 cases	Study B % of 100 cases
Weakness	99	98
Dry skin	97	79
Coarse skin	97	70
Lethargy	91	85
Slow speech	91	56
Edema (swelling) of eyelids	90	86
Sensation of cold	89	95
Decreased sweating	89	68
Cold skin	83	80
Thick tongue	82	60
Edema of face	79	95
Coarseness of hair	76	75
Heart enlargement	68	—**
Pallor of skin	67	50
Impaired memory	66	65
Constipation	61	54
Gain in weight	59	76
Loss of hair	57	41
Pallor of lips	57	50
Labored or difficult breathing	55	72
Swelling of feet	55	57
Hoarseness	52	74
Loss of appetite	45	40
Nervousness	35	51
Excessive menstruation	32	33
Deafness	30	40
Palpitations	31	23
Poor heart sounds	30	—
Pain over the heart	25	16
Poor vision	24	—
Changes in back of eye	20	—
Painful menstruation	18	—
Loss of weight	13	9
Emotional instability	11	—
Choking sensation	9	—
Fineness of hair	9	—
Cyanosis (bluish discoloration of skin)	9	—
Difficulty in swallowing	3	—
Brittle nails	—	41
Depression	—	60
Muscle weakness	—	61
Muscle pain	—	36
Joint pain	—	29
Burning or tingling sensations	—	56
Heat intolerance	—	2
Slowing of mental activity	—	49
Slow movements	—	73

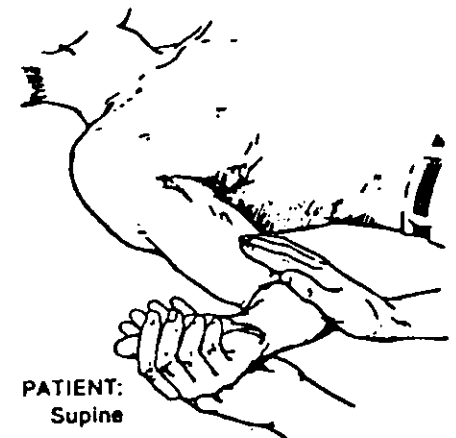
* From J. H. Means, L. J. DeGroot, and J. B. Stanbury, *The Thyroid and Its Diseases*, McGraw-Hill, 1963, pgs. 321-22.

** Dash means not reported found.



The teres minor and the rhomboids are mutually active and should be checked carefully.

FIGURE 1



PATIENT:
Supine

Teres Minor and Infraspinatus

PRESSURE TESTING

Using the forearm as a lever, pressure is applied in the direction of internally rotating the humerus.

PRESSURE TREATMENT

Equally against the origin and insertion. Areas marked in black on muscle drawing.

FIGURE 2

this article, on the following page.

A variety of tests have been advocated for the measurement of thyroid function beginning with the Basal Metabolism Test of 30 years ago, which measures rate of O₂ consumption. This was followed by the Protein Bound Iodine (P.B.I.) Test, which was a useful test but had many errors. PBI was followed by the T₄, which was specific for Thyroxin, but after another iodine containing material was isolated from thyroid protein which proved to be four times more active than thyroxin since it contained three atoms of iodine, it was called Triiodo Thyronine, or T₃. The T₃ Test became the test in vogue. Unfortunately, all of these tests measured only the transport system and did not measure the active function of the material at the level of the cell.

Several years ago an issue of JAMA reported a study of 1,000 college students whose Basal Temperatures were taken. They also received basal metabolic tests. The study indicated subnormal body temperature was a better test for hypothyroidism than the BMR. Basal temperatures were interesting and occasionally infections would alter the temperature of the mouth and rectal temperature would average a degree higher than oral temperatures. Therefore, axillary temperature was thought to be more useful as a simple guide to the presence or absence of hypothyroidism. It has been established that the normal values of axillary temperatures are in the range of 97.8 degrees F. – 98.2 degrees F. Any temperature below 97.8 degrees F. indicates hypothyroidism, and above 98.2 degrees F. is indicative of hyperthyroidism. Basal temperature is not 100% specific, but it is most successful in uncovering hypothyroidism and it fits in well with clinical observations of the patient's symptoms. The Basal Temperature can be taken on a man at any time, but with a woman there are variations with the menstrual cycle, it being highest shortly before the start of the menstrual flow and lowest at the time of ovulation. (Hypothyroidism: The Unsuspected Illness, Barnes & Galton, T. Y. Crowell & Co.)

In the past, many patients were given basal temperature tests with directions that the thermometer was to be kept under the arm pit for 10 minutes and the patient was to record the temperature for the physician's perusal. Recent sophisticated production of biofeedback instrumentation has allowed our clinical group to evaluate the temperature of each new patient entering the office. The thermistor attached to the biofeedback instrument is placed in the axillary area and left in situ for a period of 10 minutes while other simple tests are being performed. If the patient is perspiring excessively, a small plastic sleeve is placed over the thermistor to prevent direct contact with perspiration and the recording section of the thermistor of the biofeedback thermometer. Over a period of 10 months, measuring only new patient output, approximately 70% of all new patients showed a subnormal temperature, measuring by the biofeedback method described above.

The physical examination of many of the patients with lowered basal temperature measured electronically, showed an unusual characteristic in that the hand and arm, when standing, are in the "knuckle forward-palm back" position. (See Figure 1.) This was both unilateral and bilateral on a high percentage of patients that showed subnormal temperature.

Evaluation of this postural abnormality by muscle testing (See Figure 2) using the method of Kendall and Kendall, showed 30% with a weak teres minor muscle on a unilateral or bilateral basis. This is consistent with the observations in Applied Kinesiology of the muscle and visceral relationship brought out by Mendel, et al, in the Anglo-European Chiropractic College study on the relationship of muscle testing to visceral function. This was monitored with strain gauges to test the muscle pull function and there was no operator performing muscle testing, only the subject. The disparity between the 30% weak teres minor findings and the 70% lower temperatures posed a question which was difficult to answer.

Using the technic of therapy localization in Applied Kinesiology methods as advocated by Eversaul (George A. Eversaul, "*Applied Kinesiology and the Treatment of Temporo Mandibular Joint Dis-function*," from "*Clinical Management of Head, Neck and T.M.J. Pain and Dis-function*," by Harold Gelb, DDS, DMD, W. B. Saunders and Company, 1977), and originated by the author, therapy localization was attempted at the appropriate neurolymphatic and neurovascular stress receptor areas, and this yielded another 10%, producing a 40% total of the patients who showed a below normal axillary temperature, leaving a 30% disparity unexplained.

The ingenious strain-gauge development used to show the relationship between visceral function and muscle testing was accomplished at the European College of Chiropractic by Mendel, Carpenter and Hoffman, with the assistance of the Bournemouth College of Engineering.

Pectoralis major clavicular muscle tension tests were performed by the subject a series of times and strain-gauge averages were accomplished. Other muscles were also tested. A measured amount of ice water in a measured amount of time was ingested by the subject, and the identical procedure of testing the pectoralis major clavicular was accomplished for the second time following the ingestion of the ice water, and there was a rapid and marked reduction in testing strength of the pectoralis major clavicular, with no appreciable change in strength of other muscles.

The series of other tests were used to demonstrate the relationship of visceral function and the particular muscles as advocated by the author, et al, in Applied Kinesiological Technics.

In the light of experience and the previously mentioned musculo-visceral relationship, the failure to attain any valid muscle weakness test of the teres minor in the remaining 30% of the people with lowered basal temperature remained an enigma.

The concept that the fascia of a muscle could shorten causing postural integration problems was first advocated by Rolf. ("*Rolfing-Integration of Human Structures*" by Ida P. Rolf, Ph.D., Dennis Zundhumin Pub., Santa Monica, Calif.)

She advocated the investigation of the possibility that the fascia that covers muscle is shorter than the muscle, thus producing changes in posture and body integration. Extensive trials and clinical experience has revealed much information about the concepts of Rolfing and it is in current use by a variety of therapists. The clinical responses have been sporadic and require some interpretation.

The observations made many years ago by Ranvier, that there were two types of muscles in the structure of the rabbit, was noted by Ellis L. O'Connell, Ph.D. and Elizabeth B. Gardner, Ph.D., in their text, "*Understanding the Scientific Bases of Human Movement*," published by Williams and Wocolms Book, Baltimore 1972.

Almost 100 years ago Ranvier observed that some muscles in the rabbit were redder in color, and that these muscles contracted in a slower and more sustained manner than did the paler muscles in the same animal. Since then the designation of red and white muscles has become synonymous with slow and fast contractions.

In addition to slower contraction/relaxation cycles, red muscles have lower thresholds to tetanize, lower frequencies, fatigue less rapidly, and are more sensitive to stress than the faster white muscles. As might be expected, the individual muscle fibers reflect these differences in contractile behavior. Investiga-

tion by a number of workers both here and abroad have revealed histological and biochemical differences which distinguish between the two types of muscle fibers and correlate with the physiological differences between fast (white) and slow (red) muscles. To quote O'Connell and Gardner: "A stretched muscle contracts more forcibly than when it is unstretched at the time of activation. This is true whether the contraction is isometric, or isotonic, or eccentric. Within physiological limits the greater the initial length the greater will be the muscle's tension capability.

Following a series of teres minor problems with athletic injuries, it was thought that another method of testing might be accomplished by stretching a muscle prior to testing it. When this was accomplished on a normal muscle, the muscle tested as strong or stronger than previously observed, but when this same test was applied to the teres minor muscle involved with the thyroid patients chosen because of their lower basal temperature, the teres minor muscle showed marked weakening when the muscle was stretched. This corresponded in our minds with the concept of the fascia being shortened that Ida Rolf had postulated. Extensive efforts were made to use Rolfing technics on a teres minor muscle to produce muscle strength and efforts were made to correlate on increased muscle strength with changes in biofeedback thermography.

There was a parallel and marked relationship between the hard heavy pressure applied to the muscle fibers themselves, which was nondirectional, and the relative increase in the temperature while the patient was being tested. Attempts were made to use the fascial flushing technic on areas unrelated to the teres minor location and there was no alteration in the axillary temperature. Attempts to use a fascial flush release on a teres minor muscle in these patients that showed a lower temperature resulted in an increased strength to a stretch response and a marked increase in the axillary temperature, approaching normal in most patients. This unexpected development of temperature change while the patient was still in the office yielded excellent clinical response, some of which was long lasting and some of which required repetition of the technic.

Efforts were made to discover the reason for failure in those patients who did not hold their response—and it was found there was a need for a nutritional component to produce continued response. Nutritional (non-drug) extracts of thyroid and iodine (Tritrophic 40—supplied by Nutridyne Corp.) administered in patients who showed a rise in temperature following teres minor fascial flushing, but who did not yet approach the normal 97.8 degrees F. There was a consistent rise in this series of patients of approximately 9/10ths of a degree, allowing the patient to achieve the low level normal of 97.8 degrees F. in the axillary area. Patients who "plateaued" in their temperature response in the low normal were also given the nutritional extract of iodine and thyroid with a corresponding increase in their temperature as well.

Experience has shown that structural adjustment and activation of the neurolymphatic reflexes and the neurovascular reflexes are necessary in the maintenance of the correction and the patient is put on a maintenance intake of the Tritrophic 40 (iodine thyroid preparation). Experience has shown that the Tritrophic material will abolish the teres minor stretch response for 5-10 minutes with a recurrence following that period of time; but following proper activation of the fascia and activation of the neuro reflexes, along with nutritional support and appropriate structural manipulations, maintenance of the proper temperature was assured.

A series of 130 patients were observed who exhibited a lower temperature and approximately 1/3 of these patients required additional nutritional support. The patient, after having been tested and treated using the stretch technic, who failed to ascend to a normal temperature level, was given the nutrient

on the tongue, chewing, but temporarily not swallowing, using the lingual receptor activation method reported in ACA Journal by Schmitt, and also reported by Grossman and Roth in Science of Feb. 1968.

Many patients showed a therapy localization to the lower cervical area, with the sixth cervical being the most usual site of the structural subluxation found in the lowered temperature pattern activity. When challenging and proper structural correction was accomplished, the response yield was in the area of 95%. A relatively small percentage (5%) required continued structural and nutritional maintenance support, without which they failed to show a holding of the normal temperature in the methods described above.

SUMMARY: Teres minor muscle testing revealed a significant relationship between weakness of the teres minor and thyroid dysfunction as measured by basal temperature. Further investigations into refinements of methods of muscle testing revealed a correlation between teres minor muscle weakness and lowered basal temperatures. Attempts to normalize teres minor muscle weakness by nutritional and structural adjustment and manipulative measures yield a high percentage of results as evidenced by changes in basal temperature, as evidenced by biofeedback thermometers.

(Tritrophic is supplied by Nutridyne Corporation, Chicago, Ill.)

In my travels to California, I see increasing numbers of people in the lecture audience, and although this may indicate an increased interest in applied kinesiology, the truth of the matter is that it usually results from the fact that a good friend I have known for some time has brought one or two other professional friends—not necessarily to hear the lecture, but to hear the story of the patient I saw one summer.

This patient had a very muddy complexion, looked very sallow, had dark bags underneath his eyes, his eyes looked jaundiced, and he complained bitterly of bowel cramps, indigestion and insomnia. Every effort I made to correct these problems resulted in his appearance in the office on a weekly basis, continually complaining of indigestion, bowel cramps and insomnia. And his appearance, if anything, was worsening as time went by.

Then one day, after a lapse of about a week, he came in with a spring in his step, clear white in the eye, a pink cheek and a marvelous complexion, and with a flashing smile said to me (it was summertime), "Did you go on your vacation?" But I thought he said, "Do you have colon irrigation?"

I immediately replied, "I don't particularly believe in it." He inquiringly asked, "Why not?" I said, "Because some places they want you to take ten in a row; in fact, in California in some places they sign you up for ten in a row." To this he said, "I have never heard of that," and I said, "Oh, yes, that's what they do. In some places they sign you up for ten in a row." He repeated, "I never heard of that."

I said, "I can see taking perhaps one or two, but not ten in a row. Besides, all that water—it doesn't do you any good." He said, "You don't have to go where there's water." I said, "I never heard of one without water." He said, "Oh, no, you can go anywhere you want." I repeated, "I never heard of that. My experience has taught me that all that water, it doesn't do you any good." He said, again, "Why not?" I answered, "Because it washes out your mucous." He said wonderingly, incredulously, "Washes out your mucous?" and I replied, "Yes." After a moment he asked, "Washes it out of where?" I said, self-righteously, "Out of your rectum." He said, "How does it get up there?"

This story has been requested so many times in California that I feel that the increase in the numbers

attending the lectures are basically due to this misunderstanding both on his part and my part, of "go on vacation" and "colon irrigation" and has led to many a laugh in groups where I told it in other parts of the country.



Chapter 35

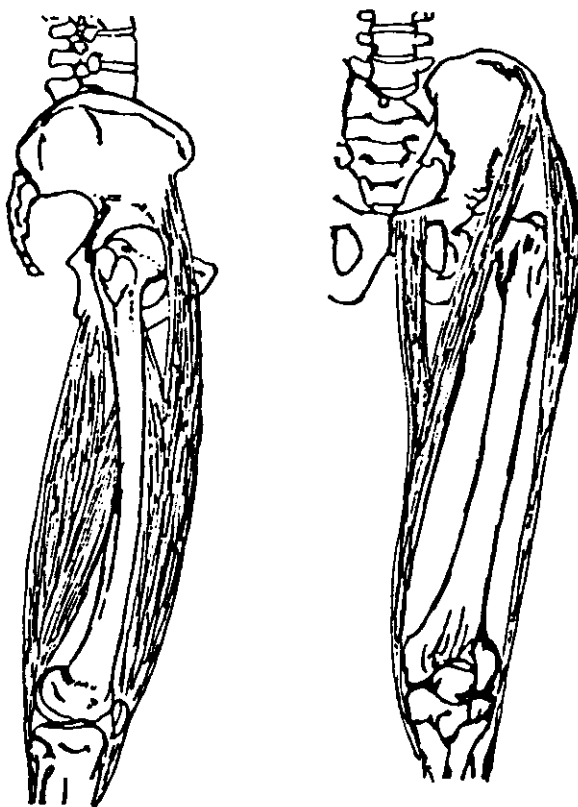
KNEE, WRIST AND ANKLE PROBLEMS

KNEES:

Knee Integrity:

For a long time we have known about the common knee problems—torn knee cartilages, torn ligaments, arthritis, and loose bodies—but we have recently developed a much greater understanding of these problems. This newer knowledge explains WHY many of these conditions develop—even torn ligaments and cartilages. Of course, a torn ligament or cartilage can be a direct, primary development caused by a direct injury, such as a direct injury received in a sport, but more commonly they can develop when the athlete simply suddenly cuts while running, or when the housewife gets up from a stooped position. In other words, the problem most often develops during an activity similar to a day-to-day activity that you have accomplished, possibly for years, without injury. Suddenly, for some reason, an injury develops from this same activity.

