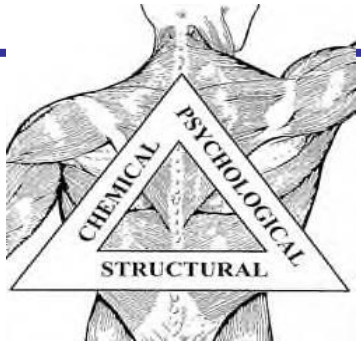
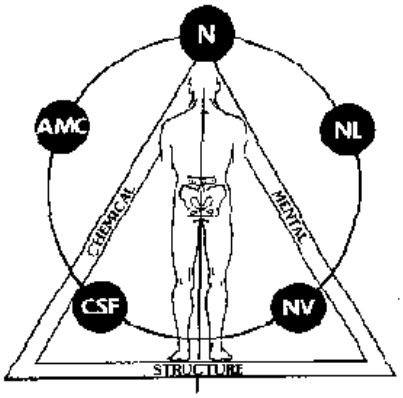


Applied Kinesiology: A Compilation of Structured Abstracts

Edited by

Scott Cuthbert, D. C.

From the Collected Papers of the International College of Applied Kinesiology 2008-1987



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2007-2008

-- Edited by Scott Cuthbert, D.C.

A SIMPLE ASSESSMENT FOR MUSCLE IMBALANCE

Scott Monk, D.C.

ABSTRACT

Objective: To present the case of a female child with severe abdominal pain successfully treated using AK methods.

Clinical Features: A nine-year-old female presented with constant and daily stomach pain, especially severe in the morning. The symptoms would worsen when she brushed her teeth. Endoscopic exam showed esophagitis, and she was given Prevacid for the acid reflux, and another medication to coat her stomach. Neither had been helpful for her pain.

Intervention and Outcome: AK examination revealed minimal disturbances in the spine, pelvis and cranium. Using a homeopathic kit, the child's indicator muscles weakened upon insalivation of material from the bacterial vial. Two herbal supplements, Chinese wormwood and Oregon grape root, negated the weakness. After only minimal improvements, the father was asked to bring a sample of tap water from the child's bathroom sink. The child weakened with insalivation of the water sample, and this was negated by Oregon grape root. The child was instructed to drink only bottled water and not to use tap water from home. The next day her stomach related symptoms were gone. She remained symptom free at a 6-month follow up.

Conclusion: This case demonstrated that the AK method of oral testing was helpful in detecting harmful items in a patient's diet. Correction of the harmful organism in the stomach and the elimination of poor tap water produced full recovery in this child's difficult stomach problem. (Collected Papers International College of Applied Kinesiology, 2007-2008:3-4)

Key Indexing Terms: *Esophagitis; Gastritis; Child; Anti-Bacterial Agents; Body Water; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

MANAGEMENT OF AN ANATOMICAL SHORT LEG FOLLOWING L4-L5 DISC SURGERY: A CASE STUDY

Laurent Picard, D.C.

ABSTRACT

Objective: To present the case of a female with chronic low back pain and sciatica following L4-L5 disc surgery successfully treated with AK therapies.

Clinical Features: A 53-year-old female presented with 18 months of low back pain, bilateral sacroiliac pain, and right-sided sciatica into the gluteal region. Eighteen months previously she had nucleolysis microsurgery to the L4-L5 disc, which improved the sciatica that had been going throughout her leg and into her right great toe. Standing and her daily work were both still painful (her work as a gym instructor was curtailed under these conditions).

Intervention and Outcome: Category III dysfunction, L5 spinal dysfunction, bilateral femur head dysfunction, and release of the iliofemoral ligament were successfully treated. Trigger point therapy to the right piriformis and hamstring were also given. On follow up the category III was resolved. A category II was corrected and the left psoas was treated successfully with trigger point therapy and reflex treatment. By the fourth visit, all categories were resolved and the muscles of the legs, pelvis, and back were strong. The patient was tested for the need of a heel lift, and a 5-millimeter heel lift was given. Two weeks later the patient was pain free, and all previous findings negative. She began her past gym activities without symptomatology.

Conclusion: This case showed complete resolution of sacroiliac, low back, and sciatic pain from 4 sessions of chiropractic therapy. The patient expected complete resolution of her problem from her previous surgery, but found that chiropractic therapy achieved her hoped for outcome at much less expense. Larger clinical trials on AK treatment for low back conditions and sciatica are necessary. (Collected Papers International College of Applied Kinesiology, 2007-2008:5-6)

Key Indexing Terms: *Low Back Pain; Sciatica; Neurosurgery; Risk; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

MANAGEMENT OF AN ASCENDING PROBLEM SECONDARY TO AN OVER COMPENSATED SHORT LEG: A CASE STUDY

Laurent Picard, D.C.

ABSTRACT

Objective: To present the case of a professional soccer player successfully treated for chronic low back pain.

Clinical Features: A twenty-two-year-old male professional soccer player with a 3-year history of low back pain presented, feeling "very heavy" when he ran and "not being straight." Four years previous he experienced pubalgia, and was treated successfully by his team's physiotherapist. Several medical doctors and sports medicine specialists had treated him over a 3-year period and given him heel lifts. His career was in danger because of his poor performance, and he was depressed because of this.

Intervention and Outcome: AK examination showed numerous muscular and structural disturbances that were corrected. The AK evaluation showed that the heel lift was not improving his muscular function, and he was instructed to stop using it. Pelvic category II, lumbar, and symphysis pubis dysfunctions were corrected, and trigger point therapy for the piriformis and rectus femoris muscles were given. On the third visit the patient was feeling much better, with leg length inequality reduced to 3 millimeters. Lower extremity MMT was now negative. One month later all corrections remained stable, and the patient was feeling very well and he improved his soccer performance.

Conclusion: A professional athlete responded quickly to AK therapy, and his soccer performance was enhanced. The use of a heel lift (based only on the assessment of leg length discrepancy) was apparently in error, and correction of the entire patient's motor system eliminated the need for the heel lift and the leg length inequality. (Collected Papers International College of Applied Kinesiology, 2007-2008:7-8)

Key Indexing Terms: *Low back pain; Athletic Injuries; Orthotic Devices; Sports Medicine; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

VISCEROSOMATIC REFLEXES AND THE BRAIN THAT INFLUENCES THEM – A CASE STUDY

Michael D. Allen, D.C. N.M.D.

ABSTRACT

Objective: To present the case of a patient with a history of pancreatitis that had an acute exacerbation that was successfully treated using AK methods.

Clinical Features: A male with a history of pancreatitis presents with 2-weeks of soreness through his left shoulder and lower and middle left abdominal areas. Digestive enzymes had helped with his pains.

Intervention and Outcome: The rectus femoris, gluteus medius, psoas major, latissimus dorsi, and pectoralis major (clavicular division) all tested strong when tested normally, but each became inhibited with viscerosomatic reflex testing and other neurological challenges. When these were added to the testing, each of these muscles showed inhibition on MMT. Chiropractic adjustments were applied to reduce the patient's pain and to improve joint movement and function. These corrections abolished the previous MMT findings related to the pancreas and digestive system in AK. Follow up visit the next day showed that he no longer had any pain in the abdomen or shoulder.

Conclusion: Five muscles were functionally facilitated on MMT when test individually but were found inhibited after challenge using neurophysiological reflex tests. When tested against the deep tendon, tonic neck, and flexor withdrawal reflexes, the muscles were found impaired. When using the MMT in the search for signs of autonomic or organic dysfunction, other challenges to the neurokinesiological system may be required. This patient's symptoms were successfully treated using the MMT findings after these challenges were made. Larger clinical trials are necessary. (Collected Papers International College of Applied Kinesiology, 2007-2008:23-26)

Key Indexing Terms: *Pancreatitis; Abdominal Pain; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

ANALYSIS OF PEAK FORCE IN APPLIED KINESIOLOGY MANUAL MUSCLE TESTING

Katharine Conable, D.C., D.I.B.A.K., John Corneal, D.C., Terry Hambrick, D.C., D.I.B.A.K., Nelson Marquina, D.C., PhD, John Zhang, M.D., PhD.

ABSTRACT

Objective: To investigate factors contributing to variable peak forces observed in manual muscle tests performed by applied kinesiology (AK) practitioners.

Design: Secondary analysis of data from an observational study.

Methods: Forty-one volunteer AK doctors tested the middle deltoid of 36 volunteer subjects attending a professional conference. Tests were performed in each style of muscle testing which the examiner routinely employed in practice – examiner-started, patient-started, and/or near-simultaneous. Peak force and duration of test were recorded and correlated with size, age and experience of examiners and subjects as well as style of testing and result.

Results: A broad range of force (0.55-23.6 pounds) was used. There were poor correlations between peak force and the examined variables with the exception of a moderate correlation (r= .55) between peak force and duration of test.

Conclusion: Applied kinesiology muscle testers test muscles at sub maximal peak forces over relatively short times. The choice of force used does not correlate well with the size of the subject or examiner, muscle testing style or outcome of the test. Tests having longer durations tend to reach higher peak forces. The clinical importance of these differences from other manual muscle testing styles merits further investigation.
(Collected Papers International College of Applied Kinesiology, 2007-2008:53-58)

Key Indexing Terms: *Muscle test; Reliability; Empirical Research; Deltoid Muscle; Kinesiology, Applied.*

A MULTI-MODAL CHIROPRACTIC TREATMENT APPROACH FOR ASTHMA: A 10 PATIENT RETROSPECTIVE CASE SERIES REPORT AND LITERATURE REVIEW

Scott Cuthbert, D.C.

Objective: To describe the clinical management of 10 cases of childhood asthma using a conservative, multimodal treatment approach based on applied kinesiology chiropractic methods. A literature review of published chiropractic research on the treatment of asthma is also presented.

Clinical Features: Ten patients are presented (7 male, 3 female) between the ages of 3 and 22. Each patient had been medically diagnosed and treated for asthma, and 9 out of 10 were taking one or more asthma medications.

Intervention and Outcome: After physical, orthopedic and manual muscle testing examination, the patients were admitted to a multi-modal treatment protocol including chiropractic manipulative therapy, cranial manipulative therapy, muscle therapies aimed at strengthening the muscles of respiration, and nutritional evaluation through the methods developed in applied kinesiology chiropractic. The outcome measures for the study were subjective/objective visual analogue respiratory impairment scales (VAS), improvement in exercise-induced asthma symptoms, coughing, fatigue, and ease of breathing.

Additionally, each patient went off their asthma medications over a range of 3-6 visits and 14 days to 5 months in time without a return of their asthma symptoms.

Conclusion: This case series demonstrates the potential benefit of a multimodal chiropractic protocol in resolving symptoms associated with asthma. (Collected Papers International College of Applied Kinesiology, 2007-2008:59-79)

Key Indexing Terms: *Chiropractic; Asthma; Asthma, Exercise-Induced; Therapy; Respiratory Mechanics; Work of Breathing; Muscle Weakness; Nutrition Disorders; Kinesiology, Applied.*

INTER-EXAMINER RELIABILITY OF MANUAL MUSCLE TESTING FOR HEAVY METAL TOXICITY: A BLINDED EVALUATION OF NON-STANDARD METHODS OF APPLIED KINESIOLOGY TESTING COMPARED WITH LABORATORY FINDINGS

Terry M. Hambrick, D.C., D.I.B.A.K.