The knee is considered as a simple hinge-type joint, moved through its range of motion by the muscles attached to it, which primarily give movement to straighten or bend the leg. The knee joint contains



The knee obtains stability from muscles in the upper and lower leg.

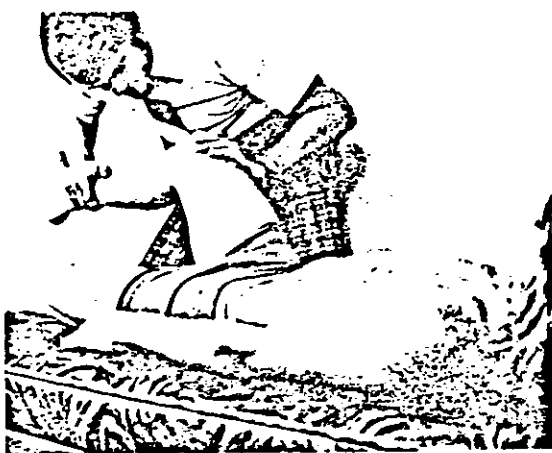
two pads, called the semilunar cartilages, and when these cartilages are torn they require surgery, but surgery is also sometimes necessary to remove loose bodies from the inside of the joint, and to tie torn ligaments back together.

At one time the knee muscles were considered as simply the motors that moved the bones of this joint, but it is now recognized in applied kinesiology that the muscles also give stabilization to the joint along with the ligaments, which limit the joint's range of motion. Many knee problems result directly from the improper support given to the knee joint or the muscles which attach above and below it. The following illustration shows how these muscles give support to the knee on both the middle and the outside of the structure, as well as the front and back.

If one of these muscles, or a group of them, becomes weak, the knee becomes unstable in that direction. In other words, if the muscle or muscles on the middle side of the knee become weak there is little to keep the knee from bending toward the center.

If these muscles are weak and a person strains his knee in that direction, there isn't much to keep the knee from "jamming" in that direction, which can cause something as simple as a "trick knee," or something much more serious such as a tear to occur if the cartilage "catches" as the knee goes through its range of motion.

The applied kinesiologist can find the area of limited strength by testing the individual muscles which support the knee and further evaluation of the weakened muscles gives the doctor information to effect a strengthening of the muscle. Usually the cause of the problem is found and removed quickly, which results in immediate strengthening of the muscle(s) at fault.



Testing the sartorius muscle



*When the feet are
in strain,
knee stability
is reduced.*

Total Body Structural Balance:

The knee is often involved on a secondary basis. Although we sometimes tend to think of the body as segmental functioning units, this is not the way the body works. The structural balance of the body

must be in complete harmony for it to work as a whole, integrated total. Therefore, when a doctor examines the knee, in order to avoid treating effects rather than primary causes, it must be examined with this wholistic concept.

Foot-Ankle: When the foot and ankle function improperly it causes a strain throughout the body, and the knee is one of the primary areas that receives strain from the foot. You can observe this by making your foot go into a flat-foot position while standing, and then watch your knee roll inward. If a person has a pronated or flat foot, his knee is accepting shock with every step, which is strictly a mechanical strain to the leg, including the knee. As a person walks, there are nerve endings, called proprioceptors, within the foot which transmit information up to the muscles of the leg. There is a great chance these nerve messages will go up to the body in a confused manner if the foot is not functioning normally, causing poorly integrated muscle action. And if the muscles that receive these improper messages are knee-supporting muscles, it follows that there will be poor knee support.

Pelvic Balance: The bones and their associated muscles of the pelvis and lower back contribute greatly to balance in the knee. A structural strain similar to that from improper foot action will develop in the knee if the pelvis and its associated structure are off balance.

Reactive Muscles: All muscles have "proprioceptors," or nerve endings which sense activity of the muscles. This sensory information goes to other muscles either working in harmony with, or opposite to, the muscle sending the information.

This information exchange between muscles is absolutely essential for coordinated, harmonious action. An example of the activities of these nerve endings and of the communication between muscles is when one muscle contracts, the muscle working in the opposite direction must relax. This intra-activity is developed through the proprioceptive mechanism, and sometimes, because of injury, the proprioceptors send improper, disorganized information. This wrong information may cause a muscle to relax at a time when it is most needed for support. For instance, a football player may be running and suddenly cut to the side to avoid an opponent, and if a proprioceptor is incorrectly stimulated during the act of cutting this erroneously causes the medial muscles of the knee to weaken, allowing the knee to bend toward the medial and thus jamming the outside cartilage and possibly causing a tear. This same thing could also happen during the innocent activity of raising up from a kneeling position in your living room.

During the initial examination by the applied kinesiologist, the muscles supporting the knee will all test normally in this example of reactive muscle involvement. His next step is to elicit information about the proprioceptive system by first testing one muscle, thus activating it, and quickly testing another muscle to determine the effect on the secondary muscle. The second muscle will be dramatically weaker immediately after testing the first, or primary muscle, when the reactive muscle phenomenon is present. Consequently treatment is directed toward the primary, after which the secondary muscle no longer weakens even if the first muscle is stimulated just prior to testing.

Arthritis: Osteoarthritis, also known as the "wear and tear" type of arthritis, is the most common kind of arthritis found in the knee, and this is because the knee is such a major weight-bearing structure. This belief is true, but it is not the whole truth—and there is more to the story. Since the knee is a major weight-bearing structure of the body, it requires excellent structural stability to avoid excessive strain and since the knees of the individual with poor support receive considerably more wear and tear than normal, this additional strain causes much more rapid development of osteoarthritis, particularly if the person is prone to osteoarthritis.

Bursitis: Bursitis is an inflammatory reaction in the bursa (lubricating membrane) of a joint, and here again excessive strain contributes to the increased possibility of its development.

Gait Mechanism: Correlated with the evaluation of the reactive muscles and proprioceptive mechanism, muscles are also evaluated as they operate in a normal walking and running gait. When muscles are tested individually they sometimes seem normal, but when certain gait muscles are tested simultaneously they become weak, causing an abnormal walking and running pattern. This can contribute to dysfunction of any of the joints or structures used by the mechanisms of normal gait patterns.

Whenever a knee is involved, even when a direct injury seems apparent, the applied kinesiologist must examine every aspect thoroughly to be sure the primary problem is being treated, because a knee injury can result from problems with the foot, pelvis, supporting muscle, or gait. The primary involvement will remain as a hidden cause of future knee injuries if it is not treated directly. This is why some individuals are considered to have "weak knees," and they will usually, eventually, develop a torn ligament or cartilage requiring surgery.

Effective treatment, as always, depends upon finding the basic underlying cause and directing treatment in that direction.

Knee Joint Problems:

As we have said, many patients suffer from disturbances of the knee joint, and these disturbances may evidence themselves either as inability to flex or inability to extend the knee. There is usually limitation of movement, pain and swelling. The pain may be diffuse, and the patient may have difficulty in pointing particularly at the point of greatest pain, but palpation of the knee joint if undertaken at the area of the medial meniscus generally elicits more pain from the patient's subjective point of view than other areas. This is the most common disturbance we find in knee joint problems. The knee joint is not unduly complicated as joints go—but it is not simple either.

The ability to bear weight with efficiency and also stability, and yet maintain the free range of motion that it enjoys, has caused the knee to be endowed with a number of ligaments, cartilages and muscular aponeuroses that offer limitless potentials for anatomy quizzes. An accurate diagnosis of internal derangements of the knee, therefore, depends upon knowledge of the normal anatomy of the knee and also upon the basis of a correct history.

Much attention has been given in the literature to the quadriceps muscle in knee joint disturbances. The quadriceps mechanism, as you know, serves to lock the knee in extension by effecting a lateral rotation of the tibio-femoral condyles. This is a sort of "screwing home action" which stabilizes the extended knee and protects it and allows proper weight bearing. When the knee is put out of use, most authorities discuss the quadriceps atrophy, which begins at once, and recommend early graded exercise to limit the prolonged disability which occasionally does result from lack of quadriceps activity. Naturally, an inability to use the knee in the manner to which it is accustomed does result in lack of quadriceps activity, since the patient will generally walk with the knee in a partially flexed position, minimizing quadriceps activity. This is the reason why the quadriceps begins to atrophy, but the quadriceps muscle and its effect on the knee is a "post hoc" factor, or after-the-fact muscle.

The muscle group most frequently involved in causing the most usual problem that occurs in the knee medial meniscus is the sartorius and gracilis muscle group. You could think of the meniscus cartilaginous

spacing of the knee joint as a rectangular space, literally a sandwich with the condyles above and below and the filling represented by the miniscus cartilage material. There are ligaments which bridge the rectangular space, but primarily muscles move bones, and ligaments merely limit the degree of motion. There must be a balance of the sartorius and gracilis muscles on the medial side coupled with a balance of the fascia lata on the lateral side. This helps to stabilize the knee joint in lateral medial motion.

Another most important primary muscle in terms of internal derangement of the knee is the popliteus, which is a muscle that acts as a ligament along with the previous mentioned "screwing home action" of the quadriceps and the flexion activity of the hamstrings. Therefore, this potential rectangular cartilaginous space between the condyles is maintained a rectangular space by the balanced action of the muscle groups on the anterior, posterior, medial and lateral sections of the knee joint. Many patients will complain of inability to bear weight, the knee giving way and buckling under normal weight bearing, and the symptoms may run the gamut of pain on going up or going down stairs, or continued pain on non-weight bearing. But the use of a standard method of muscle testing such as that of Kendall and Kendall reveals an interesting pattern in both chronic and acute knee joint disturbances.

A professional football player was examined following knee joint surgery which was ineffective in producing a normal stability of the knee joint and his performance on the team was such that he was to be cut from the team's roster. In an effort to maintain his playing ability, the sartorius and gracilis muscles were tested. This individual was a large, well-built, 240 lb. professional defensive center, and his muscular strength was more than adequate, but testing of the sartorius and gracilis muscles on the injured knee showed a remarkable weakness of both structures. The constant production of the medial meniscus syndrome with a disturbance in the normal rectangular spacing of the knee joint became obvious in the light of the information that could be obtained by muscle testing.

A tennis professional of national reputation was examined for recurrent knee problems which limited his ability to participate both as a teaching pro and in active professional competition. Using the principles of muscle testing again, weakness of the sartorius and gracilis muscles was found, producing again an internal derangement of the knee and changing the normal rectangular space to a wedge pattern, which allowed bulging of the medial meniscus, producing the characteristic pain at a dime-sized area on the medial meniscus.

As is well known in the principles of applied kinesiology, a number of factors may be present which produce muscle weakness. A micro-avulsion of origin and insertion of the muscles tested and found weak may be the determining factor. Since every muscle has a lymphatic drainage, there may be a limitation of the lymphatic or the vascular drainage reflex to the particular muscle in question.

Both of the previously described athletic type knee injuries showed a characteristic weakness of the sartorius and gracilis, coupled with the point of pain on the medial aspect of the knee over the area of the mediomeniscus (Fig. A.) This is the most common pattern one sees in the usually occurring knee joint problem. A frequent accompaniment of the weakened sartorius gracilis producing a disturbance in the normal rectangular space of the knee joint is a parallel weakness of the popliteus. The action of the popliteus, as you know, internally rotates the lower leg on the femur, but mainly it seems to act as posterior knee joint "ligament." When weak it allows hyper-extension of the knee or fails to cause proper balancing, limiting internal rotation of the knee.

This popliteus muscle runs diagonally downward across the knee joint from lateral to medial and its origin is on the inferior portion of the groove of the lateral condyle of the femur and its insertion is against

the popliteal line of the tibia. The patient may be tested prone with the knee flexed to his ability, or the patient may be seated with the knee flexed and pressure is exerted against the medial aspect of the base of the large toe while the patient resists the rotation testing. A very simple test is to simply observe whether the patient can medially rotate the lower leg on the femur, but pressure testing is required to elicit the proper performance of this particular muscle. (Fig. B.)

In any knee joint problem it is wise to elicit proper performance of all the muscles which are capable of influencing the knee joint. Testing of the quadriceps may be done with the patient seated on the treatment table with the knees bent over the side of the table and the pressure testing is against the lower leg just above the ankle in the direction of attempting to bend the knee. (Fig. C.)

In the case of a micro-avulsion of this particular muscle, which occasionally happens, a hard heavy rotary pressure against the anterior head at the groove just above the rim of the acetabulum is occasionally necessary. The rotary pressure at the insertion of the tibial tubercle of necessity must also be quite hard. When the quadriceps is weak there is often a weakness in stair climbing as well as getting up and down from a seated position. There is also a tendency to follow a pattern of forcing extension which is necessary to lock the knee when the quadriceps is weak.

Here again, when the quadriceps is weak and there is also an associated popliteal muscle weakness, many times the tibia can subluxate straight posteriorly and will require an adjustment designed to bring the tibia more anterior. Here again, if the muscles are not strengthened to maintain normal position, the adjustment of the posterior subluxation must be repeated ad infinitum. Occasionally one will see an intact sartorius with a weakened gracilis, and weakness of the gracilis permits a loss of internal lateral stability of the knee and prevents proper stability and also permits a relative knock-knee condition, many times of unilateral basis. This also permits an external rotation of the lower leg on the femur, which sets up the medial meniscus, which then becomes trapped in the now no longer rectangular, but now wedged, cartilagenous space.

The gracilis muscle is tested (Figs. D. and E.) and the pressure is against the lower leg at the ankle in a downward, outward direction. It is always a wise idea to test the hamstrings, and the hamstrings consist basically of three major groups—medial, central and lateral groups. The biceps femoris is a central muscle running from the ischial attachment down to the central aspect of the tibia, whereas the semitendinosus runs from the ischial attachment to the posterior medial aspect of the tibia and the semimembranosus runs from the ischial attachment down to the fibular attachment just below the meniscus. Test the hamstrings as shown on the testing drawings. (Figs. F. and G.) The testing drawing is the method used for the biceps femoris, with the foot outwardly rotated; to test the semitendinosus and semi-membranosus inwardly rotate the foot.

In each case, though, the knee is flexed as in the original drawing. The tensor fascia lata is tested as shown in the drawing. (Figs. H. and I.) The pressure is against the lower leg in a downward and inward direction, and weakness here sometimes produces a unilateral bowleg position. Usually there is some contracture, and checking the adductors will show weakness of the adductor areas, allowing this tensor fascia lata tension.

There are infinite varieties of variations on the original theme of the medial meniscus. The tendon of the popliteus, as you know, crosses behind the knee joint, helping to stabilize it posteriorly and laterally. Most important of all, it also initiates unlocking of the extended knee joint when flexion begins. Many times it is difficult to start the unlocking of the knee joint and therefore attention to the popliteus,

both diagnostically and therapeutically, is necessary.

Further stabilization of the knee joint is given by the tendons of the semimembranosus and the biceps femoris muscles, and also, again, importantly, by the lateral and medial heads of the gastrocnemius muscle. The gastrocnemius traverses the knee joint, and although it is not too frequently thought of in reference to knee problems, it is tested with the patient lying prone with the knee straight and the foot over the end of the table.

The pressure testing against the sole of the foot, and equally against the os calcis, while the patient tries to pull the heel upward, is done. Testing can also be done with the patient standing (Fig. J.), a primitive test but useful.

A weakness of the gastrocnemius many times produces a hypertension of the knee and a tendency to produce a calcaneous position of the foot, with a slight forward lean of the lower leg on the weak side. In reference to this relative forward lean that one sometimes sees with a knee problem, it is wise to also test the soleus. The soleus is tested with the patient's knee flexed at a right angle, or as close to that as possible. The pressure is against the heel at the os calcis after the foot has been flexed (Fig. K.). Try to pull or push the heel straight upward, or ceilingward.