ABSTRACT

Objective: To investigate inter-examiner reliability between practitioners of "on-the-body" manual muscle testing of toxic metals and to compare those findings with lab tests.

Design: Evaluation of inter-examiner reliability of double-blind manual muscle testing in a clinical setting compared against laboratory findings.

Methods: Five (5) experienced Applied Kinesiology (AK) practitioners and two (2) Integrative Manual Therapy (IMT) practitioners were given the opportunity to use individually chosen methods of testing for positive or negative reaction of one single patient to exposure to blind wrapped vials of heavy metals and other elements. All practitioners used "on-the-body" testing methods with the AK practitioners utilizing manual muscle testing and the IMT practitioners palpating for changes in lymphatic flow. Their findings are compared to laboratory results of a loaded DMSA urinary excretion challenge for heavy metal elimination.

Results: There was very little correlation between the examiners and minimal variable correlation with the laboratory findings from examiner to examiner.

Conclusion: In this limited and random study, testing of toxic elements on the body or in the "energy field" of the body does not correlate well between examiners and with laboratory findings. (Collected Papers International College of Applied Kinesiology, 2007-2008:97-111)

Key Indexing Terms: *Diagnostic Techniques and Procedures; Biochemical Phenomena, Metabolism, and Nutrition; Diagnostic Errors; Muscle Weakness; Nutrition Disorders; Kinesiology, Applied*

DIABETES – A CASE STUDY

Brian T. Hickey, D.C.

ABSTRACT

Objective: To present the case of a woman who had been treated for diabetes over 24 years whose blood sugar, total cholesterol, and weight were all markedly improved with AK therapy.

Clinical Features: A 49-year-old female was diagnosed with gestational diabetes 24 years previously and had been taking diabetic medications since. She was on 75/25 insulin BID for the past 8 years, as well as Byetta, Ditropan, and Metformin. She was also being treated for arthritis with Naproxen, Welchol (for high cholesterol), and hormone replacement. On her initial visit she weighted 190 lbs, her fasting blood sugar was 152, total cholesterol was 205, 1,000mg/dl in the urine, and positive for nitrates in the urine. She had constant headaches, felt fatigued, nervous, and continuous low back pain.

Intervention and Outcome: AK food sensitivity testing showed that she should avoid wheat/gluten, dairy, chocolate, and monosodium glutamate. She was put on a strict diet of fruits and vegetables (2 times the amount of vegetables to fruits), 1 gallon of water mixed with lime juice and pure maple syrup to be consumed every 15 minutes throughout the day. A cardiovascular exercise program was created for her and was followed. A number of blood sugar related nutrients were proscribed. After 6 months of care she had lost 40.5 lbs, her fasting blood sugar ranges from 90-100, total cholesterol lowered to 161, and she is off all her oral medications and insulin. She continues her dietary changes and exercises 5 times per week.

Conclusion: This case shows that AK can be used to isolate food sensitivities, and to determine nutritional recommendations that allowed the patient to go off all her diabetic medications and to recover her health. (Collected Papers International College of Applied Kinesiology, 2007-2008:113-114)

Key Indexing Terms: *Diabetes, Gestational; Diabetes Mellitus; Case Reports; Biochemical Phenomena, Metabolism, and Nutrition; Food Hypersensitivity; Treatment; Chiropractic; Kinesiology, Applied*

INFERTILITY

Brian T. Hickey, D.C.

ABSTRACT

Objective: To present the case of a woman who responded successfully to AK treatment for infertility and pre-menstrual syndrome.

Clinical Features: A 31-year-old female had been suffering from PMS symptoms that had worsened for 3 years since discontinuing birth control pills. She had menstrual cramping for 1-2 days, severe emotional instability for 1 week prior to her menstruation, and she ovulated from day 24-28 of her cycle.

Intervention and Outcome: AK food sensitivity examination showed that she was sensitive to dairy and peanuts. She tested as being in a hyper-adrenal state, and was told to avoid dairy and peanuts and adrenal

stimulants (sugar, salt, and caffeine), and she was given nutritional support for the adrenals. The muscles associated with adrenal dysfunction in AK were the primary muscle/organ relationship found on MMT, and uterine lift technique was also given. Following her first treatment, her next menstrual cycle was 90% pain free for the first time in many years. Four months later the patient's menstrual cycle was completely normal, and 6 months later the patient became pregnant.

Conclusion: In this case, using AK methods the patient's adrenal functional state was correctly determined, and the normalization of her reproductive system achieved. Larger clinical trials on the treatment of infertility and PMS will be required to determine if other women with these problems can receive the same kind of benefit. (Collected Papers International College of Applied Kinesiology, 2007-2008:115-116)

Key Indexing Terms: *Infertility; Premenstrual Syndrome; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

AMENORRHEA RELATED TO AUTOIMMUNE DEMYELINATING DISEASE – A CASE STUDY

Datis Kharrazian, D.C., D.H.Sc., M.S., F.A.A.C.P., D.A.C.B.N., D.A.B.C.N., DIBAK, C.N.S., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To present the case of a female with amenorrhea, indigestion, low libido, and chronic illness after several head traumas that responded well to AK therapy.

Clinical Features: A 30-year-old female presented with 5-years of amenorrhea, depression, indigestion, non-existent libido, and chronic illness. At age 8 the patient suffered a concussive head injury from diving into a swimming pool; during her recovery from this, she suffered carbon monoxide poisoning. CT scan in adulthood showed calcific changes in the right frontal cortex and basal ganglia. In early adulthood she suffered Epstein Barr virus and mononucleosis.

Intervention and Outcome: A thorough neurological, electrodiagnostic visual nystagometer, as well as laboratory testing to evaluate neuroendocrine-immune functions were performed. The impression of autoimmune degenerative changes of the cerebral cortex and basal ganglia was confirmed by these tests. Neurological exercises and nutritional supplements were given to improve post-synaptic integration to areas of calcific degenerative changes in the brain, and to modulate immune system integrity. After 2 weeks of therapy the patient's amenorrhea was resolved. After 2 months her digestion, cognition, and energy levels improved. The patient continued to have intermittent episodes of fatigue and remissions, but their occurrence were less frequent and symptoms less severe.

Conclusion: This case demonstrates that in AK, MMT is dependent upon a non-pathological central nervous system. When pathology exists in the CNS, the influence of this factor must be considered when interpreting the MMT. (Collected Papers International College of Applied Kinesiology, 2007-2008:125-129)

Key Indexing Terms: *Amenorrhea; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

AN APPLIED KINESIOLOGY ALTERNATIVE FOR A CATEGORY I PELVIC FAULT

David Leaf, D.C., DIBAK

ABSTRACT

Objective: To present an observational cohort study on 207 subjects who showed AK indications of the category I pelvic problem.

Clinical Features: The category system of analysis was developed by DeJarnette and expanded by Goodheart. This paper presents muscular findings consistently associated with the category I pelvic problem.

Intervention and Outcome: After correcting the category I problem with standard AK procedures, all but 4 of the 207 cases had the problem return after walking and jumping. These 4 cases had a category II pelvic problem. Every subject but 5 with the category I pelvic problem that returned with walking and jumping showed a reactive muscle pattern between the piriformis and gluteus maximus muscles. In AK, the reactive muscle pattern involves a muscle that becomes temporarily inhibited because of inappropriate proprioceptive impulses from another previously contracted muscle. The most common finding was hyper-activity and over-contraction of the piriformis muscle causing inhibition of the gluteus maximus. After correction of the reactive muscle pattern and the related spinal imbalance, only 4 of the 203 cases had the category I problem return after jumping and walking.

Conclusion: This observational cohort study describes a consistent muscular finding that accompanies the category I pelvic problem. Correction of this muscular component of the pelvic problem prevented recurrence of the category I fault after jumping and walking, indicating the importance of this component in the correction of this common problem. (Collected Papers International College of Applied Kinesiology, 2007-2008:131-134)

Key Indexing Terms: *Pelvis; Muscle Weakness; Diagnosis; Cohort Studies; Manipulation, Chiropractic; Kinesiology, Applied*

CASE COHORT STUDY: TWO CASES OF CRIPPLING ARTHRITIS CURED WITH THE REMOVAL OF AN ELECTRIC BLANKET

William Maykel, D.C., DIBAK

ABSTRACT

Objective: To present two cases of severe, chronic arthritis stemming from exposure to an electric blanket that was successfully treated using AK methods.

Clinical Features: The first patient was a 30-year-old female who presented with crippling arthritis that produced severe clubbing and swelling of all the joints in both hands and that produced flexion contracture deformity in all of her digits. The condition had a gradual onset from 3 years previously and was worsening over time. The second patient was a 34-year-old female who presented with severe rheumatoid arthritis. All of her joints were involved including her knees, hips and neck. Her most painful area was her hands and fingers, being 8 out of 10 on the pain scale. The condition began insidiously 11 years earlier. She was on low dose prednisone for two years, and was now on 750 mg NSAID.

Intervention and Outcome: In the first patient there were no positive findings to explain her condition. The patient mentioned that she purchased an electric blanket a few months before her symptoms began. The patient was examined with the electric blanket upon her, without plugging it in, and the patient's muscles went from 5/5 to 3+/5. When the blanket was turned on, all muscles tested 3-/5. The patient stopped using the electric blanket, and 5 months later on re-examination her hands had returned to completely normal. The second patient also noted that she had slept with an electric blanket for 12 years. She was asked to remove the blanket, and 1 year later the patient with RA was totally pain free of her symptoms and also off her medications.

Conclusion: Some component in the electric blanket was producing severe arthritis symptoms in these two patients. The effect of electric blankets upon the health of symptomatic patients should be investigated further. (Collected Papers International College of Applied Kinesiology, 2007-2008:143-144)

Key Indexing Terms: *Arthritis; Arthritis, Rheumatoid; Electric Injuries; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

THE GROWTH OF APPLIED KINESIOLOGY EDUCATION – AN HISTORICAL COMMENTARY

Donald McDowall, D.C., DIBAK, FACC

ABSTRACT

Objective: To describe selected periods in the growth of applied kinesiology education from 1964 to 2006, culminating in AK's acceptance within an International University system.

Design: Presentation of historical data about the dissemination and teaching of AK methods through research papers, inter-professional conferences and seminars, continuing education in the complementary and alternative medical (C.A.M.) professions.

Methods: Five periods in the evolution of AK teachings through the C.A.M. are described: the historical period, the AK discovery period, the interprofessional period, the research and publishing period, and the academic acceptance period.

Results: The RMIT University in Melbourne, Australia has accredited the ICAK's diplomate award as fulfilling the coursework leading to a master's degree in musculo-skeletal management.

Conclusion: The MMT has been refined and developed in AK to such an extent that AK is used in some form by over 50% of all chiropractors and more than 10 million individuals worldwide. Other professions have also adopted AK skills. The teaching of AK has expanded from individual lecturers to peer reviewed journals and now into a university system that recognizes the work of the ICAK as it teaches and examines new diplomates. (Collected Papers International College of Applied Kinesiology, 2007-2008:147-153)

Key Indexing Terms: *Teaching; Models, Educational; Chiropractic; Kinesiology, Applied, history*

LINKS BETWEEN THE NEUROLOGICAL AND IMMUNE SYSTEMS INCLUDING A PERSPECTIVE ON THE BIRD FLU

Walter H. Schmitt, D.C., DIBAK, DABCN

ABSTRACT

Objective: To present the case of a female with a sore throat successfully treated with the author's cytokine detoxification procedure.