Again, here we find frequently, microavulsion in the athletic injury and rotary pressure against the origin on the posterior surface of the head of the tibia and along the upper third of the posterior surfaces of the body of the fibula. This muscle, when found to be weak, usually is part of the cause of a forward or anterior lean of the body, which is sometimes confused with a marked Lumbar Lordosis. The soleus holds the knee back so the vertical body weight passes through the ankle malleolus and through the knee. Treating the soleus quickly straightens the lateral aspect of the body posture, and allows proper knee joint weight bearing. Each time one examines the knee, one is brought back to the concept of the rectilinear space that the medial meniscus occupies, and this rectilinear space should be a constant rectangle. It is a disturbance of muscles above and adjacent to and below in traversing this particular rectilinear space that transforms it from its relative rectangularity to a wedging in one direction or another.

Naturally, it goes without question that all traumatic cases should be immediately x-rayed, even prior to examination, and thorough x-ray examination of the knee joint is a must for proper diagnostic work-up of any knee joint problem. Because of the nature of the knee and its associated muscles, the medial meniscus pattern is the most frequently occurring, and it is a common accompaniment of the arthritic knee. Organization of the muscular structure along with the traction torque adjustment produces much benefit and satisfaction to the patient's comfort. Arthrograms are many times a necessary and able adjunct to the usual x-ray examination, and this is usually deferred except in the most recalcitrant problems, but it is very valuable in revealing tears of the internal structure of the knee.

Because cartilage has such a poor blood supply and such a relatively rich nerve supply, we generally recommend muscle balancing by a primary technic, both neuropathic and neurovascular. Following muscular balancing, the traction torque adjustment of Dr. A. L. Schultz is used. The patient is supine, the affected leg is extended as far as possible, the foot is rotated medially.

The tibia is grasped with one hand. In the case of a left knee problem, the tibia is grasped with the left hand, crossing the foot so as to maintain the medial foot position. In other words, the volar portion of the operator's forearm contacts the lateral portion of the patient's foot and the hand grasps the medial

mid-portion of the patient's tibia. The operator's other hand firmly grasps the patient's lateral malleolus. A sharp forceful pull is exerted by the operator to open the wedge space of the medial meniscus, converting it to a rectilinear space.

The relative medial torque position of the patient's foot is maintained during this sharp traction pull adjustment, but no additional torque is added to the pull, which is straight toward the operator. The medial meniscus pain previously evident on palpation should now be sharply diminished to subsequent palpation. Repeat this torque traction adjustment two or three times if necessary, to effect proper palpatory pain reduction.

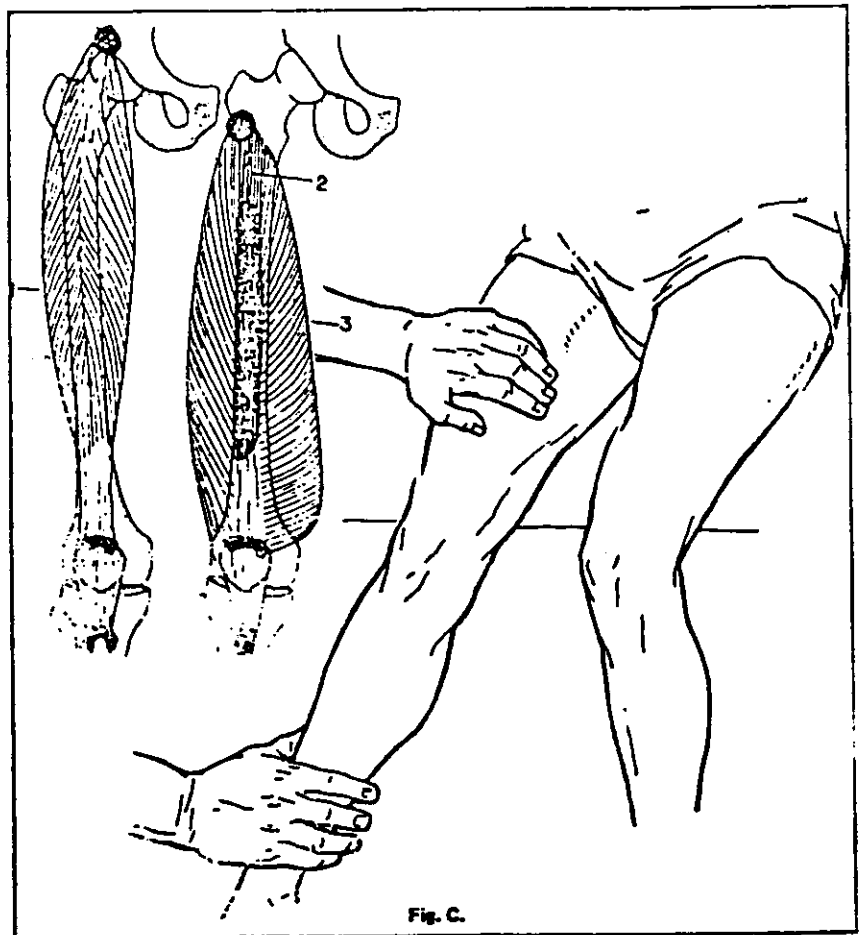
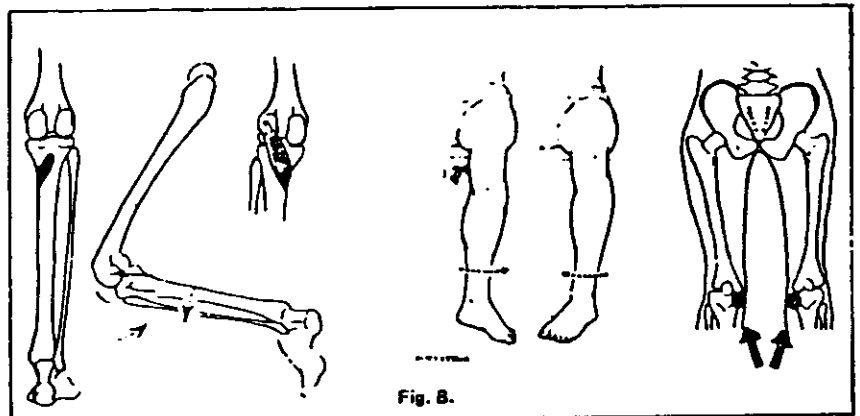
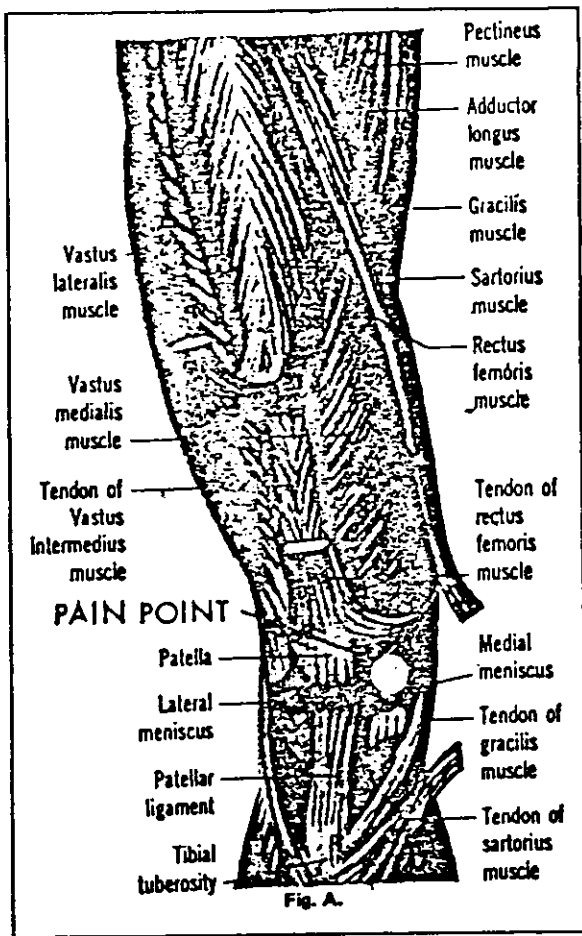
Following organization of, and balancing of, the muscular structure, physical therapy may be initiated to increase local blood supply and increase the healing of torn or injured ligaments. Generally speaking, heat is contra-indicated in the early stages of the average knee joint problems, as is aspiration. Aspiration is not generally recommended, and the use of Schultz's Criss-Cross Tape Method reduces any joint effusion very nicely.

The use of diathermy to assist both joint and ligament healing is recommended after proper muscular balance has taken place. The unfortunate thing about the use of any form of heat or diathermy in the early stages is that muscles that are already weak are weakened by heat, and this further disturbs the derangement of the knee joint. It is our recommendation in the average knee joint problem, to apply cold applications rather than heat, since cold increases the tone of the muscle which has generally been weakened in a multiphasic pattern. The cold initiates a vasomotor response, which actually produces heat in response to the cold pressure effect. There is an increase in circulation with the application of cold which far exceeds any response that heat could provide in the initial phases of any knee joint injury.

The use of ice is generally contra-indicated, except in the extreme emergency situation where the athlete must perform and when adequate examination has revealed the absence of any torn or ruptured ligament structure. Ice will allow a temporary performance of a particularly valuable player. Good practice would indicate the use of a cold application in the form of a towel soaked in cold water and applied to the knee joint, then left undisturbed for twenty minutes. This is repeated two or three times daily, along with other treatment previously outlined. No attempt has been made to discuss the reflex disturbances that occur in knee joint problems, but it is interesting to note that the popliteus muscle has been shown to be drained by the same lymphatic circuits as those which drain the liver and gall bladder.

Frequently, in many knee pain problems, there is a corresponding disturbance in the liver and gall bladder. Attention to the liver and gall bladder will usually aid this type of knee pain, but this will be discussed elsewhere in the area of therapy. Body language does not lie. The disturbance in the knee joint will evidence itself in a variety of ways and measures, but the body will unerringly clue you to both the diagnosis and method of treatment. Testing of the muscles is the means of understanding body language in each and every condition that comes into your office. The innate intelligence of the body acts in a true and unerring fashion. Its response to proper and definitive treatment is quick and efficient, and certainly to the patient's great delight and satisfaction. There is a wisdom within the body which acts to augment the diagnostic skill of even the most astute clinician.

This wisdom is evidenced in the language of the body, and this language may be comprehended by a very simple procedure of muscle testing. Muscle testing is a primary diagnostic device to the understanding of many problems, not only of the knee but the rest of the body structure. Man is an equilateral



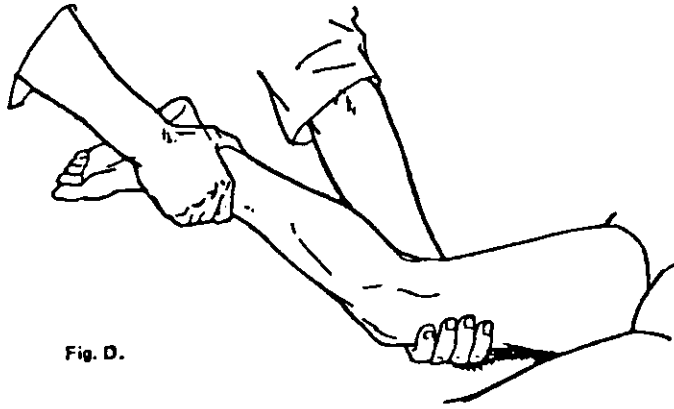
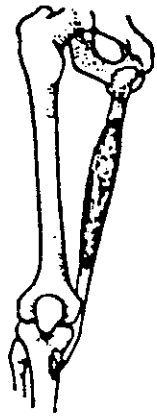


Fig. D.

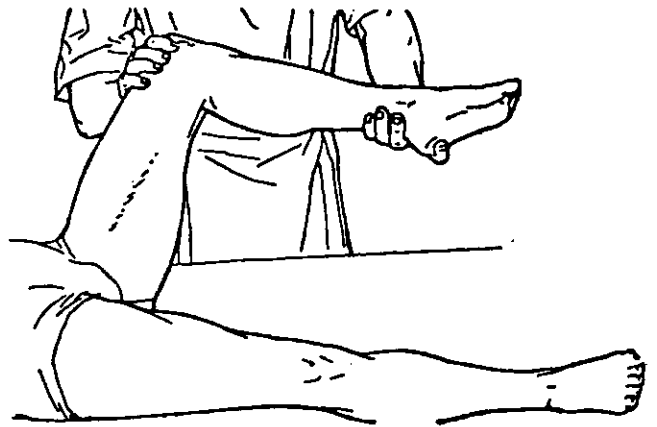
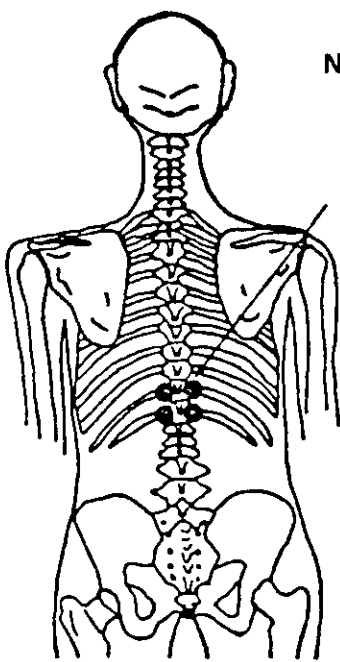
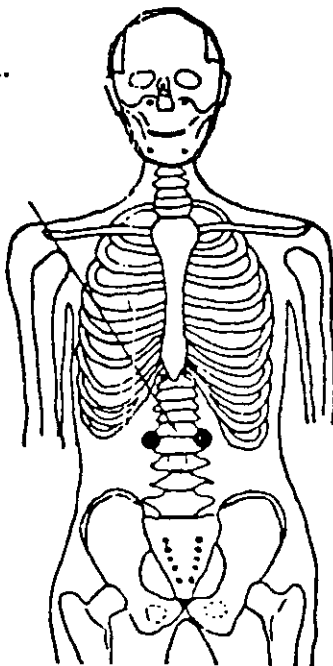


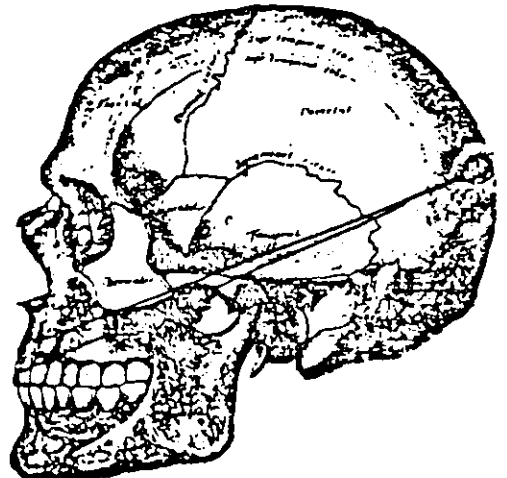
Fig. E.



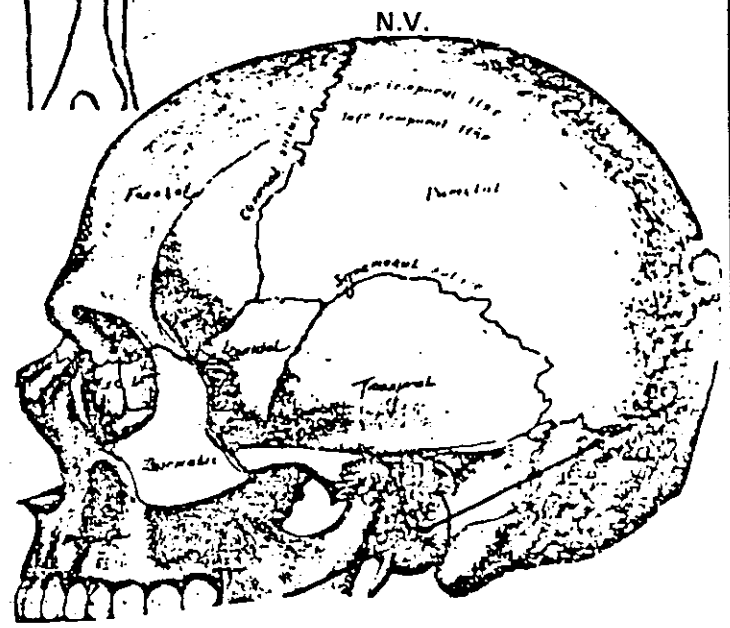
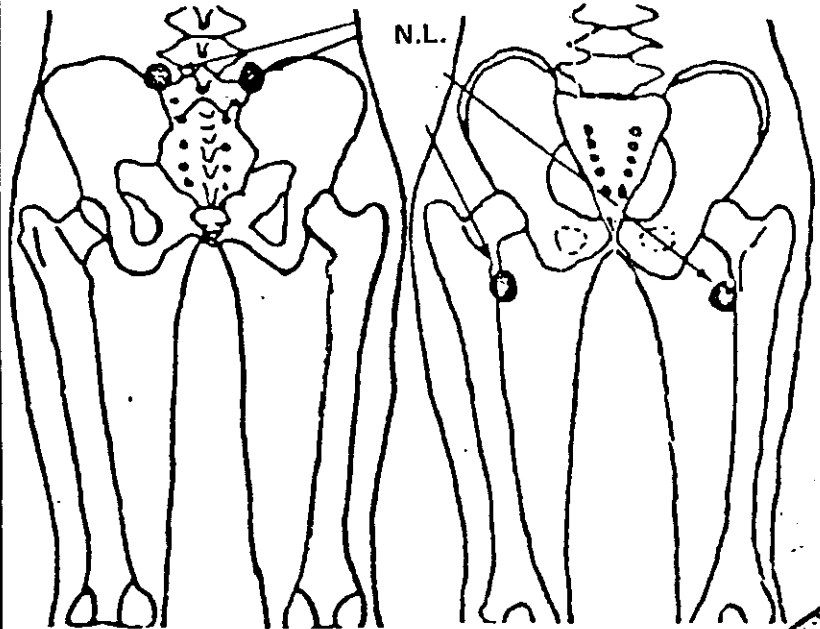
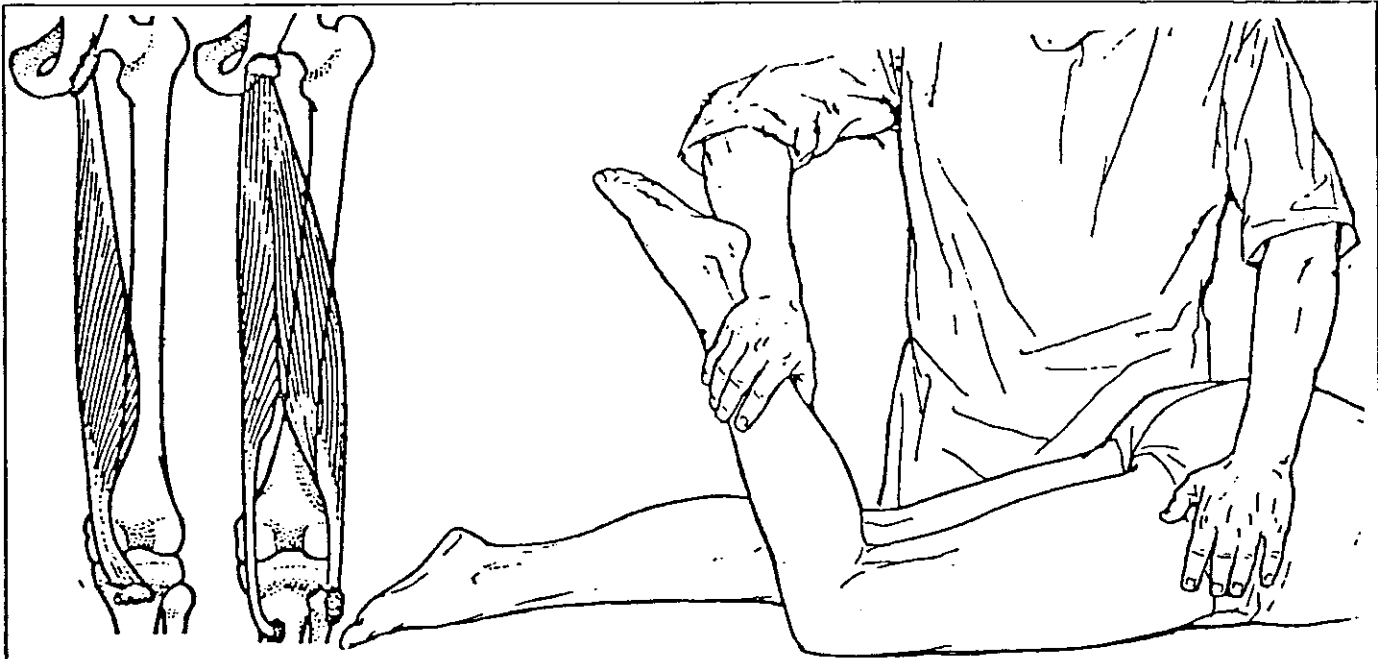
N.L.



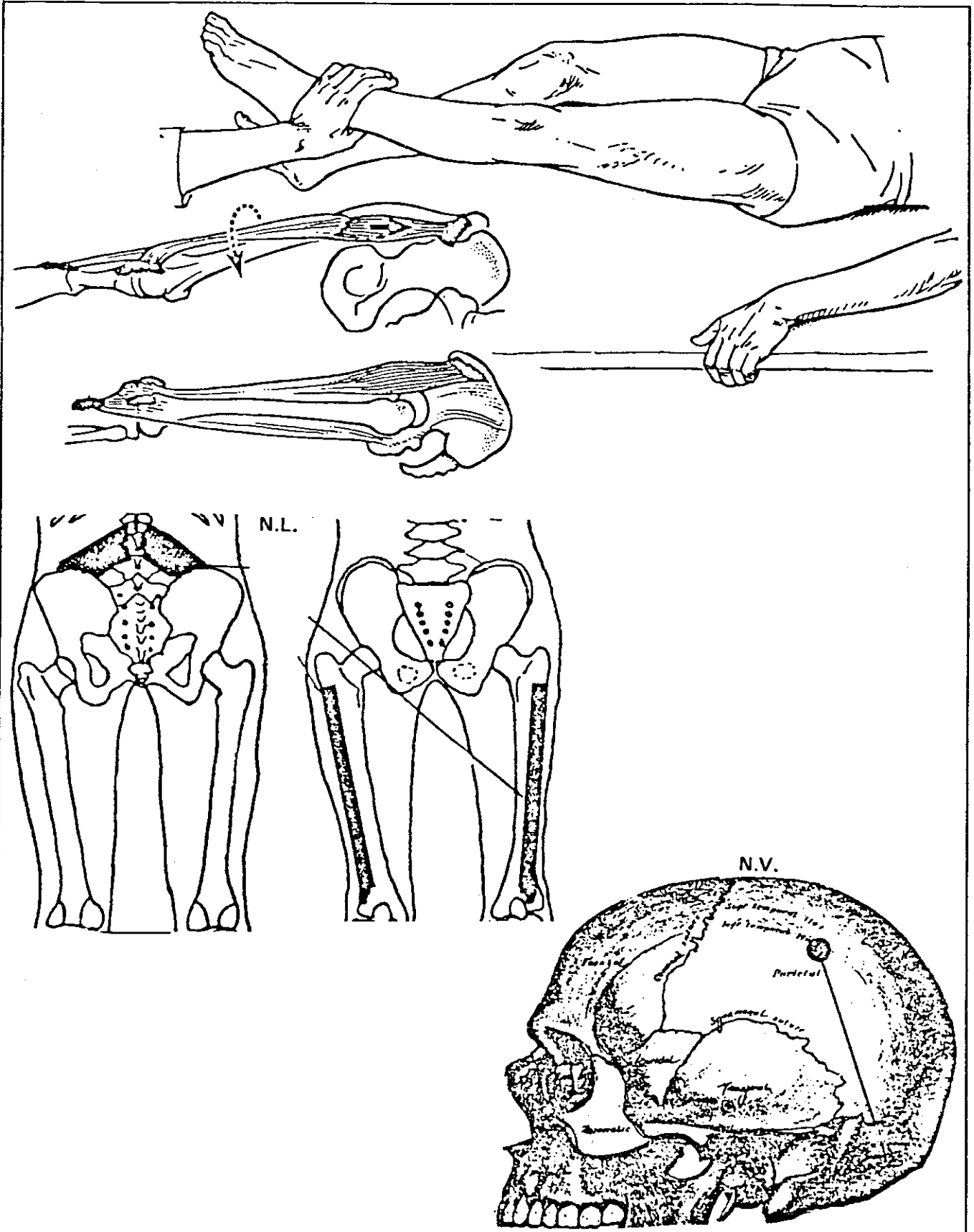
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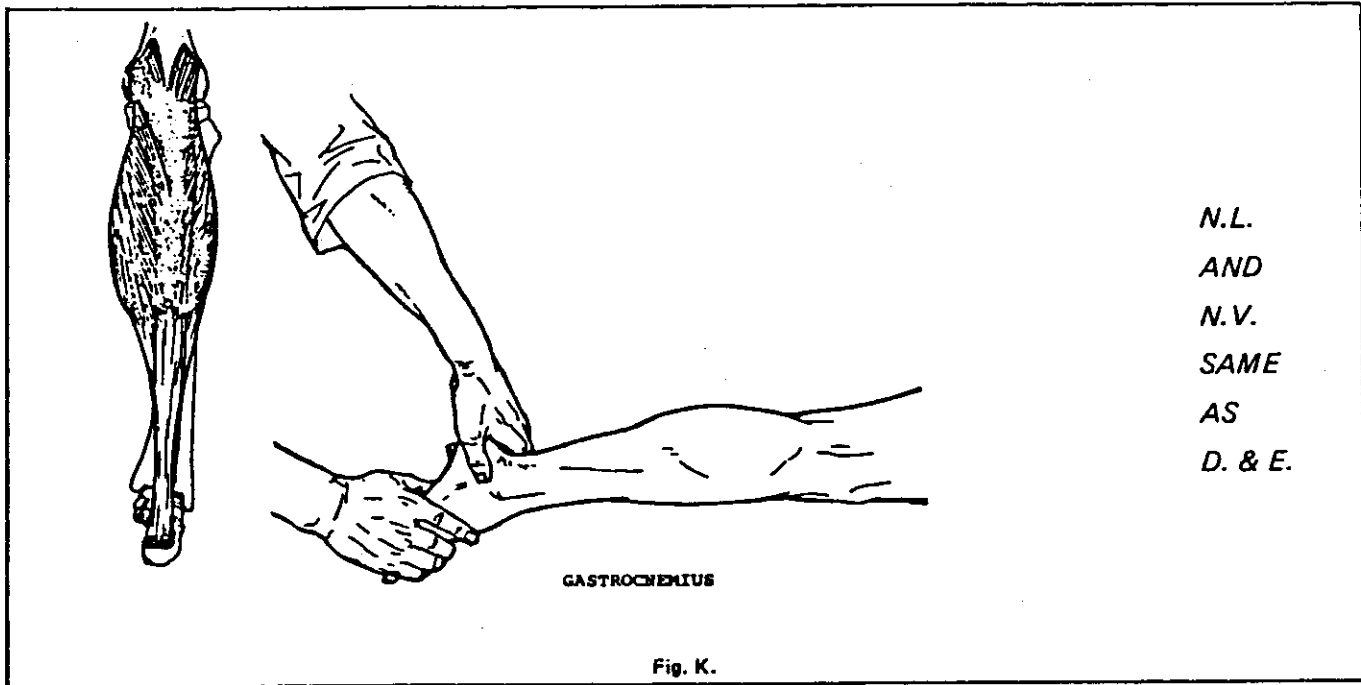
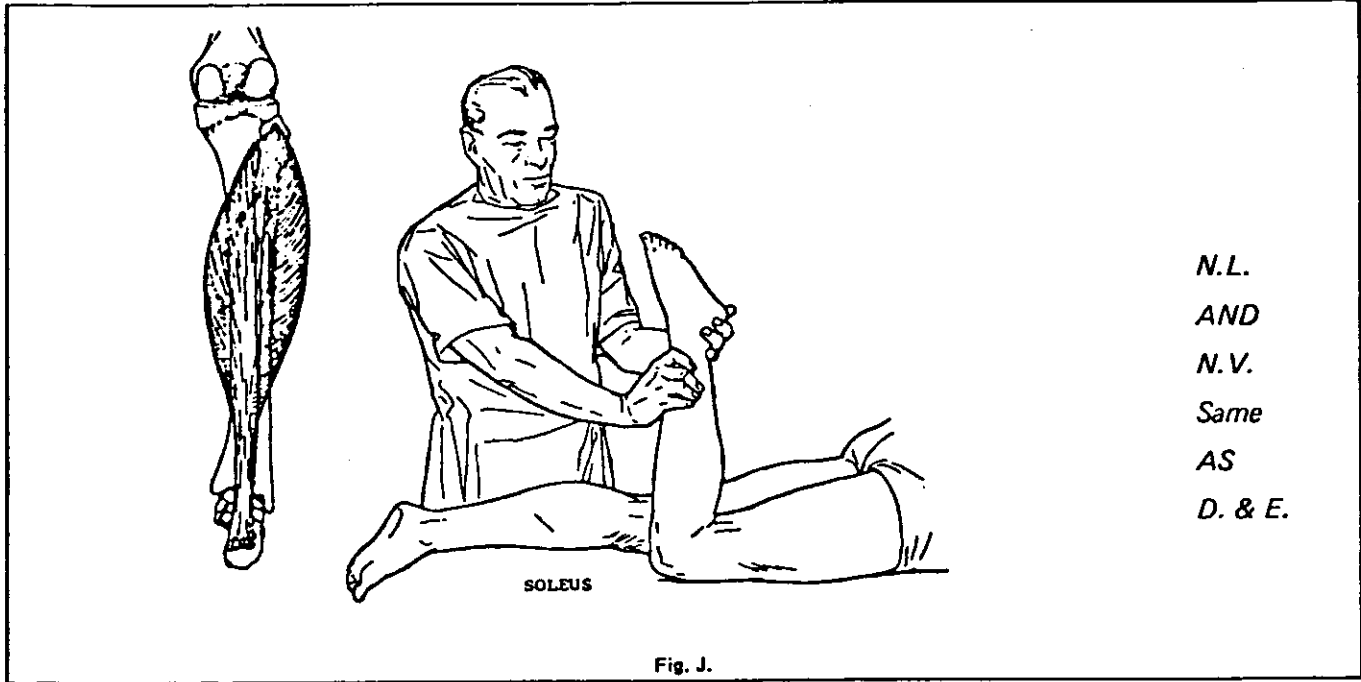
Figs. D. & E.



Figs. F. & G.



Figs. H. & I.



triangle composed of structure, chemistry and psychology. Each side supports the other and there is an equilateral balance between structure, chemistry and psychology. Disturbances in the knee joint which reflect themselves in the weakness of the sartorius and gracilis will invariably lead one to augmenting the structural integrity of the sartorius and gracilis, which share lymphatic drainage with that of the adrenal. Therefore, adrenal support in the average knee case, where there is weakness of the sartorius and gracilis, although seemingly far removed, is very effective.

This adrenal support material is available from many of the suppliers to our profession, and should be chewed prior to its absorption by the digestive system. The quadriceps shares this lymphatic drainage with that of the small intestine, and again, attention to digestive enzymes, although seemingly far removed, will help in the recurrent knee problem where there is weakness of the quadriceps which does not respond to simple exercise.

Weakness of the hamstring muscles will respond to proper neuro-lymphatic and neurovascular, as well as micro-avulsive technics. If there is any persistence of weakness in the average knee problem, the addition of small unit dosages of a natural source of Vitamin E complex is effective in preventing a recurrence of many knee problems.

As stated previously, the popliteus muscle shares its lymphatic drainage with that of the liver and gall bladder, though seemingly far removed, and the addition of bile salts, with efforts at liver and gall bladder stimulation, frequently will aid the popliteus in maintaining its normal pattern. Gastrocnemius and soleus apparently seem to share the common drainage pattern that the sartorius and gracilis have with the adrenal, and use of adrenal support measures helps this gastrocnemius soleus group as well. The tensor fascia femoris responds to a variety of agents basically concerned with action of the bowel, since the tensor fascia femoris shares its lymphatic drainage with that of the large bowel. Acidophilus products and other products of this type seem to support the tensor fascia femoris in those cases where it is found weak in recurring knee problems, and this nutritional support is of value in the chronic pattern involving weakness of the tensor fascia femoris.

Incidentally, the professional athletes mentioned responded well, and are active in their respective sports.