Clinical Features: A 49-year-old female presented with a sore throat that began that same morning. The only significant history was that she had eaten yogurt the previous day (not typical for her). She also had iliac crest pain and cervicodorsal area pain bilaterally.

Intervention and Outcome: AK testing showed an open ileocecal valve (ICV). Oral acidophilus caused a positive TL to both small intestine neurolymphatic reflexes. The right iliolumbar ligament was treated with injury-recall technique (IRT), and IRT was used to the small intestine NL reflexes while the patient had acidophilus in the mouth. Positive challenge to the thymus NL reflexes was negated by glycine (helping to negate cytokine's effects), and riboflavin. Correction was rubbing the liver NL reflex with oral Thymex (S.P.) in the mouth. Rubbing the NL reflexes for the small intestines negated the open ICV. L5 spinal dysfunction was corrected. Rapid eye movements produced recurrence of bilateral pectoralis major sternal division weakness and a recurrence of the oral sugar test producing the open ICV. This was negated by a L3-L4 fixation correction. The patient was then symptom free in her throat, iliac crests, and cervicodorsal areas.

Conclusion: In this case, correction was dependent on decreasing the source of cytokine activity. This paper describes the theoretical model of the importance of cytokine activity in relationship to hyper-vigilant immune system activity. (Collected Papers International College of Applied Kinesiology, 2007-2008:159-167)

Key Indexing Terms: *Immune System; Cytokines; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

THE USE OF ENCODED MEMORY TECHNIQUE IN THE TREATMENT OF HEART PALPITATIONS – A CASE STUDY

Joseph P. Smith, D.C.

ABSTRACT

Objective: To present the case of a woman with heart palpitations successfully treated using AK methods.

Clinical Features: A 65-year-old woman presented with a chief complaint of heart palpitations. Her heart would race out of control randomly during the day and leave her exhausted when it returned to normal. The palpitations began 23 years ago when she was put on a depression medication (Trazodone). One of the side-effects of Trazodone is heart palpitations. In the past 6 months the palpitations have increased in severity, frequency, and duration. These episodes were brought on by the slightest physical or emotional stress.

Intervention and Outcome: Primary findings in this case were that the left subscapularis was inhibited and strengthened with TL to the heart alarm point, and the heart's NL reflexes were tender 8/10. Numerous other muscles were inhibited on MMT, and strengthened with TL to the heart's NL reflex. Insalivation of CardioPlus (S.P.) reduced the NL tenderness to 2/10 and strengthened all the inhibited muscles. Two-months later the patient was not significantly improved. The emotion of fear was associated with her palpitations, and so this emotion was used during testing and treatment. Encoded memory technique was employed at this time during treatment. Three months later she had experienced only two minor instances of her palpitations and is feeling better.

Conclusion: In this case the use of encoded memory technique brought about successful patient response. The relationship of this kind of emotional testing to standard AK therapies needs further investigation. (Collected Papers International College of Applied Kinesiology, 2007-2008:187-189)

Key Indexing Terms: *Arrhythmias, Cardiac; Affective Symptoms; Emotions; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

CRANIAL THERAPEUTIC CARE: IS THERE ANY EVIDENCE? (DEFENDING AK PUBLICLY BEFORE ITS DETRACTORS): PART I

Charles L. Blum, D.C., Scott C. Cuthbert, DC

ABSTRACT

Background : In the commentary by Hartman, (Cranial osteopathy: its fate seems clear, *Chiropractic &*

Osteopathy 2006, 14:10.Access original article at: http://www.chiroandosteo.com/content/14/1/10) he has attempted to elicit a response by making far overreaching statements, which are ironic since Hartman thinly veils himself in a gossamer cloak of science, research, and evidenced-based healthcare. Hartman has picked an isolated diagnostic procedure or treatment, cerebrospinal fluid (CSF) pulsation palpation, questioned its reliability and validity, and then used this fractional aspect of a method of care to condemn all of cranial therapy. What can be said by Hartman and fairly so, is that from his review of selected studies regarding CSF palpation as discussed in cranial therapeutic care, further study to investigate its validity and reliability is warranted and this component of cranial diagnosis should not be used at this time as a sole criteria for cranial diagnosis or treatment.

Discussion: Much of Hartman's position is refuted by, at the very least, reviewing the difference between the gross mechanical aspects of cranial care, which has documentation, and the subtle mechanical aspects, which remain controversial. A comprehensive evidenced based rationale of cranial therapeutics is presented along with three tables listing pertinent studies relating to cranial bone dynamics and the efficacy of cranial manipulative therapy.

Conclusion: While the onus to do the research is upon those who are proponents of a method of care, there is also an onus upon those who call for its virtual abolition to be familiar with all the published research on the topic and how evidenced based clinical practice is formulated. (Collected Papers International College of Applied Kinesiology, 2007-2008:211-227)

Key Indexing Terms: *Review Literature; Complementary Therapies; Manipulation, Chiropractic; Manipulation, Osteopathic; Kinesiology, Applied*

RESEARCH SUPPORTING THE RELIABILITY AND VALIDITY OF MANUAL MUSCLE TESTING

Scott C. Cuthbert, D.C.

ABSTRACT

Introduction: A body of basic science and clinical research has been generated on the manual muscle test (MMT) since its first peer-reviewed publication in 1915. The aim of this report is to provide an historical overview, literature review, description, synthesis and critique of the reliability and validity of MMT in the evaluation of the musculoskeletal and nervous systems.

Methods: Online resources were searched including Pubmed and CINAHL (each from inception to June 2006). The search term *manual muscle testing* or *manual muscle test* was used. Relevant peer-reviewed studies, commentaries, and reviews were selected. The two reviewers assessed data quality independently, with a selection standards based on predefined methodologic criteria. Studies of MMT were categorized by research content type: inter- and intra-examiner reliability studies and construct, content, concurrent and predictive validity studies. Each study was reviewed in terms of its quality and contribution to knowledge regarding MMT, and its findings presented.

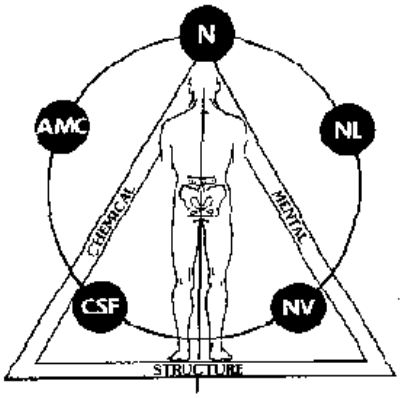
Results: More than 100 studies related to MMT and the applied kinesiology chiropractic technique (AK) that employs MMT in its methodology were reviewed, including studies on the clinical efficacy of MMT in the diagnosis of patients with symptomatology. With regard to analysis there is evidence for good

reliability and validity in the use of MMT for patients with neuromusculoskeletal dysfunction. The observational cohort studies demonstrated good external and internal validity, and the 12 randomized controlled trials (RCTs) that were reviewed show that MMT findings were not dependent upon examiner bias.

Conclusion: The MMT employed by chiropractors, physical therapists, and neurologists was shown to be a clinically useful tool, but its ultimate scientific validation and application requires testing that employs sophisticated research models in the areas of neurophysiology, biomechanics, RCTs, and statistical analysis. (Collected Papers International College of Applied Kinesiology, 2007-2008:233-262)

Key Indexing Terms: *Research; Review Literature; Back Pain; Diagnostic Techniques and Procedures; Muscle Weakness; Kinesiology, Applied; Chiropractic*

ICAK-USA Research



The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2006-2007

-- Edited by Scott Cuthbert, D.C.

THE MISSED RELATION BETWEEN GAIT ANALYSIS AND STOMATOGNATHIC SYSTEM CAUSING EYE IN DISTORTION IN GOLFERS

Robert Jo, D.C.

ABSTRACT

Objective: A retrospective case series on the chiropractic treatment of 5 male golfers with increased golf scores as well as low back stiffness is reviewed.

Clinical Features: 5 male golfers who reported they had increased golf scores and decreased control of their strokes were selected. All 5 subjects selected had a right short leg for better comparison.

Intervention and Outcome: On initial examination, all subjects showed at least 1 sided inhibition of the quadratus lumborum, piriformis, gluteus medius, and soleus muscles using AK MMT. After 2 treatments in 1 week, all 5 patients played 1 round of golf with less stiffness in the lumbar spine but the golf stroke did not return to their average scores. On 3rd examination all 5 subjects showed a dropped navicular bone on the left and a positive shock absorber test. Therapy localization to the left TMJ with mouth in the open position caused indicator muscle weakness. Eye into distortion to the left also caused indicator muscle weakness. 5 treatments within 2 weeks for the navicular subluxation with arch support, left lateral pterygoid strain-counterstrain treatment, percussion to the left TMJ, and left sphenobasilar inspiration assist cranial fault correction were performed. After this treatment protocol, 4 of 5 subjects made improvements in their golf scores with 2 subjects decreasing their score even below their initial average scores.

Conclusion: The hypothesis that symptoms in one area of the body may be related to other areas is demonstrated in this report. The eyes into distortion testing method in AK may be caused by adaptation of the oculomotor muscles to distortions elsewhere in the body. In these cases of pain and impaired athletic performance, the dropped navicular bone in the foot may influence the muscles of mastication, causing the stomatognathic system to be one of the causes for the eye malfunction. Larger clinical trials and use of comparison groups to compare the natural history of this condition with this therapeutic management strategy are called for. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:9-10)

Key Indexing Terms: *Golf; Athletic Injuries; Sports Medicine; Motor Skills; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

ADVANCED PRINCIPALS OF THE NEUROENDOCRINE-IMMUNE STRESS RESPONSE AND ITS APPLICATION TO CLINICAL PRACTICE AND APPLIED KINESIOLOGY

Datis Kharrazian, D.C., M.S., F.A.A.C.P., D.A.C.B.N., D.I.B.A.K., C.N.S., C.S.C.S., C.C.C.P.

ABSTRACT

Objective: To review the neurophysiological interactions between the neuroendocrine and immune systems and to show methods that employ natural medicine to support the problems found within these systems.

Clinical Features: An exhaustive review of 109 references from the scientific literature covering the subject of the neuroendocrine response to stress and the hypothalamus-pituitary-adrenal axis interaction with this system are given. A review of several key nutritional modulation methods for the hypothalamus-pituitary-adrenal axis is presented.

Intervention and Outcome: A neurological model demonstrating how AK methods of diagnosis can be employed to evaluate the functional status of the hypothalamus-pituitary-adrenal axis is provided. This neurological model demonstrates that the nervous system is a complex integrative system and so it does not make sense to have "adrenal techniques" since any treatment that changes adrenal function may impact the entire hypothalamus-pituitary-adrenal axis. The argument is made that performing simple origin and insertion technique may have a far greater influence on adrenal function than taking adrenal supplements or stimulating an adrenal neurolymphatic reflex.