CARPAL TUNNEL SYNDROME:

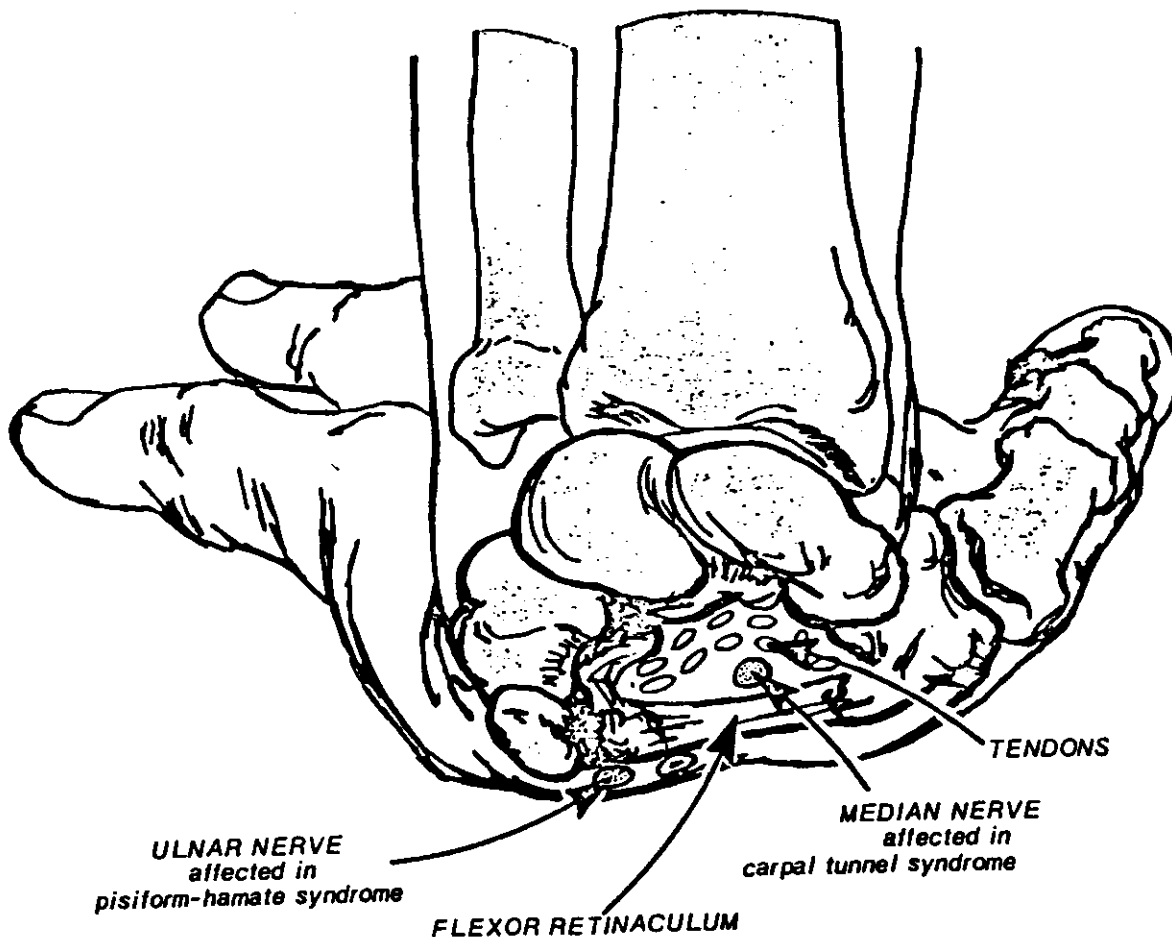
Wrist/Hand Problems:

A relatively common cause of hand weakness, numbness and/or pain is the "carpal tunnel syndrome," which is the result of an encroachment upon a nerve as it goes through a tunnel in the wrist.

Several small bones in the wrist form a groove and make up most of this tunnel. Through this groove, which is covered by a fibrous, ligamentous structure known as the flexor retinaculum, passes a nerve and other structures. This nerve is vulnerable to irritation by any of several means, and when the nerve is thus irritated the hand becomes symptomatic with weakness, numbness, or pain and the condition can also cause symptoms in the upper arm, elbow, shoulder, or neck.

In order to find the answer to the problem, of course you must find the reason for the encroachment on the nerve and correct it.

Wrist injury, such as the wrist being bent back forcefully, usually causes encroachment on the



neurovascular bundle. For example, it can be caused by hitting a swinging door with the wrist bent backwards, or falling with the hands outstretched to prevent a fall. Sometimes ordinary working conditions can cause the problem, such as a housewife scrubbing a floor and leaning on one hand with the wrist bent backward, or a carpenter hammering heavily, or a mechanic pulling forcefully on a wrench.

Until recently, if carpal tunnel syndrome was diagnosed it almost always meant surgery to release the entrapped nerve, but the newer methods of diagnosis known in applied kinesiology fortunately are favorable without surgery, if there is early diagnosis and treatment.

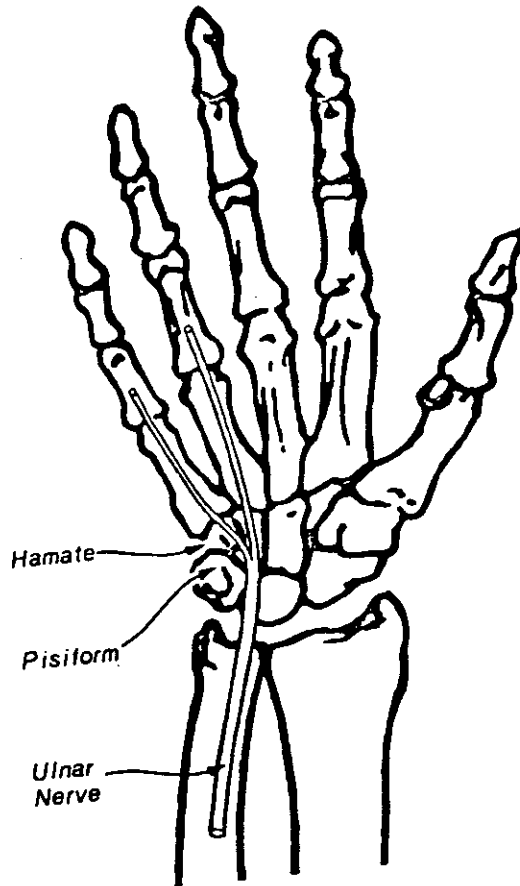
In order to determine the nerve involvement, your doctor first tests the muscles of the hand; then, while continuing to test the muscle, he will make some other tests to determine the effect of his tests on the muscle strength. Mostly, the weak muscles of the hand are returned to normal strength within minutes, indicating a reduction of nerve encroachment in the carpal tunnel.

It may be necessary to support your wrist with an elastic or leather wrapping to prevent re-injury for a short period of time, usually two weeks, while the ligamentous structure repairs. It is very important not to bend the wrist backward during this period, or the condition may recur and need further correction.

The use of nutritional supplementation is also of value for improved repair, and this is often a raw bone concentrate, and manganese and other substances may be used to improve the healing rate.

Pisiform Hamate Syndrome:

This pisiform hamate syndrome is another nerve involvement of the wrist-hand area, somewhat similar to the carpal tunnel syndrome. In this case the nerve is irritated by small bony protrusions at the wrist instead of being trapped in a tunnel. If this is the problem your doctor will determine the abnormal functions of the small bones of the wrist and return them to normal. The period of time, support and nutritional complexes are similar to those employed for the carpal tunnel syndrome.



Prevention:

The best way to prevent these conditions from occurring in the future is to avoid strains to your wrists, especially those that bend the wrists back forcefully. Try to develop new habit patterns to avoid this harmful position if your work requires bending the wrists back.

Peripheral Nerve Impingement and the Carpal Tunnel Syndrome:

Many doctors and many patients suffer from the symptoms of the carpal tunnel syndrome. Weakness

to the point of atrophy of the opponens muscle is sometimes seen, but the usual symptom pattern is one of numbness, tingling, pain of the hands and arms, along with an especially distressing pattern of dropping relatively light objects involuntarily. There is also a frequent inability to either pronate or supinate the forearm and the patient may state that the pain at night after a day's activity is enough to prevent sleep.

In the chronic pattern of the carpal tunnel syndrome there is a definite observable atrophy of the fleshy part of the thumb on the palmar aspect which is, as you know, the opponens muscle. The thinning or weakness of this muscle is the diagnostic feature of this entrapment of the median nerve at the so-called carpal tunnel. Impingement of nerves does not necessarily have to take place only at the intervertebral foramina, but it can and does take place at many points in the body structure where the nervous system is exposed to the same circumstances as the nerves of the spine. If the principle of nerve interference is true, as we know it to be, it should be demonstrable in many areas. The carpal tunnel is one of these innumerable areas where such a situation can take place.

The median nerve is the most superficial structure to pass through the tunnel underneath the transverse carpal ligament. The transverse ligament starts at the upper crease of the wrist and above the pisiform and runs in a broad band across the wrist to the base of the thenar eminence. A fall, stopped by the palm of the hand with the wrist sharply dorsiflexed, is often the history.

Because the carpal tunnel syndrome is a common pattern in the patients a doctor sees, it is reasonable to suspect it in all cases of numbness, pain and tingling of the hands. Reflection of these symptoms upward from the wrist, even as high as the shoulder, is not uncommon. This condition is not confined to patients only, but also plagues the professional, being common among D.C.s since the chiropractic physician's work is manipulative in character.

Some patients even complain of pain from the sphygmomanometer cuff incident to taking the blood pressure. The pain, as has already been described may radiate into the first three fingers of the hand or the elbow at the anconeus, or as high as the humeral head, or, rarely, between the shoulder blades. Pressure over the carpal ligament can cause pain to appear at the "trigger areas." Sometimes the pronator teres can cause a similar problem, but the base of the hand is usually numb in a pronator teres entrapment, while in the carpal tunnel syndrome it usually is not.

This condition can be present bilaterally as well as unilaterally, and the opponens atrophy in the severe chronic form may not be present but a slight flattening of the thenar eminence may be noted. This can usually be detected by the examiner who takes the time to look for this very common condition. A fall on the ice, broken by the outstretched hands; occupations, such as bakers who roll dough, cab operators who try to stop door slams with their hands, waitresses who repeatedly hold hard-to-handle plates of food for long periods, hairdressers and beauticians who must use extreme extension and flexion positions of the wrist, represent some of the cases of this problem which have been seen.

Sometimes the patient will complain that he cannot pronate or supinate the forearm without pain, and his ability to hold a pencil or even a sheet of paper between the thumb and forefinger is sharply decreased. The latter serves as another test when traction on the pencil or piece of paper is produced by the examiner.

The spread of the radio-ulnar joint can sometimes be detected by x-ray of both wrists, using a collimating system to accurately aim the central path of x-rays midway between the two evenly spaced wrists.

Many cases of carpal tunnel syndrome can be discovered if the examiner will ask the patient to press his thumb and little finger together firmly while the doctor attempts to separate the thumb and little finger. A marked weakness is characteristic of the carpal tunnel syndrome, and a conclusive diagnosis can be made by asking the patient to encircle the affected wrist with his opposite hand so as to press the radius and ulna together. In other words, to exert a temporary pressure from side to side.

Retest the weak hand with the patient holding his own wrist, thus using a bridging pressure from radius to ulna. There will be a spectacular improvement in strength. If the patient has had pain or, as is often the case, pain, numbness, and tingling, these will immediately diminish markedly. Now adjust the radial ulnar joint at the wrist. Have the patient sit on the treatment table; lay his forearm down on the table, resting it on the ulnar surface with the thumb uppermost; with a pisiform contact upon the distal end of the radius, drive directly through to the ulna.

After the adjustment, retest the opponens muscle by the thumb- little finger press, while you try to again separate the two. It will be strong, but advise the patient he can readily reinjure the wrist by any sharp flexion or extension. Prove this to him by sharply flexing or extending the affected wrist and retesting. Readjust, retest, then dispense a leather two-strap wrist band with directions to wear this supportive strap for a minimum of two weeks. This allows healing to take place in the tissues injured by radio-ulnar separation. The latter produced the pressure on the median nerve by a stretching of the transverse ligament.

Do not use an elastic wrist band. They are relatively inefficient and only prolong recovery. A trap that is very easy to fall into is to regard the minor arthritic changes that take place at C4, C5 and C6 in many adults as causative of the bilateral carpal tunnel problem, when it is unrelated and merely accompanies the situation.

Pain sometimes develops at the elbow as a result of the spread at the distal ulno-radial joint, and many times the proximal head of the radius is subluxated as well. This naturally requires specific adjustment of the subluxation of the radius. The direction of thrust applied in the carpal tunnel syndrome may be slightly altered from its transverse radio-ulnar direction to include the adjustment of the subluxated radius (which usually moves slightly upward and towards the anconeus.) Therefore, reverse the direction in thrusting.

The pisiform-hamate tunnel is another variety of the carpal tunnel syndrome. This pattern of nerve entrapment affects the palmar branches of the ulnar nerve and is similar to the carpal tunnel situation in many respects, but the fingers involved are the ring finger and the little finger. This condition is nowhere near as common as the previous syndrome. The presenting pattern is an inability to flex the fingers of the ulnar distribution, namely the two outer fingers. Atrophy and weakness of the opponens muscle can also result from this pisiform-hamate tunnel syndrome, but in the author's experience this "pinch weakness" previously described is usually due to the radio-ulnar separation.

Weakness, numbness and burning are the usual symptoms in the little finger and the ring finger. Subluxation of the hamate or the pisiform towards the wrist and in the direction of the dorsal aspect of the hand, away from the palmar aspect, is the common finding. This condition is seen in mechanics and may occur when the palm of the hand is sharply extended, as might occur in attempting to further open an already partially opened, but stuck, window. Treatment is based, first upon an accurate diagnosis, and second by sharply adjusting the pisiform or the hamate with the double-thumb thrust. The hand of the patient is placed palm down and grasped by the examiner's double hand contact so that the

outer part of the palms of the doctor's hands are in contact with the palm of the patient and, following this, placing a firm double thumb contact on the offending pisiform or hamate, a sharp thrust is delivered with the thumbs away from the wrist and down towards the palm.

The pisiform-hamate tunnel syndrome is a factor in cases of the carpal tunnel syndrome that do not respond to adjustment and leatherstrapping. The thing to remember is that they both can affect the thumb, but the carpal tunnel affects the first three fingers and the pisiform-hamate tunnel syndrome affects the last two fingers. Testing is done similarly. Thumb weakness due to opponens muscle involvement is noted in both, but in the latter case, with the last fingers involved, weakness is apparent in the little finger as well. Temporary strapping with adhesive felt over the sublaxed areas after they have been adjusted is good therapy, for it takes about two weeks for the volar carpal ligament to heal. The wrist band should be worn in the carpal tunnel syndrome for at least two weeks also.

An attempt has been made to show that nerves may be impinged, entrapped, and pressed upon in many parts of the body. Man is a whole being. The spine, occiput and sacrum are primary structures that deserve all the attention they get, but just as surely as nerve impingement can take place in the spine, just as surely can it take place at the peripheral portions of the skeleton. Our position, as chiropractic doctors or physicians, is to treat and heal not by a narrow look at the magnificence of God's creation, but a look at the totality of man in all aspects. This is how the patients come to us, as whole beings, in a state of partial disarray. We should treat the interference with the nervous system where it IS. NOT where we think it HAS TO BE. We are specialists in applied physiology. This is no narrow confined pursuit, but a broad approach to the entirety of the disturbed structure of man, wherever that disturbance may be. Attention to the whole man concept will yield dividends of professional and personal progress. Attention to the carpal tunnel syndrome is just one more way the chiropractic physician can advance his profession as well as himself by putting services above self and using the God given intelligence which is his fortunate heritage.

In testing for the most frequent pattern of an ulnar-radial separation, use equal pressure on attempting to separate the opposed thumb and little finger; but in the capitate hamate syndrome that often accompanies the first pattern, hold the thumb and pull on the little finger. Weakness discovered this way means the additional problem of correcting the capitate hamate sublaxation that accompanies the ulnar-radial separation. The use of the leather wristband lined with ¼" chiropodist adhesive felt is essential to the recovery of this condition. The patient should wear it at all times, except in bed, for at least 2 or 3 weeks.

Occasionally the wrist is so sore that neither compression nor adjustment is necessary, but attention to the muscle that bridges the radial ulnar joint at the wrist is useful here. Use a hard, heavy pressure as much as can be tolerated by this type of patient, on the radial origin and the ulnar insertion of the pronator quadratus. Testing of pronation and supination is also useful. Weakness on pronation testing also requires activation of the neurolymphatic reflexes of the liver, while weakness on supination testing requires activation of the neurolymphatic reflexes for the stomach. These reflex connections may be new to you, but they are demonstrable and valid.

Request the patient to attempt to avoid extreme flexion or extreme extension of the wrist joint during the period of time the ligament is healing. As with all ligaments, it is well supplied with nerves and poorly supplied with blood, and the local application of a counter-irritant ointment, such as Capsolin or some other good counter-irritant, is good adjunctive therapy. Reassurance that the pain will diminish with proper diagnosis along with fixation of the joint by the leather strapping available through sporting goods or your local supply, is productive of good results in this painful and frequently-met-with wrist condition.

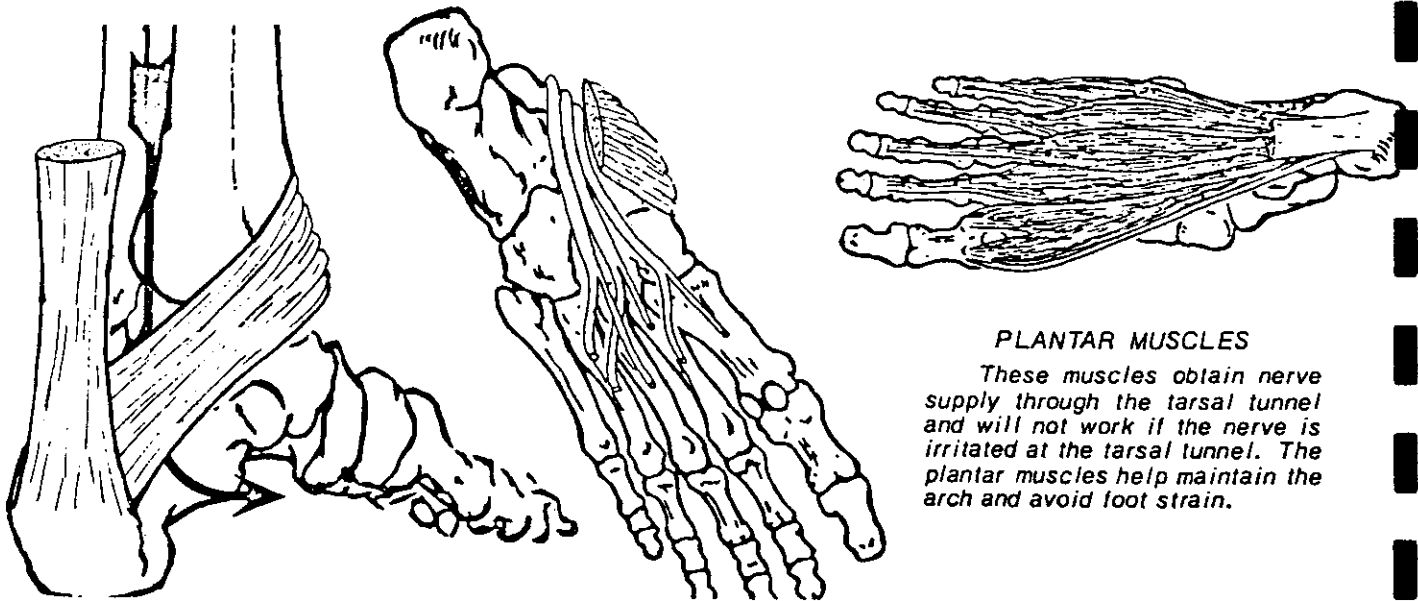
There are many types of varieties of syndromes, but they are all based on impingement of the ulnar or median nerve at the wrist, and all require treatments as outlined above.

TARSAL TUNNEL SYNDROME:

There is a tunnel located at the inside back portion of the foot through which nerves, a blood vessel, a vein, and several tendons must pass. While the foot and ankle function in a balanced manner this tunnel and its neurovascular bundle cause no problems. However, when the ankle and foot become imbalanced in a particular way, the fibrous band which covers the tunnel becomes stretched and interferes with normal nerve function and circulation.

This is known as the tarsal tunnel. When there is foot pronation (an inward rolling of the ankle and foot) it causes a narrowing of the tunnel, but this problem does not cause symptoms when it first develops, unfortunately, because if a person felt pain or numbness immediately he would recognize the problem and seek treatment for these symptoms.

Instead, what takes place is of an insidious nature. The muscles of the bottom of the foot become weak because of poor nerve control, and because this weakness persists it makes the condition worse because these are the very muscles that help hold the bones in position to avoid a narrowing of the tarsal tunnel.



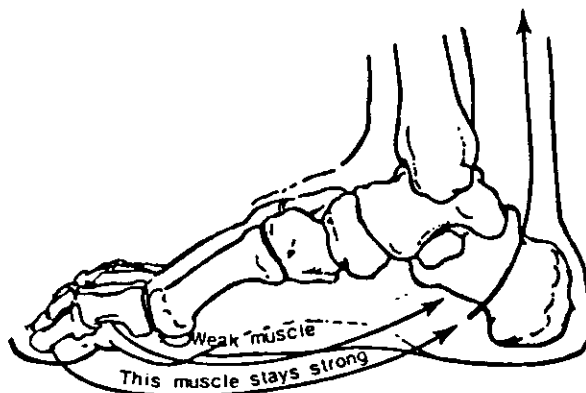
PLANTAR MUSCLES

These muscles obtain nerve supply through the tarsal tunnel and will not work if the nerve is irritated at the tarsal tunnel. The plantar muscles help maintain the arch and avoid foot strain.

Hammer Toes:

An individual develops "hammer toes" as the muscles continue to weaken, because of the unique arrangement of the muscle attachment into the toes. Note in the following Figure that the muscles in the bottom of the foot, which obtain their nerve supply from the nerves that have to pass through the tarsal tunnel, attach to the center portion of the toe, and there are tendons at the end of the toe which hook on to the muscles in the calf of the leg. These muscles obtain their nerve supply from nerves which do not have to pass through the tarsal tunnel, and therefore maintain their strength and continue to pull, while the muscles in the bottom of the foot which are weakened as a result of the foot involvement at the tarsal tunnel allow the center portion of the toe to go up, which causes the end of the toe to point down

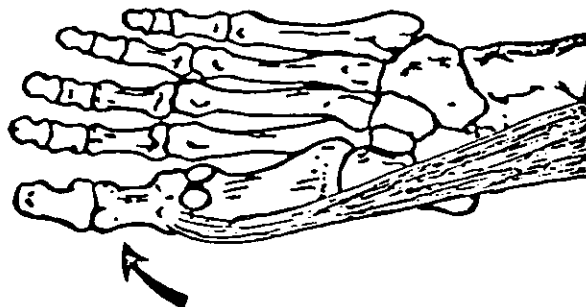
and creates the painful and disabling hammer toe.



Schematic drawing of muscle imbalance in tarsal tunnel syndrome causing hammer toes.

Bunion:

The tarsal tunnel syndrome may also cause a "bunion," which is most often the result of the loss of the arches of the foot and of muscular imbalance. This is shown in the following Figure.



Weakness of this muscle allows the big toe to go in the direction of the arrow.

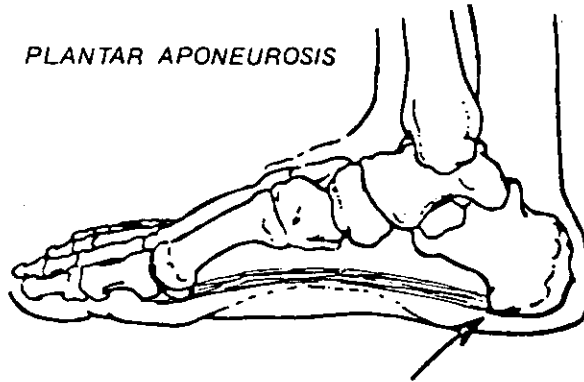
Correction of foot pronation and the tarsal tunnel syndrome, together with foot rehabilitation, provides excellent relief in most bunion cases if the condition is discovered and worked on at an early stage, before the bunion becomes an irreversible condition.

Heel Spurs:

Calcaneal spurs, or "heel spurs" are a result of foot pronation and the tarsal tunnel syndrome, when the pronation of the foot and the backward movement of the heel bone (calcaneus) causes tension on the fibrous band under the foot. The body tries vainly to strengthen the attachment of the fibrous band to the heel by depositing calcium at the site of attachment, which creates the heel spur. Correction of foot pronation and the tarsal tunnel syndrome almost always relieves the pain from the heel spur.

Since the chiropractic doctor is knowledgeable in the procedures of applied kinesiology he can make rapid correction of foot pronation and tarsal tunnel syndrome, but correction is not all that is necessary. The doctor must also rebuild the integrity of your foot, which may require exercise procedures as well

PLANTAR APONEUROSIS



Strain here causes "spur" to grow.

as special supports for your shoes. This condition also requires that you wear good quality shoes, maybe even specialized shoes, and your doctor will advise you regarding the type of shoe to purchase.

The wisest thing you can do is try to prevent this problem, which you can do best by having your foot and ankle evaluated by a knowledgeable applied kinesiologist whenever your foot is twisted or sprained. If the problem was not prevented the next best thing is to catch the problem early so you can prevent total loss of the integrity of the foot and ankle, and a possible irreversible condition.

Watch for foot pronation, hammer toes, and painful areas in your foot and ankle to detect the problem at an early stage. Remember that the normal foot has no more discomfort upon deep finger pressure than your hand has when you press into the different bony areas.

Foot Rehabilitation:

If the condition is advanced by the time you consult a physician, and the foot and ankle have lost normal structural integrity, you must follow through with a rehabilitation program.

Support:

You must wear good foot gear, which your doctor will advise as to type, and he may even tell you to have your shoes modified by a shoe repairman or have specially built inserts made for them. This may be necessary because the bones may be returned to a normal position and regain normal muscle function through applied kinesiology, the foot is so weak that as soon as you place weight upon it the bones will go back into the old position. Generally these special shoes and supports are prescribed on a temporary basis to hold the foot in position while it is being rehabilitated, but it may be necessary to use this special foot gear the rest of one's life.

Rehabilitation Procedures:

The doctor will assign the number and kind of exercises you should be doing. You should set aside a specific time of day, one which won't interfere with normal activities, to do these exercises. This might be while you are watching television, eating dinner, just before going to bed, or upon arising in the morning.

This rehabilitation of feet and ankles is of great value not only now, but in determining how you will function

5, 10, or even 20 years from now. Your feet are the foundation of your body, and if the foot and ankle are functioning improperly it interferes with normal function throughout the body, whereas normal foot integrity will enhance your total body function.

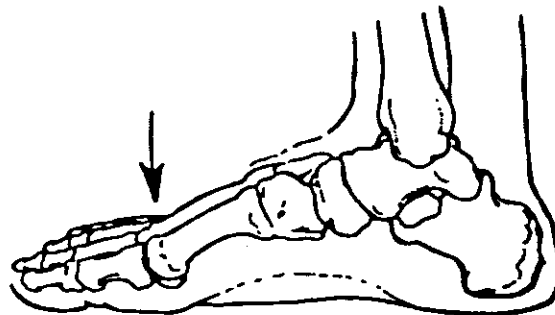
Toe Flexion and Dexterity:

A good exercise for toe flexion and dexterity is to place a number of marbles on the floor, then flex the toes and pick up one marble and rotate the foot to its limit and put the marble down. Then turn the foot back as far as it will go in the direction of the original pile and pick up another marble and repeat the procedure. You will find that you can pick up a marble with any toe and gain great dexterity of your feet, with practice. Do not use only the distal joint of your toe, but the entire toe, bending clear back at the base of the toe.

Plantar Muscle Rehabilitation:

When there is poor nerve control over a prolonged period of time as a result of the tarsal tunnel syndrome where the nerve becomes entrapped within an enclosed tunnel at the medial back portion of your foot, the muscles in the bottom of your foot eventually weaken. First the doctor must open this area by manipulation, and then it is necessary to keep it open by support and exercising the muscles.

Contraction of these muscles causes the toes to flex at the point indicated in the figure below.



Toe should bend at arrow when exercising plantar muscles.

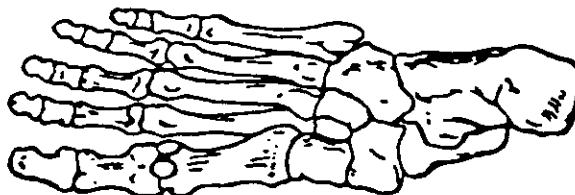
Work these muscles by placing your foot on a hand towel and gathering the towel beneath your foot by toe action. The muscles you are exercising are the ones that bend the toe at its base. Be very careful that you DO NOT work only the distal end of the toe, because the muscles that work the distal end of the toe are up in the calf of the leg, and are not the muscles you need to exercise. If the calf of your leg becomes cramped or fatigued a great deal, you are not isolating the muscles of the bottom of the foot. This exercise may be very, very difficult in the beginning, but by concentrating, relaxing the calf of your leg, and contracting the bottom of your foot, you will be able to gather the towel completely under your foot by using, primarily, the muscles in the bottom of your foot.

Obtaining Foot Mobility:

The normal foot is very flexible and has no painful areas, but the foot which has been functioning abnormally for a prolonged period of time will have many tight and painful areas. Working the foot on

a golf ball is the best way to regain motion in these areas, concentrating on the extremely painful ones.

Roll your foot back and forth over the golf ball, then from side to side, concentrating on the uncomfortable areas. Apply more and more pressure on the golf ball as your foot loosens and gains mobility, until you reach the point where you are standing and placing great pressure on the ball. You can place a rubber ring around the ball to confine it to one area.



If you have special areas which need attention with the golf ball, your doctor will mark those areas on the above

Achilles Tendon Stretch:

A short Achilles tendon and muscles of the calf of the leg will result in a foot which does not flex upward enough. One reason for the shortening of the tendon and muscles is the prolonged wearing of high heels.

You must first fatigue the muscle or tendon before the stretching takes place, The body must be placed past its physiologic ability to respond before the procedure puts a demand upon it, in any exercise or stretching procedure. In this case you are fatiguing out a structure, at which time it starts the stretching activity. The first portion of the holding time does nothing to stretch the structure. If you are doing enough stretching to actually accomplish your goal, the calf of your leg will become tender to touch. If no tenderness develops, you are not stretching hard enough or long enough. Stretching the tendon and muscles is accomplished in two ways.

1. Sit in an upright position with one leg stretched out in front of you. Place a belt over the ball of the foot, and pull the foot back in flexion, holding the knee straight. You will feel tension in the back of your leg and possibly in the back of your knee. Hold this position for one to two minutes.
2. Face a wall. With outstretched arms, lean against the wall and move your feet back, keeping the heels flat on the floor. The increased angle of the ankle places stretch on the Achilles tendon. Keeping your knees straight, continue to move your feet back until there is significant stretch.

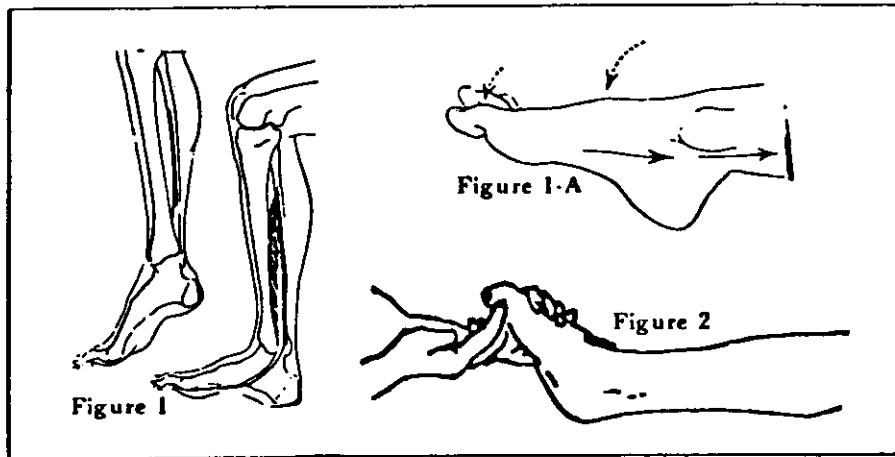
MORE ABOUT THE TARSAL TUNNEL SYNDROME:

Both patients and doctors often suffer from a tarsal tunnel syndrome, but oftentimes it goes unrecognized because it frequently resembles a disc problem with herniation and radiculitis, peripheral vascular diseases, or neuritis. Diagnosis requires awareness of this entrapment neuropathy.