Conclusion: The importance of understanding physiological interactions across the neuroendocrine system is important for management of chronic stress syndromes. A comprehensive examination method should be employed to assess the multiple pools of neuronal integration that occur after any method of treatment used in AK. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:11-27)

Key Indexing Terms: *Neurosecretory Systems; General Adaptation Syndrome; Immune System; Hypothalamus; Adrenal Glands; Pituitary Gland; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

AEROBIC MUSCLE WEAKNESS – A CASE HISTORY

Robert A. Ozello, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case of a female with general muscle aches and fatigue effectively treated for aerobic muscle weakness.

Clinical Features: A 43-year-old female presented with general muscle aches and fatigue that had been present for several months.

Intervention and Outcome: AK examination revealed an aerobic muscle weakness. During AK MMT, muscles may fail to function when required to do so after sustained use. One method of checking for this in AK is called aerobic/anaerobic muscle testing. This involves testing a muscle repeatedly. If the muscle weakens, the problem is present. The aerobic muscles are the endurance muscles of the body, and the repeat testing of this type of muscle is done slowly. During examination this patient had multiple muscle imbalances that were treated with AK techniques. Despite the structural corrections, the aerobic muscle testing weakness persisted. She was tested against Linum B6 from Standard Process Labs and this negated her aerobic muscle weakness. The author remarks that he often finds that essential fatty acids negate the aerobic muscle weakness problem, while iron does not. The patient responded slowly, and

eventually required dietary changes that included liberal amounts of butter and coconut butter. She then responded rapidly and within 3 weeks no longer had an aerobic muscle weakness.

Conclusion: A connection between saturated fats and aerobic muscle weakness producing muscle ache and fatigue was found and successfully treated in this patient.
(Collected Papers International College of Applied Kinesiology, 2006-2007;1:29-30)

Key Indexing Terms: *Dietary Fats; deficiency; Muscle Weakness; Muscle Fatigue; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

SCIATICA – A CASE HISTORY

Robert A. Ozello, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case history of sciatica and excessive nutritional supplementation.

Clinical Features: A 44-year-old male presented with low back pain, right buttock pain and severe right posterior leg pain. This patient had been seen previously for right upper quadrant pain, and his problem was found to be associated with over consumption of vitamin A, B, C and E. Oral nutrient testing was employed and showed that when the supplement was placed in the patient's mouth, a strong muscle would weaken and the abdominal tenderness increased markedly. After correcting multiple muscle problems and spinal subluxations, as well as removing the excess supplements from the patient's diet, he quickly responded.

Intervention and Outcome: At this time for the sciatica problem an orthopedic surgeon was considering surgery for his herniated disc. The patient had been on a course of cortisone from which he had a bad reaction. AK examination revealed a category I pelvic fault, a right temporal bulge, and a right piriformis muscle imbalance. He improved dramatically on his next visit, but the category I pelvic fault returned. His abdomen was also tender to the touch as it had been during his previous episode of right upper quadrant pain. The patient said he was taking those previously eliminated supplements once again. The category I pelvic fault was corrected again, and he was told to stop taking the supplements. The category I fault did not return on his next visit and he quickly recovered with no return of symptoms.

Conclusion: Excessive nutritional supplementation in this patient produced two different pain and symptom patterns. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:31-32)

Key Indexing Terms: *Sciatica; Nutrition; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

COMPARISON OF APPLIED KINESIOLOGY NEUROMUSCULAR SCREENING AND LABORATORY INDICATORS OF ADVERSE REACTIONS TO FOODS

Katharine Conable, D.C., John Zhang, M.D., PhD, Terry Hambrick, D.C.

ABSTRACT

Objective: To compare neuromuscular screening for adverse reactions to foods with laboratory markers of immediate and delayed hypersensitivity.

Design: Masked comparison.

Setting: Chiropractic College.

Subjects: Volunteer sample of 30 chiropractic students and spouses with no history of severe allergic reactions to foods.

Methods: Fasting subjects gave blood samples and were tested for baseline state of 10 applied kinesiology (AK) neuromuscular indicators. Each food was placed in the subject's mouth in a masked manner and all AK indicators were retested for change. The mouth was rinsed between trials. Foods tested were egg white, dry milk, corn, soy flour and whole-wheat flour.

Main Outcome Measures: IgE RAST and Lymphocyte Response Assay for 5 common foods and AK neuromuscular indicators for adverse reactions to those foods. A value exceeding either laboratory's reference range was considered positive for hypersensitivity. AK was considered positive if any indicator changed from baseline to an abnormal state.

Results: There was no significant correlation between adverse reactions found on AK and those found on laboratory testing. Kappa: egg white .229, soybean -.098, cow's milk -.222, wheat -.118, corn -.065.

Conclusion: AK oral food testing was not shown to identify the same hypersensitivities as the immediate hypersensitivities identified by IgE RAST or the delayed hypersensitivities identified by LRA. AK screening results should be further explored with other comparative methods before making a definitive determination about its application. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:35-44)

Key Indexing Terms: *Food Hypersensitivity; Wheat Hypersensitivity; Milk Hypersensitivity; Milk Hypersensitivity; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Statistics, Nonparametric; Treatment; Chiropractic; Kinesiology, Applied*

Restless Legs Syndrome: A Case Series Report

Scott Cuthbert, D.C.

ABSTRACT

Objective: To present a case series report on the successful treatment of Restless Legs Syndrome (RLS).

Clinical Features: 5-15% of the population has been reported to suffer from RLS. A retrospective analysis of 28 patients is reviewed who presented with numerous complaints and symptoms that also had RLS as part of their clinical picture. The nature of RLS is described, hypothetical causes of the condition reviewed from the literature, and medical treatment for the condition is presented. The nutritional value of riboflavin, niacin, and vitamin B6 are described, and their relevance to RLS proposed.

Intervention and Outcome: Standard AK methods of diagnosis and treatment were employed in all cases. Common to all the cases of RLS successfully treated (n = 23) in this patient cohort was the positive AK oral nutrient testing for a portion of the vitamin B complex (riboflavin, niacin, and B6). With supplementation of these factors, the patients' RLS resolved completely or were noticeably improved. 5 patients who were treated using this protocol did not improve their RLS with this treatment.

Conclusion: Further investigation of these methods of treatment and larger patient cohorts in controlled clinical trials would be of value with concurrent biochemical, EMG, and observational sleep monitoring of the patients treated. RLS is a cause of severe insomnia with costs to both the individual and to society at large. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:45-54)

Key Indexing Terms: *Restless Legs Syndrome; Nocturnal Myoclonus Syndrome; Clinical Trials; Vitamin B Complex; Riboflavin; Niacin; Vitamin B 6; Vasodilator Agents; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

BALANCING ACUPUNCTURE MERIDIANS TO TREAT THE MENTAL SIDE OF THE HEALTH TRIANGLE USING INJURY RECALL TECHNIQUE

James V. Durlacher, B.A., D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case report using the injury recall technique (IRT) to help a patient with a smoking problem.

Clinical Features: AK uses several examination and treatment methods to discover whether or not irritating emotional factors are affecting the patient's health and nervous system. The psychological work of Diamond, Callahan, and others are discussed in this paper. The use of injury recall technique presents another method of treating emotional problems.

Intervention and Outcome: The author used the IRT to help a patient with a physical problem. The patient asked the author if he could help her stop smoking. He employed a method of emotional diagnosis whereby the patient was asked to think about smoking and a strong muscle weakened. Then he asked the patient to TL the beginning and ending points of each meridian until he found one that facilitated the muscle. While touching the beginning and ending point that abolished the weakening of the muscle while

thinking of smoking, the doctor performed IRT. After this procedure she released her desire to smoke. This approach only gave a temporary period of not smoking.

Conclusion: The author finds that the IRT procedure is just as successful as the tapping procedure and takes less time. Interplay between the sides of the triad of health – physical, chemical, and mental – may perpetuate an obvious health problem while leaving the basic cause undiscovered. The treatment of mental and emotional factors can be crucial in some patients for the restoration of their health. Further studies are warranted. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:55-56)

Key Indexing Terms: *Mental Health; Acupuncture Points; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

USE OF ONE OF THE LATEST LASER THERAPY DEVICES IN TREATING COMPLICATIONS OF CHRONIC INJURIES

David W. Leaf, D.C.

ABSTRACT

Objective: To present a case series report where using a cold laser improved the function of patients with chronic pain problems.

Clinical Features: 1 male and 3 female patients presented (respectively): a Pott's fracture; unsuccessful ACL reconstruction; RSD of the lower extremity; and severe hip socket degeneration. The patients were 53, 45, 58, and 48 years of age respectively. Detailed descriptions and photographs of these patient's injured limbs are provided.

Intervention and Outcome: Each patient received standard AK protocols to the injuries found but there were still limitations in function. Each of these patients was then treated with laser therapy. During the laser application, the patients performed resisted proprioceptive neuromuscular facilitation motions. All of the cases responded with rapidity and notable functional improvement

Conclusion: In chronic injuries the use of laser therapy, especially when added to normal AK therapy procedures, may be helpful in increasing patient outcomes and satisfaction. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:69-71)

Key Indexing Terms: *Laser Therapy, Low-Level; Wounds and Injuries; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

VISCERAL PARIETAL PAIN (VPP)

Jose Palomar Lever, M.D., D.I.B.A.K., Orthopedic Surgeon

ABSTRACT

Objective: To present a case-series report using a method of visceral organ treatment.

Clinical Features: 150 random patients (40% male, 60% female) who sought treatment for various conditions and who showed weak muscles that did not respond to standard AK treatments or Injury Recall Technique methods.

Intervention and Outcome: A muscle found inhibited on testing that has a standard organ relationship in AK was retested after a positive VPP challenge. The VPP challenge involves the doctor applying direct pressure over the organ to be tested and then releasing the pressure; the doctor then finds the vectors causing the greatest amount of strengthening in the weak related muscle. The treatment for this positive VPP finding involved I.R.T. with the same direct pressure over the related organ at the same time, using the same vector of challenge. Nociception Blocking Technique, Set Point Technique, and I.R.T. to the NL reflexes of the organ can also be performed while the same direction of pressure on the related organ is maintained. 94% of all the weak muscles unsuccessfully treated by standard AK treatments or I.R.T. became strong following VPP with lasting results.

Conclusion: These procedures may help to determine the presence of organ involvement in muscle dysfunction. Further studies of this method using other methods of organic diagnosis simultaneously are called for. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:73-77)

Key Indexing Terms: *Viscera; Pain; Statistics; Muscle Weakness; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

NEUROGAIT

Jose Palomar Lever, M.D., D.I.B.A.K., Orthopedic Surgeon

ABSTRACT

Objective: The gait mechanism has received much attention in AK, and additional observations about this mechanism are offered in this paper.

Clinical Features: Organization of muscle groups in gait can be evaluated by AK gait testing. This paper correlates many other specific muscular relationships with specific joints and ligaments in the feet. A thorough review of the biomechanics of locomotion in the feet and the sensory and motor response to proprioception in the feet is given. 200 asymptomatic patients were tested for the involvement of ligaments of many different joints of the foot. The test consisted of spreading apart the ligament and then testing 40 different muscles to see if this inhibits or facilitates the muscle.

Intervention and Outcome: 21 joints and ligaments were tested in these 200 patients and the specific correlations between these joints and ligaments and the muscles they affected were listed. Generally, the

calcaneal ligaments were found to affect pelvic and lower limb muscles, while talar ligaments were more involved with neck, upper thoracic and shoulder muscles.

Conclusion: Because of the importance of foot proprioception and the foot's relationship to so many body problems from neurological disorganization to gait imbalances, fascial disturbances, and the inhibition of so many muscles when faulted, physical evaluation of patients should include more attention to the feet. Further correlative studies like this one are warranted. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:79-90)

Key Indexing Terms: *Gait; Foot; Locomotion; Walking; Biomechanics; Muscle Weakness; Case Reports; Diagnosis; Chiropractic; Kinesiology, Applied*

THE ASSOCIATION OF THE LEARNING DISABILITY CRANIAL FAULT TO BRAIN CHEMISTRY DISORDERS AND DEPRESSION

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

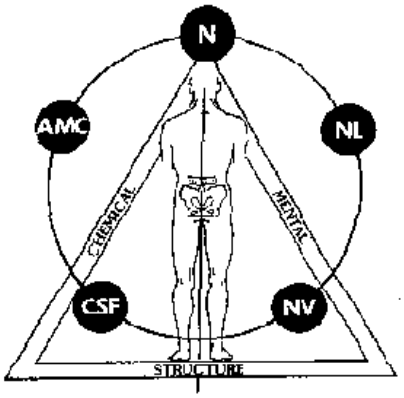
Objective: To discuss the author's experience of treating both children and adults with learning disabilities. The author reviews a paper he wrote in 1984 and 2006 on the subject, and then describes a case series report from the past 2 years treating this problem.

Clinical Features: 604 cases (152 males and 452 females) are reviewed and showed that when a positive GV27/CV24 TL or a cross TL pattern was found there was also found what the author calls the learning disability cranial fault. Positive TL with both index fingers in the center of the hard palate at the cruciate suture diagnoses this cranial fault. There was also found to be a weakness of the supraspinatus muscle in these cases (usually on one side only). When this situation was found on testing the author asked the patient if they were having any memory problems or depression, and "almost all" answered affirmatively. Many of these patients were also taking SSRI drugs.

Intervention and Outcome: Nutritional and drug testing were done against the supraspinatus weakness, against the positive TL to GV27 and CV24 and to the learning disability cranial fault. All the positive findings were negated by the amino acids L-phenylalanine, L-tyrosine and L-tryptophan, precursors for the neurotransmitters dopamine, serotonin, norepinephrine and epinephrine. These findings can also be negated by appropriate drug therapies such as SSRI and MAO inhibitors.

Conclusion: The learning disability cranial fault is correlated with neurotransmitter problems including dopamine, serotonin, norepinephrine and epinephrine. These methods can be used to evaluate the correct treatment for depression and the response of patients to therapy. Larger clinical trials with greater controls and more specific evaluation methods for learning disabilities are required. (Collected Papers International College of Applied Kinesiology, 2006-2007;1:95-101)

Key Indexing Terms: *Learning Disabilities; Adult Learning Disorders; Case Reports; Neurotransmitter Agents; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2005-2006

-- Edited by Scott Cuthbert, D.C.

FUNCTIONAL SYSTEMS APPROACH TO CENTRAL NERVOUS SYSTEM EVALUATION

Richard Belli, D.C., D.A.C.N.B.

ABSTRACT

Objective: This study investigates the clinical utility of testing functional systems within the central nervous system, compared to testing individual motor nerves with manual muscle testing.

Design: Private practice.

Study Subjects: Patients were examined by the treating chiropractor from his existing patient pool.

Methods: Chiropractic management was decided on by the treating chiropractor. A series of twelve tests were designed to discover disorders of functional systems within the CNS. The tests described were to evaluate the function of 12 systems: 1) spinal cord, 2) myelencephalon/reticular formation, 3) vagal system, 4) trigeminal motor system-muscles of mastication, 5) vestibulospinal system, and bulbo reticular area, 6) reticular formation, 7) diencephalons and gait locomotion system, 8) mesencephalon, 9) cardiac sympathetic autonomic system, 10) pyramidal system, 11) limbic system, 12) sensory system.

Results: This chiropractic approach tests the nervous system after provocation of functional systems instead of sensory challenges to more discreet portions of the body.

Conclusion: For chiropractic patients who are not responding to discreet treatment programs, this method of evaluation may be valuable as it tests underlying system problems within the CNS. Nearly all the functional systems have a related motor activity that results in inhibition and facilitation patterns. Case series evaluations of this method should be made. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:1-5)

Key Indexing Terms: *Kinesiology, Applied; Chiropractic; Muscle Weakness; Nervous System; Evaluation Studies*

THE ROLE OF THE ANTERIOR FIFTH LUMBAR IN HAMMER TOES AND DISEQUILIBRIUM – A CASE STUDY

Harlan Browning, D.C., C.C.N., D.C.B.C.N.

ABSTRACT

Objective: To discuss a case of foot pain, foot joint subluxation, and hammertoes that produced low back pain and equilibrium problems for 35 years.

Clinical Features: A fifty-five year old woman presented with a thirty-five year history of bilateral foot problems and equilibrium problems. Hammertoes were evident preventing the second through fifth toes from contacting the ground when she stood, making her unsteady on her feet.

Intervention and Outcome: An anterior L5 subluxation was corrected, as were cervical and thoracic subluxations. The calcaneus and talus bones were manipulated bilaterally and then taped for stability. The author states that an anterior fifth lumbar frequently produces pains below the knee. After treatment, the patient was contacted at her home. She reported that her toes were closer to the ground while standing and her balance had improved. At her follow up visit her toes felt normal to her, and she was able to wear open toed shoes (her feet were "unsightly" and "embarrassing" to her, and so she kept them covered). Over the following three weeks her balance during yoga classes and her foot pain improved.

Conclusion: The anterior fifth lumbar subluxation may be responsible for foot dysfunctions. Functional tests in applied kinesiology can be employed to determine whether the involved lumbar subluxation is producing pain and muscle weakness or joint restrictions in the feet. Treatment directed at both the lumbar spine and the feet using applied kinesiology may result in improved function and reduction of pain in the feet. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:7-8)

Key Indexing Terms: *Kinesiology, Applied; Hallux Valgus; Hammertoe Syndrome; Foot, Pain; Musculoskeletal Manipulations*

CORRECTION OF CRANIAL NERVE NEUROPATHY USING APPLIED KINESIOLOGY CHIROPRACTIC CARE: A CASE STUDY OF THE TREATMENT OF SYMPTOMATIC ARNOLD-CHIARI MALFORMATION

Scott Cuthbert, B.C.A.O., D.C.

ABSTRACT

Objective: To present an overview of possible effects of Arnold-Chiari malformation (ACM) and to offer chiropractic approaches and theories for treatment of a patient with severe visual dysfunction complicated by ACM.

Clinical Features: A young woman had complex optic nerve neuritis exacerbated by an ACM (Type I) of the brain.

Intervention and Outcome: Applied kinesiology chiropractic treatment of the spine and cranium was used for treatment of loss of vision and nystagmus. After treatment, the patient's ability to see, read, and perform smooth eye tracking showed significant and lasting improvement.

Conclusion: Further studies into applied kinesiology and cranial treatments for visual dysfunctions associated with ACM may be helpful to evaluate whether this single case study can be representative of a group of patients who might benefit from this care. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:9-18)
(J Manipulative Physiological Ther 2005;28:289)

Key Indexing Terms: *Chiropractic; Vision; Arnold-Chiari Malformation (Type I); Muscle Weakness; Cranial Neuropathies*

THE TEMPORAL BONE CRANIAL FAULT: A RESUME OF 'THE TROUBLE MAKER' WITH A FOCUS ON THE PROPRIOCEPTIVE AND VESTIBULO-OCULAR SYNDROMES

Scott Cuthbert, B.C.A.O., D.C.

ABSTRACT

Objective: To determine whether the temporal bone cranial fault increases difficulties in proprioception, equilibrium, and in the integration of the sensory inputs from the eyes, ears, muscles and joints.

Methods: The clinical histories of sixty-five patients with a temporal bone cranial fault were reviewed. These patients underwent a thorough consultation and applied kinesiology examination, which included specific proprioceptive and equilibrium testing to evaluate for problems in this area. The author reviewed the literature on the integration of the vestibular, visual righting, and head-on-neck reflexes, and the importance of their proper integration by the CNS. The neurological integration of these reflexes from peripheral receptors was explored.

Results: The temporal bone cranial fault is hypothesized to disturb the geometry and function of the vestibulo-ocular, vestibulo-spinal reflexes. Opto-kinetic reflex disturbances (diagnosed with 'ocular lock testing' in applied kinesiology methodology), may also be involved in cranial faults, further disturbing equilibrium function in patients.

Conclusion: Cranial faults, muscle inhibitions, vertebral subluxations, and equilibrium syndromes may be associated via the sensory conflict hypothesis, also called dysponesia. Further research into which of these reflex systems is the critical factor in successful treatment is warranted. Cranial evaluation and treatment are a significant component in equilibrium syndromes. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:19-31)

Key Indexing Terms: *Temporal Bone; Cranial Neuropathies; Chiropractic; Diagnosis; Treatment; Proprioception; Vestibular Function Tests; Vestibular Apparatus*

MUSCLE ACTIVATION TECHNIQUE

Simon J. King, B.App.Sc.(Chiro), D.I.B.A.K.

ABSTRACT

Objective: This article demonstrated a method of identifying an inhibited muscle by contracting it, and simultaneously testing a normotonic muscle that subsequently becomes inhibited.

Methods: The author describes another method for discovery of inhibited muscles in the body that can be used by manual muscle testers (applied kinesiologists). A muscle that is inhibited has aberrations in its muscle spindle functions and sends altered proprioceptive messages into the CNS. These alterations have been shown to cause a decrease in muscle strength.

Results: This method allows an examiner to discover muscle inhibitions in the body. There are some muscles in the body that cannot be tested manually. The multifidus and rotators muscles are examples.

Asking the patient to contract these muscles and then evaluating a change in strength of an easily tested muscle may reveal inhibitions in these types of muscles.

Conclusion: This method of diagnosis for muscle inhibitions can be used to discover what corrective method is appropriate for the muscle. Vertebral subluxations can be diagnosed using this method by challenging vertebrae until the contraction of the inhibited muscle no longer weakens a normotonic muscle. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:43-46)

Key Indexing Terms: *Kinesiology, Applied; Chiropractic; Diagnosis; Muscle Weakness; Muscle Contraction*

THE NEUROREGULATORY ROLE OF THE TRIGEMINAL NERVE IN DURAL TORQUE AND THE RECIPROCAL TENSION MEMBRANE

Harlan Browning, D.C., D.C.B.C.N., C.C.N.

ABSTRACT

Objective: To review the neuroanatomy of the cranio-sacral system and its functional integration with the trigeminal nerve via the innervation of the dural membranes.

Methods: A discussion of the attachments and movement potentials of the dural membranes, and of the afferent innervation of the dura by the trigeminal nerve, leads to the hypothesis that the trigeminal nerve and nuclei both monitor and coordinate cranial motion. A review of the concepts of dural torque and meningeal tension are given.

Results: The anatomical correspondence between the trigeminal nerve, the cranial dura, and the upper three cervical nerves is suggested to be a driving force behind the craniosacral rhythm.