The so-called "tinel" sign or nerve trunk tenderness can be elicited over the tarsal tunnel or over the medial arch. Weakness of toe flexors and abductor hallucis often accompanies this common but frequently overlooked syndrome. There may be burning pain, numbness and tingling in the legs and feet. There may be retrograde referral of pain along the sciatic axis up to the buttock. Sometimes in diabetes

or peripheral vascular diseases of the older individual, the pain they experience may be ascribed to these degenerative diseases when in reality it is due to the trapping of the posterior tibial nerve at the tarsal tunnel, just as the median nerve is trapped in the carpal tunnel syndrome. Here again, as in the carpal tunnel syndrome, the key diagnostic factor is in the detection of muscle weakness.

The weakness found in the carpal tunnel syndrome is, as you know, the weakness of the opponens muscle. In the tarsal tunnel syndrome there is demonstrable weakness of the flexor hallucis longus and brevis (Fig. 1). This may be tested with the patient prone, the knee flexed, and with the foot and ankle in a neutral position (Fig. 2). Pressure is exerted against the plantar surface of the proximal and/or distal phalanx of the large toe, in the direction of extension.



Occasionally it is necessary to completely flex the foot rather than leaving it in a neutral position, to eliminate implementation of the toe flexors by total plantar flexion. The neutral position is best, but some patients lock the toe flexors and use the plantar flexors to imitate a normal test in the presence of a weak flexor hallucis longus.

The neurovascular bundle that the posterior tibial nerve accompanies, contains the tendons of the posterior tibial muscle, the hallucis longus and the extensor digitorum longus. This neurovascular bundle or neurovascular tendon bundle occupies a groove just posterior to the medial malleolus. The lancinate ligament and the tensor retinaculum roof over this groove behind the medial malleolus is referred to as the tarsal tunnel.

The lancinate ligament and the tensor retinaculum extend from the tibial medial malleolus to the os calcis. It is the compromising of the space of the tarsal tunnel that produces the entrapment of the posterior tibial nerve with its sciatic disc syndrome imitation pattern.

The posterior movement of the os calcis entraps the nerve by tightening the lancinate and the tensor retinaculum with the subsequent impingement of the posterior tibial nerve. This posterior movement is in turn set up by the medial pronation syndrome. The medial pronation syndrome is in turn produced by the lateral talus subluxation.

First, correction requires a knowledge of the structures involved and second, a realization that only

weakened plantar lateral and medial muscles could allow the backward movement of the os calcis to take place. Naturally severe trauma can play a disruptive part in this syndrome, but the history would bring this factor into prominence.

Mark the most painful medial aspect of the area, inferior to the medial malleolus. Mark the lateral talus' most painful point. Correct the lateral talus pattern first by a traction thrust against the lateral aspect of the subluxated talus. The patient lies on the back; the thenar eminence of the left hand, for example, on the distal border of the subluxated talus; the rest of the contact hand assumes a natural grasp around the right heel tendon. The other hand encircles the volar aspect or the top of the arch of the foot. Both hands exert a traction toward the operator to eliminate all "slack" at the ankle joint, and a sudden traction pull is exerted while the talus contact hand is thrust medially. An audible snap is frequent, but not necessary. The pain at the lower lateral aspect of the talus bone is immediately eliminated. The disappearance of this diagnostic feature is essential.

Next, correct the tarsal tunnel syndrome. The patient is prone, the knee on the affected side is flexed to approximately forty-five degrees. The volar aspect of the foot is supported with the right hand, and the left hand contacts the right os calcis, for example, and the contact hand thrusts the posterior or heel portion of the os calcis towards the volar aspect of the arch. In other words, the os calcis is thrust (with the knee forty-five degree flexed in the prone position) in floorward, toward position. Retest the point-pain pattern at the medial malleolus.

If the pain has not entirely disappeared, rethrust repeatedly four or five times to completely reposition the posterior os calcis. Use a hard, heavy pressure on the origin and insertion of the lateral and medial attachments of the plantar muscles. Use rotary, heavy pressure or a unit such as the G-5 or an equivalent device. Use the heavy, hard rotary pressure for at least forty seconds to allow muscle balancing to take place. Prescribe a suitable antipronation device or a temporary scaphoid pad while the prescribed foot leveling inserts are obtained. The prompt relief and the reduction in disability is gratefully received by the patient. This pattern many times accompanies actual degenerative conditions such as diabetes and arteriosclerosis and the ubiquitous disc syndrome, but seldom is the tarsal tunnel given the blame for the symptoms it produces.

Granted, the non-presence of the posterior ilium or ischium, these lesions of themselves often cause occlusive nerve or blood vessel symptoms when left uncorrected. The method of identification and correction of Dr. M. B. DeJarnette is highly recommended here.

The use of an occlusive cuff such as the blood pressure cuff of the Velcro type is also a good diagnostic method. Fasten the cuff around the mid-calf, request the patient to advise you "IF AND WHEN" it hurts, as you pump up the cuff.

This pain experienced is general calf pain below 180 mm on the mercury scale. Repeat twice for an average. Record the average and repeat on the opposite limb at the same calf area. Here too, there will be a notable increase in the ability of the patient to tolerate the occlusive effect of the pumped up cuff. Frequently there is an increase in the patient's tolerance to the pressure in the order of forty to sixty m.m. of pressure, indicating better circulation. In this regard, increments of a natural source of "E" or its chromatin synergists frequently aid in speeding sciatic recovery time by promoting the acetyl choline reaction necessary at the myoneural junction.

The vasospasm sciatic referred pain and myotonus set up by the tarsal tunnel syndrome are all favorably

affected. Minimal dosage levels in the order of eight to ten units daily seem to do the job very nicely as opposed to the heroic doses of other widely read investigators. This is not to criticize the dosage levels of others, it is merely to report our experience level in this area.

Do not forget to activate the weakened hypotonic lateral and medial plantar muscles by hard heavy pressure at their origin and insertion, after the method of the original applied kinesiology.

Correction of the tarsal tunnel syndrome naturally should be accompanied by proper structural correction of all segments of the human structure involved. It is one more way to serve our suffering fellow-man, our profession and ourselves. Expand your influence in the community by serving best, for in this way you will serve the most. All of this benefits your patients, benefits your community, and benefits yourself.



Chapter 36

HYPERTENSION

Many patients have symptoms of hypertension, and many doctors also may suffer from increased diastolic or systolic blood pressure levels. The upper normal limit for systolic pressure can practically be considered to be 110 mm. plus half the patient's age. The diastolic upper limit has been estimated to be 100 mm. Blood pressure is dependent, as you know, on cardiac output, which fundamentally is a function of the muscular integrity of the heart, which in turn is dependent upon the electrolyte balance and the glycogen storage levels of the heart. The rate and rhythm of the heart are dependent upon the vagal-sympathetic balance and the volume of blood forced through the vessels depends, as stated before, on the electrolyte balance.

Peripheral resistance is an important element in blood pressure problems and discounting frank occlusions from fatty deposits and contraction of blood vessels, the one factor that produces increased peripheral resistance is the state of the body musculature.

There are many factors that influence blood pressure, as you know, but most of the mental, emotional, food-related and diurnal factors are not of therapeutic value except in a negative sense. Occasionally, anemia, contrary to popular opinion, produces an accelerated circulation, so that oxygen may be more rapidly supplied to oxygen starved peripheral cells, and correction is most important in this type of hypertension. But the universality of the hypertensive pattern must have a common basis for its presence in many areas of many different types of people.

Climacteric changes affect blood pressure levels by pituitary stimulation of the adrenals. This begins to act, especially in the female, as waning ovarian hormone levels stimulate pituitary function; and this then causes the adrenals to act as secondary ovaries, producing a female-like hormone. The increased adrenal function from pituitary urging also produces increased corticoid secretions, affecting naturally the sodium and chloride levels. As a result, an increased aldosterone level produces fluid retention, while a large amount of epinephrin or adrenalin analogs are also produced.

This type of hypertension has a particular type of miserable insomnia that is accompanied by much heart pounding. The increased adrenal type materials cause glycogen release from muscle and liver storage areas as well, the pattern so familiar in hyper-insulinism, but here in this case it produces increased fluid volume as the released glycogen takes with it fluid out of the cells into the blood stream, adding to the fluid volume.

When the liver is impaired due to low thyroid patterns, the release of A.T.P. ase is interfered with, and the resulting combination of the slow sugar absorption through the intestinal villi along with the disturbance in the production of the A.T.P. ase may cause spasms of blood vessel musculature, thus interfering with the relaxation potential of the blood vessel to absorb the systolic thrust.

This interference with the circulation, if applied to the kidney, produces in the kidney a substance that increases the local blood pressure of the kidney when it is present in small amounts, and in general increases the blood pressure when it is present in larger amounts. If the blood supply of the kidney falls below 70 mm. systolic, the kidney will automatically, in a self-preservation body wisdom effect, produce this type of hypertensive causing material—and it may continue to produce it long after the need has gone. If the circulation interference continues, the kidney continues to produce this material.

This self-defense mechanism of the kidney is an occasional source of complication in the treatment of hypertension. The question still remains, what is the therapy of choice, and what is the basis for the choice.

The incidence of hypertension, as you know, is three times higher in the obese individual than the non-obese, and this is a relatively simple factor; as is the protein depletion factor, with the blood vessel intima sacrificing some of its wall in low protein states, with a subsequent scarring and atheromatous changes. These multiple accessory factors tend to cloud the real picture and obscure the fact that structural alterations of the skull and spine and nervous system cause and perpetuate hypertensive states.

In the case of adrenal depletion with its subsequent Hypotension, you will recall that the "Ragland" effect produced in these cases a DROP in the systolic pressure when the patient stood up. In the Hypertension of renal and liver origin, the systolic pressure is HIGHER in the recumbent position and LOWER in the erect position. Pressures that show a higher level in the recumbent position require attention to the lower thoracic area, in a manner which will be described later.

In those cases of hypertension that show an elevation in the standing or sitting positions, cranial technics are advised. The most frequent pattern found is spinal fixation of C-4 to T-2. These need specific correction, which will be described later.

Diastolic levels seem to be most particularly affected by clearing the occipital mastoid suture. An important factor to consider in the evaluation of blood pressure is the relative presence or absence of gas in the patient's gut. In fact, with many patients who have hypertension, gas pressure and blood pressure are synonymous. The gas which causes the trouble is not food related nor digestive related. It is simply CO² derived from diffusion from the blood in the walls of the stomach. Gas as such is not usually related to blood pressure in etiological relationship, but the relationship is a valid one. Inflation of the rectum with air during sigmoidoscopy to facilitate visual observation of the rectal mucosa will invariably raise the blood pressure temporarily. The constant movement of gas from the stomach where it is produced, to the lower bowel where it is absorbed, is the most important factor of the digestive system's relationship to the control of blood pressure.

Naturally, some gas is produced in the process of digestion, but the majority of the gas is produced independent of digestion by diffusion of CO² from the blood vessels of the mucosa of the stomach. The gas is held more and more frequently as time goes on, and as the basic lesions go uncorrected. It is held at the pylorus, the ileo-cecal valve, the hepatic, splenic, and sigmoid flexures of the colon. The palpitation, cardiac irregularity or bradycardia which so often accompanies incarcerated gas all disappear quickly when the gut relaxes and the gas passes through the previously contracted area, and the gas pressure equalizes. The vasoconstrictors in the spinal cord are involved in the production of hypertension, as we all know. Witness the sympathectomies that were the surgical vogue for hypertension not so long ago.

There is a compensatory circulation between the spinal cord and the spinal muscles. There is a compensatory circulation between the spinal cord and the circulation of the blood vessels of the abdomen. In other words, if the spinal cord is anemic, the spinal muscles are hyperemic and the abdominal visceral circulation is hyperemic. Have you not seen intensely hyperemic areas following an adjustment, or vice versa—the spinal muscles showing a blanched area following treatment? Have you not seen the consistently persistent hyperemic area many patients have overlying the upper cervical area? Therefore, the effect of spinal treatment should ordinarily depend upon three factors: (1) spinal cord hyperemia

or anemia; (2) stimulus intensity; (3) degree of nerve irritability. Therefore, exactly opposite results will ensue from the same spinal treatment if the spinal cord is anemic one time and hyperemic the next. The relative irritability of the nerve cells involved should also regulate the thrust of the adjustment and vice versa. Have you not observed a patient burp with a gas eructation immediately following an adjustment? We frequently affect blood pressure by accident, why not do it on purpose?

An additional factor that complicates this already complicated matter of hypertension is the relative strength and weakness of the heart. There is not enough blood to properly perfuse the entire body at one time. If this were not so, we would suffer from a hypervolemia every time we ran upstairs. The oft told admonition to children of an hour's wait prior to going swimming is based on this simple fact. The brain worker who cannot unwind without a drink prior to eating, the sleeper after a heavy meal, all testify to the need for the blood to traverse the body's circulation upper, middle and lower "floors." The head and neck constitute one floor, the thorax chest and lungs and heart constitute the middle floor, the abdominal contents constitute a third floor. There is not enough blood for all these segments at one time. Some of the "clerks" in this three-floor establishment move from one floor to another as the demand occasions. So does the blood in volume flow from one section of the body to another by carefully balanced vasomotor action which an innate intelligence accurately directs in a precise Volumetric hydraulic balance. This nicety of balance, when upset by structural alteration of the skull and the spine, produces either hypertension or hypotension, as the case may be. A watch may run fast or slow depending on the relationship of the same familiar gears that make it run on time, and so also does the circulation vary.

When there is an interference with the flow of cerebrospinal fluid, there is a corresponding interference with the circulation of the blood—and vice versa; but in the case of hypertension, the body attempts to compensate for the low level of spinal fluid pressure by raising the systolic and diastolic pressure in a "stupid" body wisdom effort to maintain the rate of cerebrospinal fluid pressure.

The bones of the skull move when you breathe. This primitive gill mechanism is part of the intricate implementation to the motion of the cerebral spinal fluid. The cerebral spinal fluid is made in the choroid plexus, as you know, and flows in a very definite pattern through the brain down through the spinal cord, until it reaches the sacral water bed. It has been noted that a small amount of the cerebral spinal fluid may escape through the perineural spaces of the cranial and spinal nerves and reach the lymphatic capillaries. This is quite important. It is obvious the cerebral spinal fluid flows from the choroid plexus down and around the spinal cord and into the sacral water bed for reabsorption.

The presence of the cerebral spinal fluid acts as a buffer for the spinal cord for the central nervous system, which is vital to its metabolism and also carries secretions of the posterior lobe of the pituitary. The production in the choroid plexus and the fourth ventricle follows the lateral ventricle, the foramen of Monro, the third ventricle, the cerebral aqueduct, the fourth ventricle, the foramen of Magendie, the foramen of Lushka and the subarachnoid space of the spinal cord. It escapes by way of the pachionian bodies into the venous sinuses and, as mentioned before, out along the cranial and spinal perineural spaces, and most important, through the hollow collagen fibers of the fascia into the lymphatic system. So there is an intimate relationship between the lymphatic system and the cerebral spinal fluid system.

When the brain is observed at surgery, there is observable four definite motions: (1) a motion synchronous with cardiac contractions; (2) another motion coincident with respiratory changes on inspiration and expiration; (3) there is a third movement wave unrelated to heart or respiration; (4) a movement which apparently is necessary, but as yet its mode of production and its significance is unknown.

Many researchers agree that the cerebral spinal fluid does not circulate in the ordinary sense of the word. Fluctuations can occur and will occur with changes in volume, and with changes in blood pressure, and with changes in body electrolyte balance. There are rhythmic changes which change with changes in heart rate and respiration. It is obvious since the dural envelope is inelastic and nonexpansible, the cerebral spinal fluid pressure will vary directly as the venous pressure. The venous pressure changes, as you know, with changes in heart rate and respiration; therefore changes in cerebral spinal fluid may reflect changes in circulation or vice versa.

Much research has been produced on the chemical composition of the spinal fluid, but not much attention has been given to its circulation or its relationship to body function and disease other than in connection with disturbances in the flow of the actual spinal fluid itself—such as in hydrocephalus or in tumors.