Conclusion: This paper hypothesizes that either directly through the meningeal dura, and the muscles of mastication, or indirectly through the neurons of the upper cervical spine, the trigeminal nerve and nuclei are responsible for the craniosacral rhythm. Adequate treatment of the craniosacral system will include examination and treatment of cranial meningeal tensions affecting the trigeminal nerve. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:55-60)

Key Indexing Terms: *Cranial Neuropathies; Chiropractic; Meninges; Trigeminal Nerve*

A NEWLY DISCOVERED MUSCLE-ORGAN RELATIONSHIP: THE PECTORALIS MINOR AND THE PAROTID GLAND

Stephen C. Gangemi, D.C.

ABSTRACT

Objective: The research into the correspondence between muscle dysfunction and organ or gland dysfunction has continued throughout the history of AK. A proposed relationship between the pectoralis minor muscle and the function of the parotid glands is discussed.

Design: Private practice.

Study Subjects: Patients were examined by the treating chiropractor from his existing patient pool.

Methods: A discussion of the visceral referred pain (VRP) areas in the body is made. Activating the VRP for the parotid glands (by pinching or rubbing) specifically strengthened the pectoralis minor muscle using manual muscle testing procedures. The relationship of the parotid glands to the immune system, the thyroid gland, and the lymphatic system is described.

Results: This method of evaluation for the function of the parotid glands allowed the doctor to diagnose a problem with these two glands, and to discover proper treatment methods (neurolymphatic stimulation, vertebral subluxation correction, or nutritional support).

Conclusion: Due to the impact of proper parotid function on an individual's health, specifically the immune system and the thyroid gland, the observation of an inhibited (or over facilitated) pectoralis minor muscle in relationship to this gland enables the doctor to investigate and treat patients with greater success. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:75-77)

Key Indexing Terms: *Parotid Gland; Pectoralis Muscles; Chiropractic; Diagnosis; Muscle Weakness*

THE USE OF LOW LEVEL LASER THERAPY IN TREATMENT OF RECURRENT TEMPORAL BULGE CRANIAL FAULT WITH ATTENDANT DIGESTIVE COMPLAINTS

James D. W. Hogg, D.C., D.I.B.A.K.

ABSTRACT

Objective: The temporal bulge cranial fault (or external temporal cranial fault) is described. Clinical features of this syndrome are described, as well as the traditional AK method of diagnosis and treatment.

Design: Private practice.

Study Subjects: Patients were examined by the treating chiropractor from his existing patient pool.

Methods: In patients who have a recurrence of the temporal bone cranial fault after traditional AK correction methods have been given, the use of low level laser therapy (LLLT) was employed.

Results: The author describes LLLT therapy, and its use for cranial nerve problems (cranial nerve X specifically) is explained. A step-by-step clinical protocol for the temporal bone cranial fault and cranial nerve X dysfunction is given.

Conclusion: The addition of LLLT to this doctor's clinical protocol for the temporal bulge cranial fault and associated digestive disturbances enhanced the clinical effectiveness and longevity of correction for his patients. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:79-82)

Key Indexing Terms: *Laser Therapy, Low-Level*; *Temporal Bone; Cranial Nerve X; Cranial Neuropathies; Chiropractic*

ABNORMAL MUSCLE TESTING RESPONSES WITH CEREBELLAR TRANSNEURAL DEGENERATION – A CASE HISTORY

Datis Kharrazian, D.C., M.S., F.A.A.C.P., D.A.C.B.N., D.I.B.A.K., C.N.S., C.S.C.S., C.C.S.P.

Objective: To discuss the case of a 32-year-old female with multiple chronic disorders that was managed with procedures for the treatment of cerebellar transneural degeneration (TND).

Clinical Features: A thorough neurologic, x-ray, MRI, and CT scan examination is described as well as its neurological significance. The complex clinical features of TND are discussed, and the findings in this patient's examination correlated.

Intervention and Outcome: Conservative chiropractic treatment of TND, as well as nutritional support, improved the majority of this patient's symptomatology.

Conclusion: This case demonstrates how TND may lead to unpredictable muscle testing responses. This case history demonstrates how abnormal muscle responses may occur when a neurologically compromised patient performs manual muscle tests that exceed their metabolic threshold. Management of this type of patient may require nutritional treatment for the abnormal bio-chemistry of the motor neuron pools before consistent muscle testing outcomes can be expected. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:83-89)

Key Indexing Terms: *Spinocerebellar Degenerations; Cerebellar Dysfunction; Neuron Degeneration; Kinesiology, Applied*

CHIROPRACTIC APPLIED KINESIOLOGY INTEGRATION WITH TMJ DENTAL CARE – TWO CASES

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss two cases where TMJ splinting techniques were needed to stabilize the patients' corrections.

Clinical Features: A sixteen-year-old female began orthodontic work at age thirteen, when 6 teeth were removed and braces were fitted. The patient had inhibited muscles on the left side of her body producing a staggering gait and inability to run, with severe headaches that limited her attendance in school to two days a week. These symptoms began after dental work was initiated. The second case involved a 57-year-old man who suffered a stroke that left him with poor coordination, loss of strength, speech pattern changes and an inability to coordinate the movement of his eyes so he could not focus or read.

Intervention and Outcome: Examination and treatment of the young woman's cranium provided immediate increase in the strength of the muscles on the left side of her body and a 50% decrease in her headache. However, within two minutes the correction was lost. Placement of a tongue depressor between the teeth on the left following cranial corrections improved the muscle strength to normal, and normalized her gait pattern upon walking. She was referred to a dentist specializing in the equilibration of the TMJ, and fitted with a splint. The combined chiropractic and dental care has resolved all of her symptoms. The second older patient, a stroke victim, also received chiropractic and then dental equilibration care. His vision, reading, and speech patterns improved.

Conclusion: These two case reports demonstrate the need for coordinated chiropractic and dental care in the treatment of complex and severe cases of temporomandibular joint disorder (TMD). (Collected Papers International College of Applied Kinesiology, 2005-2006;1:91-93)

Key Indexing Terms: *Temporomandibular Joint Disorders; Chiropractic; Cranial Neuropathies; Dentistry; Orthodontics, Corrective*

EFFECTS OF PROPER WALKING ON SPINAL FIXATIONS

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: A case series of thirty patients between the ages of 18 to 75 who had spinal fixations and decreased rib expansion were chosen for this study.

Clinical Features: All patients were measured for 1) spinal flexion, 2) passive arm abduction, 3) lateral bending of the neck and head, 4) rib expansion at the xiphoid process, 5) motion palpation of the spine, and 6) muscle testing for AK correlations with spinal fixations by testing for bilateral inhibition of the deltoid, popliteus, teres major, lower trapezius, psoas, gluteus maximus, and neck extensor muscles.

Intervention and Outcome: Treatment consisted of testing and correcting one or more of the following: 1) anterior talus, 2) dropped navicular, 3) lateral cuboid, 4) posterior calcaneus, 5) treatment to strengthen inhibited tibialis posterior, posterior longus, and gastrocnemius muscles. Proprioceptive neuromuscular facilitation (PNF) was applied to the ankle and foot muscles, and proper instructions on walking were given. The patients were then asked to walk for 100 steps on a treadmill and the above tests and measurements were repeated. All but 5 patients showed all spinal fixations corrected, and rib expansion increased an average of 1.3 inches. Spinal flexion increased an average of 3.75 inches. The patients were then asked to walk 30 steps with their previous improper gait pattern, and all but two were found to have their original restrictions return.

Conclusion: Normal walking creates patterns of muscle action that normalizes spinal mechanics and rib expansion. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:95-96)

Key Indexing Terms: *Foot Injuries; Ankle Injuries; Gait; Examination*

EFFECTIVENESS OF APPLIED KINESIOLOGY PROCEDURES ON FOOT SIZE

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss changes in foot size in a convenience sample of 180 people after a combination of common applied kinesiology procedures were employed to the foot and ankle.

Clinical Features: 180 students and patients in the author's practice and seminars had their footprints drawn. First, with their foot placed lightly on the paper and the foot outlined. Second, with their foot bearing their body weight another tracing was drawn with another colored pencil. An increase of more than ¼ inch indicated loss of intrinsic foot support. Only 15% of the participants had a difference of less than ¼ inch weight bearing compared to non-weight bearing.

Intervention and Outcome: Applied kinesiology testing and treatment procedures were applied to the muscles, joints, and skin in the ankles and feet of all patients. Skin imbalances were treated using Kinesio tape. Proprioceptive neuromuscular facilitation was given to the ankle and foot muscles. Spinal subluxations from L4 to the sacrum were treated. The patient was then instructed to walk for 30 steps. A new piece of paper and tracing measurement of the foot was taken and compared to the original.

Conclusion: In all of the cases who had more than ¼ inch difference non-weight bearing compared to weight bearing, when the above AK protocols were used, the second tracing would show markedly less difference in foot size than the original tracing after AK treatment. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:99-100)

Key Indexing Terms: *Foot; Foot Joint; Ankle Joint; Chiropractic; Examination*

CLINICAL RESPONSE TO A NEUROLOGICALLY BASED COMPREHENSIVE CLINICAL PROTOCOL DEVELOPED BY DR. WALTHER H. SCHMITT

Kerry M. McCord, D.C., D.I.B.A.K.

ABSTRACT

Objective: To demonstrate the use of a neurologically based clinical protocol using applied kinesiology techniques developed by Walter Schmitt, a diplomate chiropractic neurologist, on a case series of four patients with dissimilar presenting complaints. The clinical protocol used for examination and treatment is given in the appendix of this paper.

Clinical Features: Three adult patients presented with severe pain syndromes, and one child with attention deficit disorder. A comprehensive examination and treatment of these cases using this protocol is described.

Intervention and Outcome: The application of this particular applied kinesiology protocol led to a successful resolution of presenting symptomatology regardless of the presenting complaint.

Conclusion: Since the presenting complaints of these patients were so varying and diverse, the possible applicability of this clinical protocol to a much wider patient base should be investigated. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:101-115)

Key Indexing Terms: *Attention Deficit Disorder; Food Allergy; Examination; Kinesiology, Applied; Chiropractic*

THE BRAINSTEM AND MANUAL MUSCLE TESTING

James Otis, D.C., D.A.C.N.B.

ABSTRACT

Objective: To offer a brief review of muscle physiology, spinal cord function, and the modulating effects of norepinephrine (NE) and serotonin (5HT) on muscle function, with an emphasis on factors that affect muscle test outcomes.

Data Sources: Information was obtained from English language medical and scientific journals and medical/physiology textbooks. Key authors indexed included Grillner, Binder, Heckman, Lee, Guyton, Garcia-Rill, and Powers.

Methods: A series of five manual muscle test procedures were proposed to evaluate brainstem function; the neuro-physiological relevance of each procedure is given, and expected muscle test outcomes in response to brainstem stimulation are given.

Conclusion: In the context of a full neurological exam, specific muscle test procedures are hypothesized to be sensitive, easily administered diagnostic tools for the evaluation of brainstem function. The tests described in this paper are argued to be positive (when given to a typical chiropractic clinic population), due to physiological, reversible brainstem dysfunction. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:129-143)

Key Indexing Terms: *Reticular Formation; Brain Stem; Norepinephrine; Serotonin; Kinesiology, Applied*

ENTEROGASTRIC REFLEX: POWERFUL DUODENAL FACTORS THAT INHIBIT THE STOMACH

Jose Palomar Lever, M.D., O.S., D.I.B.A.K.

ABSTRACT

Objective: To discuss the treatment of a case series of 90 patients who had stomach problems. To explain the enterogastric reflex's relevance to digestive function, and a method for diagnosing an under-active or an over-active enterogastric reflex is described.

Clinical Features: All 90 patients were treated with the standard AK protocol, including specific AK procedures for stomach disorders. Out of the 90 patients, 82 were found to have an abnormal enterogastric reflex.

Results: Of the 4 patients with an under active enterogastric reflex, 90% improved. In patients with an over-active enterogastric reflex: 48 patients improved 90% of their symptoms; 11 patients improved 70% of their symptoms; 16 patients improved 50% of their symptoms; 3 patients improved 20% or less of their symptoms.

Conclusion: The enterogastric reflex has an effect on the digestion of food. When this reflex is disturbed, digestive problems may result. Treatment of this reflex is argued to help patients complaining of digestive problems. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:145-150)

Key Indexing Terms: *Stomach; Gastric Emptying; Gastrointestinal Agents; Kinesiology, Applied*

THE CONNECTION BETWEEN HOMOCYSTEINE, THE PSOAS MINOR MUSCLE, AND LOW BACK PAIN

Thomas Rogowskey, D.C., D.I.B.A.K.

ABSTRACT

Objective: A connection between excess levels of homocysteine and bilateral weakness of the psoas minor muscle is proposed.

Design: Private practice.

Study Subjects: Patients were examined by the treating chiropractor from his existing patient pool.

Methods: The metabolism of homocysteine is described. The clinical presentation of an anterior lumbar vertebra is described, and correlated with the biomechanical instability of a bilaterally inhibited psoas minor muscle.

Results: In a case series, six patients from the doctor's practice had bilaterally inhibited psoas minor muscles. In these patients, insalivation of homocysteine weakened a previously facilitated muscle. Insalivation of nutrients that combat excess homocysteine levels (methylcobalamine/B-12, 5-methyltetrahydrofolate/MTHF, folic acid, pyridoxyl-5-phosphate/P5P, serine, betaine, and/or arginine) corrected the bilaterally inhibited psoas minor muscles. A treatment protocol of the anterior lumbar vertebrae, the neurolymphatic reflexes, and the cervical spine problems frequently involved with the inhibited psoas minor muscles is presented.

Conclusion: Excess homocysteine has been shown to be a risk factor in cardiovascular disease. This paper describes the musculoskeletal and functional biochemical problems that result from excess homocysteine in addition to the traditionally associated diseases. A treatment protocol is described. Correlating these findings with lab results is an area to be further investigated. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:151-156)

Key Indexing Terms: *Homocysteine; Psoas Muscles; Low Back Pain; Heart Diseases; Cerebrovascular Accident; Kinesiology, Applied; Chiropractic; Musculoskeletal Manipulations*

THE NEUROLOGICAL RATIONALE FOR A COMPREHENSIVE CLINICAL PROTOCOL USING APPLIED KINESIOLOGY TECHNIQUES

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: This paper presents the clinical protocol developed by the author after 30 years of clinical experience using applied kinesiology techniques.

Design: The protocol is described, and then the neurologic and metabolic rationale for the placement of the procedures within the protocol is explained.

Study Subjects: Patients were examined by the treating chiropractor from his existing patient pool.

Methods: The procedure presented identifies muscle weakness, injuries, systemic nutritional problems, systemic structural problems, cellular metabolic problems, autonomic problems, systemic endocrine problems, autonomic dysfunction, emotional stress problems, local pain problems, and gait assessment.

Results: This protocol enables practitioners of various disciplines and practice styles to incorporate these functional neurological assessment procedures into their daily practice.

Conclusion: This protocol summarizes the author's 30 years of contributions to the system of applied kinesiology chiropractic. The organization of his work in the fields of neurology, biochemistry, spinal adjusting, and the diagnosis and treatment of somatic dysfunction is presented. Outcome studies of this method of treatment should be made. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:157-191)

Key Indexing Terms: *Kinesiology, Applied; Chiropractic; Muscle Weakness; Nervous System; Chemistry, Clinical; Evaluation; Treatment Protocols*

ADULT ATTENTION DEFICIT DISORDER AND LEARNING DISABILITIES

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss the author's experience of treating both children and later adults with attention-deficit disorder (ADD) and learning disabilities. The author reviews a paper he wrote in 1984 on the subject, and then describes later findings that encompass his 41 years of treating the problem.

Methods: The neurology and metabolism of the patient with ADD is described. The author describes a cranial fault that he has consistently found in these patients, and its method of diagnosis and treatment are explained.

Results: The author has treated this particular cranial fault in 1,500 patients who were classified with learning disabilities. A control group of 250 patients were questioned by the author and determined not to have any type of learning problems. The cranial fault was not present in the 250 members of the control group. The methodology for determining learning disabilities or attention deficit disorder in the patients was not given.

Conclusion: The author has used this cranial treatment in 1,500 patients with ADD and learning disabilities, and has evidence from patient response that the correction helps with these disorders. He has begun a study on other students with similar problems who have taken a previous SAT exam that will give a base line score, which will help determine if the cranial fault correction has some bearing on improvements in the test scores. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:193-208)

Key Indexing Terms: *Attention Deficit Disorder; Learning Disabilities; Adult Learning Disorders; Treatment; Chiropractic; Kinesiology, Applied*

GASTROESOPHAGEAL REFLEX DISORDER AND HIATAL HERNIA, A UNIVERSAL PROBLEM

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

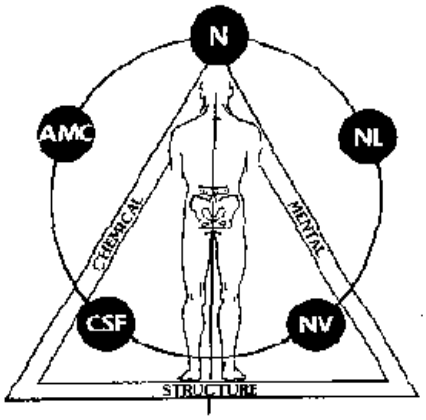
Objective: To describe gastroesophageal reflex disorder (GERD) and hiatal hernia and their treatment using applied kinesiology methods. A review of the anatomical distortions producing GERD and hiatal hernia is given.

Data Sources: Information was obtained from the applied kinesiology published literature and medical/physiology textbooks. Key authors indexed included Goodheart, Walther, and Guyton.

Methods: A series of diagnostic tests were described to evaluate for muscular dysfunction of the diaphragm, as well as tests to evaluate problems with the digestive enzymes of the stomach. Structural factors involved in the production of the GERD and hiatal hernia are described, as well as the signs and symptoms to suggest this problem in the patient.

Conclusion: The author suggests that diagnosing and correcting the causes of GERD will be more beneficial and longer lasting for the patient than using medications that reduce the symptoms of digestive dysfunction. Studies evaluating outcomes using this treatment method would be valuable. (Collected Papers International College of Applied Kinesiology, 2005-2006;1:209-217)

Key Indexing Terms: *Hernia, Hiatal; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2004-2005

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGY MANAGEMENT OF MENSTRUAL HEADACHES: A CASE HISTORY

Janet Calhoon, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss a case of pre-menstrual headache, low back pain, and mood swings that occur monthly.

Clinical Features: One week before her menstrual cycle began, headaches, low back pain, and intense mood swings occurred for the patient. Her husband could accurately predict the first day of her period by the severity of her moods. She experienced a severe headache the first day of her period.

Intervention and Outcome: Applied kinesiology spinal corrections were made at one-week intervals for one menstrual cycle, and the physician monitored and guided the patient's dietary changes. The following structural corrections were made: a naso-sphenoid cranial fault, an upper cervical, cervico-thoracic and thoraco-lumbar fixations, and neurolymphatic reflex treatment for the sartorius muscle. Instructions were given to eliminate aspartame-containing foods. Basic nutritional instructions about proper food combining (found in the AK literature) were given. The next menstrual cycle occurred without symptoms, and neither the patient nor her husband could predict when her cycle would begin.

Conclusion: Many other conditions may produce menstrual headaches; therefore it is naïve to think of this as a disorder with a single origin and a single cure. The addition of laboratory testing, nutritional counseling, proper food combining, and the elimination of toxins from the diet were important parts of the entire diagnostic work-up of a patient with menstrual symptoms who was treated successfully using applied kinesiology chiropractic. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:3-4)

Key Indexing Terms: *Menstruation Disturbances; Headache Disorders; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY MANAGEMENT OF MULTIPLE SCLEROSIS – AN ONGOING CASE STUDY

Janet Calhoon, D.C., D.I.B.A.K.

ABSTRACT

Objective: A continuing case study of a 48-year-old female with multiple sclerosis is presented.

Clinical Features: A diagnosis of multiple sclerosis from a medical neurologist was confirmed with MRI. The patient first came for treatment after having all of her amalgams removed and undergoing IV chelation therapy with no improvement. After 2 years of AK care she went from not being able to write a check to showering without assistance. The patient was a conditioned athlete at the onset of MS.

Intervention and Outcome: The patient's current major complaint is low back pain and she gets relief with AK treatment. Parasites, toxins, allergies, and heavy metals have been evaluated using a Comprehensive Stool Analysis, ELISA blood test, 24-hour urine and hair analysis. Nutritional counseling was given to the patient. Basic AK treatment methods were employed. She can drive to the doctor's office now, is able to do mild workouts with Nautilus equipment, can walk with a cane without assistance, and is able to ride her horse and walk her dog for the first time in years. During the six years of treatment with this doctor, she has had no acute exacerbations of MS.

Conclusion: Treatment directed to basic structural, chemical, and emotional problems in this patient with multiple sclerosis improved her condition and reduced her pain. Concurrent neuro-radiologic studies are warranted to discover if the care rendered to this patient would benefit other patients with multiple sclerosis. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:5-6)

Key Indexing Terms: *Multiple Sclerosis; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

THE IMPORTANCE OF ABDOMINAL OBLIQUE MUCLES IN CATEGORY 1

Janet Calhoon, D.C., D.I.B.A.K.

ABSTRACT

Objective: To demonstrate in 30 cases with recurrent category 1 pelvic faults the involvement of the rectus abdominus, internal and external oblique abdominal muscles.

Methods: The author describes the anatomical attachments of the abdominal muscles and their relevance to pelvic mechanics.

Results: On testing the abdominal muscles in 30 patients with recurrent category 1 pelvic faults, all patients were found to have inhibited abdominal muscles. Correcting the abdominal muscles (using neurolymphatic, neurovascular, neuromuscular spindle cell, golgi tendon organ, or cranial respiratory corrections as indicated by the author's examination), eliminated the category 1 fault in 26 of the 30 patients. On subsequent visits, the category 1 pelvic fault remained corrected.

Conclusion: In category 1 pelvic faults, the importance of the abdominal muscles was demonstrated. Further research using larger patient numbers and a control group is warranted. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:7-8)

Key Indexing Terms: *Pelvis; Biomechanics; Abdominal Muscles; Muscle Hypotonia; Sacroiliac Joint; Treatment; Chiropractic; Applied Kinesiology*

APPLIED KINESIOLOGY MANAGEMENT OF TIC IN A PEDIATRIC PATIENT: A CASE HISTORY

Cecilia A. Duffy, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the use of applied kinesiology in the management of a 15-year-old female with tic.