The skull articular mobility was first observed by Sutherland in his casual observation that the beveled articular surface of the sphenoid had a remarkable resemblance to the gills of a fish, with the obvious connection of human respiratory skull movement. Many authors have researched on cranial application to modern chiropractic. In 1921 Erdman postulated the CO₂, anemia, hyperemia, spinal treatment approach. It is still valid. Check blood pressure. Equalize gas pressure by momentary pressure at right 5th dorsal, bilateral 10th dorsal, and bilateral second lumbar. Recheck blood pressure.

The cranial section of the management of the hypertensive syndrome begins with the patient supine, with your fingertips contacting the cervical spinal muscles. The thenar eminences are contacting the skull at the tip of the mastoid processes, and the force upward is very light, and a slow rhythmic motion is made on the count of five—first with the thenar eminence pressing inward and upward, then with the other repeating the same slight, light, almost imperceptible effort to mobilize the occipito-mastoid suture. Continue this cranial technic for two to three minutes. Recheck blood pressure. If reduced, do no more at this time, but if no perceptible change occurs in the blood pressure, check the cervical and dorsal segments for fixations.

Palpation may reveal a palpable subluxation, but this is often held in place by a relatively nonpalpable but fixed subluxation above or below. The patient continues to lie on the back and the right and left transverse processes of the same vertebra are contacted, and the left transverse is pushed anterior while the right transverse is pushed posterior. The procedure is then exactly reversed, and notation is made of the resistance pattern. Continue down the entire cervical column in the same manner. If there is a group fixation, great resistance will be felt if attempts are made to move the vertebra in one direction, then another. Use the spinous processes for the dorsals and lumbar.

Attempts to return a subluxated vertebra in fixation to normal meets great resistance, while attempts to increase the subluxation take place easily. The vertebrae of a group fixation of an anterior type will strongly resist efforts to correct the anteriority, and each vertebra will exhibit this resistance. But as you go down the vertebrae, the vertebra below the trigger vertebra in an anterior fixation will be noticeably looser and the derotation resistance will be much less on this vertebra, which is **BELOW** the trigger vertebra. Mark the trigger vertebra. In a posterior fixation the same will hold true, but the trigger vertebra will be at the top of a unit of three vertebrae instead of at the bottom.

Adjust the trigger vertebra, recheck the blood pressure. If reduced, do no more at this time, but if the blood pressure is still not reduced, run two extended fingers of each hand all along the paraspinal areas from C1 to Sacral 5. Use the same pressure all along the spinal areas. Wait a minute; observe the paraspinal areas for blanching or redness. Over the areas you found to be blanched, apply the gentlest

possible adjustment or use some external source of heat, carefully blocking out all other nonblanched areas with heavy toweling or suitable material. The principle in applying any form of heat in this regard is to be precise and not general in its application. Maintain the heat for approximately ten minutes, recheck blood pressure. It should be reduced approximately 20 to 40 mm. If reduced, do no more at this time, but if not reduced maintain external heat for a longer period of time that is convenient for you and the patient.

Try to reduce the level of cereals and grain foods in the hypertensive case; substitute potatoes and banana for carbohydrate levels. This reduces toxic wastes in this type of patient. Stimulate liver function. Minimal levels of iodine minimize thyroid function, so watch the inorganic iodine levels and, naturally, thyroid function. Keep fruit and vegetable potassium sources high in the diet. Keep the calcium level, supported by proper dietary measures. Vitamin A reduces the cholesterol level of the blood, and this relationship is so common that the level of cholesterol can be used as an index of Vitamin A in the body. Supplement if needed, but a few raw carrots daily help quite well.

An effort has been made to approach the problem of high blood pressure from a structural point of view. Attention to these factors will aid greatly in reducing the incidence of C.V.A., and will add to a doctor's professional standing and stature. Placing service above self and utilizing the natural recovery forces of the body aid suffering humanity, which is its own reward, but it also advances the doctor and the profession.

Fat and Its Utilization in Cholesterol Control:

Many individuals are concerned and alarmed about the subject of cholesterol, and these individuals may include the doctor as well as his patient. There is a wealth of information in the popular press regarding this situation, and most of it is misinformation.

Cholesterol is an important tissue substance and is NOT a substance to be avoided! Cholesterol is a hormone precursor, and rises and falls in the blood stream in proportion to hormone levels more than with dietary factors, although the dietary factor is given all the attention. A 1938 report in the Journal of Biological Chemistry showed that test animals fed cholesterol produce less in their livers, and this has been confirmed many times since. It is therefore obvious that persons who have a high blood cholesterol acquire it through reasons OTHER THAN too much through food intake. The real reason is the lack of NATURAL CHOLESTEROL mobilizers NATURALLY present in NATURAL FAT.

Cholesterol mobilizers are as natural to fats as the key you buy at the hardware store for the lock on your house. It is only the UNnatural fats that do not contain the keys, so to speak, and by reducing the amount of traditional fats you are in effect "locking yourself out of your own house." It has been shown that linoleic acids present in unsaturated fats will reduce cholesterol, but the ARACHIDONIC acid in beef fat does it almost TWICE as well. So you can see the futility of reducing the fats in the diet.

The most common complaint with an excess of cholesterol is gall bladder congestion, and some common sense temporary reduction of the fats is sometimes necessary, but the real remedy is Vitamin "F", present in fresh oils, along with avoidance of most baked goods, plus regular manipulative correction of the lymphatic system via the neurolymphatic reflexes. Proteins and carbohydrates are absorbed directly into the blood stream, but fats are not directly absorbed, since in high concentration fats destroy red blood cells. Thus, the lymphatics absorb fats from the intestine and meter it into the blood stream in small increments or dribbles that can be safely handled. When the lymphatic channels become partially

blocked in a small percentage, but over a wide area, the rest of the lymphatic system can become overloaded, and the lack of transport both to and from the cells contributes to a high blood fat, and also a puzzling anemia. The lymphatics not only function as a sewer system but, like a suds-saver on an automatic washer, absorb the protein fat, minerals and vitamins that are not used by the cells and carry it back to the blood stream. So there is both waste and nutrition inherent in the lymphatic system.

Recently, in measuring "tagged" blood protein, "tagged" with radioactive iodine, it was found that half of the blood protein is lost from the blood stream. In 24 hours the prompt "suds-saving" retrieval of this protein by the lymphatic system prevents this constant loss from becoming an over-all loss. When the lymphatics are partially blocked, this marvelous system does not function and fats build up—first in the lymph stream, slowing it down by thickening it, and then secondarily by dumping the higher concentration of fat into the blood stream. Therefore, if the fat is not natural, or if there is not sufficient fat mobilizers in the diet, there is an inevitable rise in the fat level.

A simple method of measuring the blood fat is to do a micro-hemato-crit with an "ADAMS READOCRIT" or a similar instrument, and observe the opacity of the serum after the automatic function of the centrifuge. A clear serum indicates a normal cholesterol, a highly opaque serum indicates a high cholesterol. The SCHUCO-LAMARR test set lets you do a cholesterol in less than 5 minutes in your office in four easy quick steps that can be done while the patient is dressing. Only 0.1 cc. of serum is needed, and two simple reagents and a simple color comparison. It can be obtained from your usual source or your college or direct from SCHUCO SCIENTIFIC.

Another method of estimating the cholesterol level is to do a thyroid function test, using the Achilles tendon reflex as an indicator. The thyroid lowers cholesterol, but if Vitamin "F" (fat mobilizer—"key for the lock") is absent, the thyroid function produces a toxic secretion which fails to level off the fat in the blood, and it therefore accumulates. But here again, the problem is simplified by remembering that all natural fats contain Vitamin "F," so if the thyroid checks out sluggish—for example, 430 milliseconds as measured with an Achillometer or the Photo-electric Photomotogram, the cholesterol is usually elevated above 250. The reverse is also true when the millisecond time is fast—as, for example, 200 milliseconds. Here the cholesterol level is usually too low.

The fats and oils commonly used in our urban diet are usually heated, and the synthetic fats which have flooded the market in oleomargarine and ice cream are generally made from rancid oils which are carefully purified. Sitosterols and other factors refined from soy bean oils and linseed oils are being promoted as cholesterol reducing factors, but this is a short-sighted procedure, for the overloaded tissues stay overloaded and the "compensatory increase in cholesterol synthesis will always prevent more than a transitory reduction." The fallacy of restricting the intake of time-tested and traditional natural foods like butter and eggs and meat fat, when the cause is the intake of synthetic fats, could not be more obvious. For this reason, avoid stale cereals, packaged breakfast foods, and most baked goods. Instead, use fresh natural oils such as soy, olive, sesame and peanut. This is simple advice to a complex problem, but a little knowledge is a dangerous thing; and just as in hyperinsulinism with its low blood sugar, the key is NOT to take sugar. So also in the high blood cholesterol the key is not to follow the obvious but erroneous policy of reducing the fats, but to INCREASE the intake of the natural fats with their fat mobilizers.

Dr. Yudkin, at the University of London, says in an American Review of October 1964: "Statistics relating fat to ischemic heart disease in different populations may express only an indirect relationship—the causal connection being with sugar."

He also says that there is no relationship between dietary fat and ischemic heart disease.

Dr. Yudkin and his associates found invariably that all the high cholesterol patients he examined had a high intake of carbohydrate and not necessarily fats. Since the old doctrine of fats burning in the flame of carbohydrates has been thoroughly disproved, it is obvious that fat deposits in the presence of excess carbohydrates deposit both in blood and tissue.

Here also is proof of the need not to restrict the natural fats. In a test feeding of oleo and butter on two groups of adolescents in an orphan asylum, results showed the girls became taller than boys when the girls ate oleo, but this did not occur when the girls ate butter. This shows the effect of deprivation of the sex hormone precursors, which is a castration effect of growth stimulation, just as a farmer or rancher or chicken producer castrates his meat animals. Refined fats creates many problems, the LEAST of which is the cholesterol level, and the pseudo science we are constantly met with only proves one fact: That God does not make mistakes, man makes them when he departs too far from the natural order. Nature cannot make something out of nothing.

The fact that fat meat and butter fat are low in linoleic acid has prompted many to talk down these materials. But as has been mentioned as far back as 1948, in the Annual Review of Biochemistry, the arachidonic acid is far more active than the standard that they presently measure all fats against, namely linoleic acid—and since arachidonic acid has more double bonds, animal fats and butter—help, not hinder cholesterol problems.

These patients sometimes say they feel worse after a meal and experience numbness and tingling in a bizarre distribution. They also are repetitious and complain of depression and forgetfulness. These patients have headaches which occur in the morning, but unlike hyperinsulinism's morning headache, these patients get worse following breakfast, with pain in the back of the head. They also frequently complain of dizziness and ringing of the ears, but the hearing tests are usually normal. They often bruise easily without any history of trauma and either yawn often or have a lowered breath holding time which is below 20 seconds. Both of these last symptoms relate to oxygen metabolism, which is disturbed in cholesterol metabolism faults.

Cholesterol contributes structurally to the cell wall and semi-permeable membrane construction, and the reason why hypertension is associated with a high cholesterol is that too much pressure is needed to force the natural diffusion of fluids through the capillary beds, since this is how the cells are able to get their nutrition.

The use of natural "E" and natural "F" complexes, as found in natural fats or in concentrated form from suppliers, help greatly in rehabilitating these patients, but an intelligent diet is paramount to correct and to prevent recurrence.

The existence of the neurolymphatic reflexes have been proven by Owen, Chapman, DeJarnette and many others. They are located on the anterior of the body between the intercostal cartilages, generally close to the sternum.

On the posterior they exist between the transverse process and the spinous process. They are organ specific and respond to a light pressure. Mobilization of these reflexes measurably aids the blocked fat pattern, not only in the blood, but also in the tissues, and coupled with the newly discovered neurolymphatic reflex associated with muscle testing and balance gives a nutritional and manipulative

inter-locking treatment which allows the chiropractic physician to give service above self in the best tradition of help. It is one more way of helping people and chiropractic.

Cholesterol Mobilization Diet:

Allow the appetite to dictate eating times. **DO NOT EAT EXCEPT WHEN HUNGRY.** Those with poor appetite will find that their appetite will increase when concentrated foods (such as sugar) are restricted.

EAT FOOD IN WHOLE FORMS AS MUCH AS POSSIBLE! Whole foods, as provided by nature (either cooked or raw), provide foods in the least concentrated form. Thus, cracked wheat is not a concentrated food, but wheat flour is a concentrated food. We may apply this principle to a variety of circumstances. For example, whole meat as opposed to ground meat, whole fruit as opposed to fruit juices, whole potatoes (baked or boiled) as opposed to mashed potatoes, etc. French fries are strictly forbidden unless cooked in fresh vegetable oil.

NEVER EAT SWEET FOODS WITH MEALS. Never combine sugars with proteins. Desserts, fruits, etc. should only be eaten several hours after eating. (between meals)

EAT ANIMAL SOURCE FOODS IN MODERATION.

EAT RAW FOODS WITH EVERY MEAL. The best raw food is salads.

EAT SMALL MEALS, BUT EAT AS OFTEN AS HUNGRY. Many persons overeat at one particular meal, and thus overload their digestive processes, whereas the same amount of food eaten in smaller quantities, several times per day, would not impose this burden. When more food is taken into the body than can be efficiently utilized to serve its purposes, this excess of food may be digested (made assimilable) and absorbed into the bloodstream. Here it must be handled in one way or another, and this places a stress upon what are known as "THE INTERMEDIATE PROCESSES." In other words, the fat, carbohydrate (sugar and starches) and protein metabolizing systems. It also places a stress upon the **GLANDULAR SYSTEM**, because one of the primary functions of the glands is to regulate the internal environment.

Suggested Schedule:

The following is a typical day's schedule. It is **ONLY** a suggested schedule, since there is considerable variety when applying these principles:

- BREAKFAST:** Eggs (1 or 2) fried in natural oils. Rice or oatmeal for cereal (small amounts of milk and honey may be added for flavoring purposes). Tomatoes (juice or canned).
- MIDMORNING:** Apple, orange (eaten whole), celery or cabbage base salad.
- LUNCH:** Cole slaw, fish, tomato juice, baked potatoes and vegetables.
- MIDAFTERNOON:** Fruit, banana, gelatin dessert.

SUPPER: Broiled steak, veal, roast or other muscle meat food, raw salad, baked potato, vegetables.

MID-EVENING: Dessert.

Fats and Oils:

The lowest quality of fats and oils are those which have been hydrogenated (oleomargarine, shortenings, commercial mayonnaise, hardened peanut butter, etc.). Just a step above these are animal fats (except fresh butter, which is recommended); these, although permissible, should be used in moderation. The best of all fats and oils are from vegetable sources, extracted by low-heat methods, such as sesame oil, corn oil and others. Heat is the enemy of all fats and prolonged heating (such as used in French frying in restaurants) is deleterious because the unsaturated fatty acids of even the best oils in the raw state become saturated and rancid. One good rule here is never to re-use heated fats.

ANY QUANTITY OF HYDROGENATED FATS IS TOO MUCH! Animal fats should be in moderation. (Actually, persons who cannot tolerate "fats" are usually partaking of either hydrogenated fats or excess animal fats; vegetable oils seldom are disturbing to these persons.) The quantity of fresh vegetable oil, if natural, unrefined, is self limiting and the dictates of the appetite can be used in this respect, as few if any persons can really "overload" on this high quality food.

Natural vegetable oils contain many beneficial nutritional factors, and are considered a highly essential food product.

Faith in God and faith in human nature sometimes take many forms, but my father and I once both had to make a house call on the same person. My father had been notified by telephone of the stroke that occurred with the patient, and so had I, but neither of us communicated with each other, and we both arrived to make the same house call at the same time. We arrived together, with me arriving just a little earlier than he did, and the patient was entirely comatose and unresponsive to even the deepest and most painful stimuli.

It was obvious that she had had a severe stroke because one side of her body was lifeless and very flaccid. My father corroborated the diagnosis. He said, "I won't have a chance to show you this very much longer, I want to show you something." He knelt down and said a prayer, and to this day I don't know whether my father hypnotized me, or the patient, or whether this actually occurred, but he asked me to join him in a silent prayer, and as he finished the patient sat up, entirely lucid, looked at my father and said, "Oh, Dr. Goodheart, I'm so pleased you could come. I know I'll be better now." She shook his hand, kissed him on the cheek, and promptly relapsed into her coma, from which she eventually did recover and went on to live a very useful life of five or ten years' duration.

I was very impressed by my father's use of prayer at a point such as we had, to produce such a result. It certainly does no harm and can do much good, and this is certainly a personal testimony to that effect.