Clinical Features: The patient had a four-month history of episodic eye tic, consisting of twenty-minute to one-hour episodes of eyelid blinking and rolling of the eyes independently of each other. A complete neurological examination of the patient was described.

Intervention and Outcome: The structural corrections made on the patient's first visit were a category II pelvic fault; 2nd thoracic spinal subluxation; sphenobasilar and temporal bone cranial fault; left temporomandibular external pterygoid muscle correction; and a bilateral lateral talus. Between her first and second visits the patient had a reduction in the number of episodes of tic. With the diagnosis and treatment of chemical imbalances using applied kinesiology methods (blood glucose counseling and management, and nutritional supplementation to stabilize her blood glucose levels) in addition to the structural corrections, the prodromal episodes of the tic and the tic itself were corrected.

Conclusion: This 15-year-old with a transient motor tic disorder was managed successfully using applied kinesiology methods. Further studies on larger groups of patients with tics (including Tourette's syndrome) are called for to evaluate whether this method of treatment would be successful with larger groups of patients and other types of tics. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:17-20)

Key Indexing Terms: *Tic Disorders; Blood Glucose; Treatment; Case Reports; Kinesiology, Applied; Chiropractic*

APPLIED KINESIOLOGY MANAGEMENT OF URINARY INCONTINENCE IN A PEDIATRIC PATIENT: A CASE HISTORY

Cecilia A. Duffy, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the case of a 12-year-old female with urinary incontinence successfully treated using applied kinesiology technique.

Clinical Features: A12-year-old female with a five-month history of urinary incompetence following emergency appendectomy surgery presents with stress incompetence, as well as occasional total incompetence. There were small incision scars at the umbilicus, above the pubis, and over the right lower quadrant associated with the appendectomy.

Intervention and Outcome: Correction of structural faults of the left sacroiliac, right occiput, thoracolumbar junction, and trigger point therapy that strengthened the left gluteus maximus muscle were made. Palpation of the left levator ani muscle with Valsalva maneuver revealed bulging (indicating inhibition of the left levator ani muscle), and was corrected using neurolymphatic reflex treatment. Valsalva maneuver also inhibited the gluteus medius muscle and was corrected using a uterine lift (or superior pubic lift) correction. The urinary incompetence was corrected after the first correction.

Conclusion: Successful management of a 12-year-old child with applied kinesiology is described. The conservative approach should be considered before more invasive procedures are pursued in patients with urinary incompetence. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:21-22)

Key Indexing Terms: *Urinary Incontinence; Urinary Incontinence, Stress; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

EFFECTS OF PUMPING THE LIVER IN TWO CASE HISTORIES

Daniel H. Duffy, Sr., D.C., D.I.B.A.K.

ABSTRACT

Objective: To present two case histories in which a manipulative maneuver to the liver produced improvement in the patients presenting problems.

Clinical Features: The first patient underwent a detached retina surgery that resulted in vertical diplopia of that eye. The method for diagnosis of this problem is described. The second patient was a 37-year-old pregnant female (24 weeks gestation) experiencing hemorrhoidal pain.

Intervention and Outcome: Postural examination, manual muscle testing, and temporosphenoidal line examination were used to diagnose a problem with the pectoralis major (sternal division) muscle, which is associated in applied kinesiology with the liver. After manually manipulating the liver (the method of treatment is described), the vertical diplopia in the first patient, and the hemorrhoidal pain in the second were both improved.

Conclusion: These case histories suggest that manual treatment of the liver may benefit cases with varying symptomatology. No firm conclusion can be reached from the results of a case study, although it does suggest that applied kinesiology chiropractic care may provide benefits for patients with liver disorders. Further studies into other conditions that might respond to this therapy are warranted. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:25-26)

Key Indexing Terms: *Liver; Hemorrhoids; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

CASE STUDY: SEVERE RIGHT ARM NEURALGIA AND WEAKNESS FOLLOWING SURGERY

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a patient who was unable to clasp objects with his right hand after right kidney surgery. Diagnosis and treatment using applied kinesiology resolved this patient's disability

Clinical Features: A 67-year-old male had an MRI evaluation before his release from the hospital, but it was negative. 4 weeks later the patient presented with no improvement and with his fingers limited to a flexed position; 5 degrees of wrist flexion and extension; 30 degrees of shoulder flexion and abduction. Manual muscle testing of the hand was impossible due to lack of muscle response. With the arm passively elevated however he could make a fist and flex and extend his wrist 40 degrees.

Intervention and Outcome: AK testing methods are described that revealed a thoracic outlet syndrome and cervical spinal disc injury. Treatment using strain-counterstrain and trigger point techniques to the cervical muscles were given. Cervical disc (imbrication) corrections at C5 and C6 were made; omega-3 fatty acid imbalances were treated nutritionally; and topical ibuprofen on the cervical nerve roots was done at home for 3 days. Sleeping position instructions were given. After 3 visits at one-week intervals the patient's grip strength was 40 lbs., and he made continued progress in arm flexibility with home exercises.

Conclusion: This case demonstrated methods of muscle testing to determine multiple sites of injury to the upper extremity following trauma. Injuries to the cervical spine, thoracic outlet, elbow and wrist were all contributing to this patient's problem. Specific treatment to each of these areas was successful. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:29-31)

Key Indexing Terms: *Intervertebral Disc; Thoracic Outlet Syndrome; Shoulder Impingement Syndrome; Brachial Paresis; Treatment; Case Reports; Kinesiology, Applied*

THE PROPER FITTING OF SUPPORTS AND THEIR EFFECT UPON MUSCLE STRENGTH

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: Determine the effects of pressure applied by orthopedic support stockings on the strength of muscles.

Methods: Analytic survey. A trial of manual muscle testing was conducted on a convenience sample of 25 normal subjects. The peroneus longus and brevis, peroneus tertius and tibialis anterior all tested normotonic. A sphygmomanometer was applied to the mid-calf region. The instrument was inflated at 10-

degree increments and the muscles were retested. Tests were done with the examiner and the subject blinded from the pressure recordings.

Results: In all individuals at 10, 20, and 30 mm of pressure the muscles maintained their normal strength. When the pressure was increased to 40 mm, 19 of 25 subjects had failure of the peroneus longus and brevis. In all individuals, 50 mm of pressure caused inhibition of all muscles on testing.

Conclusion: A non-symptomatic group demonstrated significant weakening of muscles at defined values with the application of specific pressures to the calf muscles. When applying support, care should be taken to ensure that the support is not so tight as to cause inhibition of the underlying muscles. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:33-34)

Key Indexing Terms: *Stockings, Compression; Evaluation Studies; Kinesiology, Applied*

THE USE OF MANUAL MUSCLE TESTING TO ASSESS FUNCTIONAL INTEGRATION OF HIGH-THRESHOLD VERSUS LOW-THRESHOLD ALPHA MOTOR NEURONS

James Otis, D.C.

Abstract

Objective: To offer a brief review of muscle testing physiology, and the distinction between pre-loaded and post-movement muscle tests, and the neurological implications of these differing tests.

Data Sources: Information was obtained from English language medical and scientific journals and medical/physiology textbooks. Key authors indexed included Binder, Heckman, Lee, Guyton, Powers, and the applied kinesiology methods of Dr. Walter Schmitt.

Methods: Pre-loaded muscles tests are performed with 2 seconds of light pressure to elicit an isometric contraction prior to applying the test. The muscle physiology and neurological implications of an inhibited pre-loaded muscle test is described. Post-movement muscle tests are performed after the muscle has been lengthened or shortened through at least a quarter of its range of motion. The muscle physiology and neurological implications of an inhibited post-movement muscle test is described.

Conclusion: In the context of a full neurological exam, two muscle test procedures are explored that are hypothesized to be distinguishable from the standard AK manual muscle testing method. Concurrent neuro-radiological, EMG, or other diagnostic studies should be conducted to evaluate this hypothesis and its clinical relevance. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:35-43)

Key Indexing Terms: *Muscles; Musculoskeletal Physiology; Diagnostic Techniques, Neurological; Evaluation; Kinesiology, Applied*

APPLIED KINESIOLOGY AND PROPRIOCEPTION: A NON-INVASIVE APPROACH TO EQUILIBRIUM AND BALANCE DISORDERS

Scott C. Cuthbert, D.C.

ABSTRACT

Objective: To describe the importance of proprioception and proprioceptive testing to chiropractic diagnosis and treatment, and especially in patients with equilibrium disorders due to sensory conflict. A convenience sample of five representative cases is presented involving patients with balance disorders, ranging in age from 6 to 83.

Clinical Features: A discussion of the hypothesis of sensory conflict and proprioceptive disorders as a causative factor in cases of disequilibria was given. Specific diagnostic tests and clinical rationales for the chiropractic diagnosis and treatment of patients with equilibrium disorders were presented.

Intervention and Outcome: Following applied kinesiology spinal, extremity, muscular, and cranial manipulative treatment the five patients were able to move and operate normally without clumsiness, falling, dizziness, or nausea. The evaluation of these patients' responses to treatment was determined by the doctor's observation, the patients' subjective description of symptoms while being active, the Visual Analog Scale for Neck and Associated Pain, and applied kinesiology chiropractic physical assessment tools.

Conclusion: Further studies into chiropractic manipulative treatments for sensory conflict and proprioceptive dysfunctions associated are indicated. The hypothesis of sensory conflict as the cause of equilibrium and balance disorders should be explored more fully by other chiropractic physicians and researchers. The method of examination and treatment described here should be studied with a larger sample of symptomatic patients to evaluate the value of these methods to other patients with equilibrium disorders. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:47-64)

Key Indexing Terms: *Musculoskeletal Equilibrium; Proprioception; Sensation Disorders; Diagnostic Tests; Vestibular Function Tests; Kinesiology, Applied; Chiropractic*

THE L5-S1 FIXATION REVISITED

Cecilia A. Duffy, D.C., D.I.B.A.K. and John M. Heidrich, D.C., D.I.B.A.K.

ABSTRACT

Objective: To review the method of diagnosis for a fixation of the L5-S1 vertebrae in applied kinesiology. In AK, spinal fixations are a condition in which there is a lack of normal motion between vertebrae.

Data Sources: George Goodheart originally described an L5-S1 fixation frequently correlating with a unilateral teres major muscle inhibition.

Methods: A unilateral teres major muscle inhibition may strengthen with therapy localization to the L5-S1 region. Therapy localization is a procedure of placing the patient's hand over an area of suspected involvement, then using muscle testing procedures to determine any change in strength. Proper manipulation of the L5-S1 motor unit will strengthen the teres major muscle originally found weak.

Conclusion: This fixation complex and analysis procedure is valuable in cases of difficult cervical or shoulder problems, as well as with chronic, tonic, clonic, intermittent torticollis, according to the authors. Concurrent radiologic studies and larger patient samples would be valuable to investigate this finding more thoroughly. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:65-66)

Key Indexing Terms: *Manipulation, Spinal; Lumbosacral Region; Diagnosis; Kinesiology, Applied; Chiropractic*

IODINE AND TYROSINE: THE MOST MISUSED NUTRITIONAL SUPPORT FOR THE THYROID

Datis Kharrazian, D.C., M.S., F.A.A.C.P., D.A.C.B.N., D.I.B.A.K., C.N.S., C.C.N., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To discuss the negative impacts tyrosine and iodine supplementation may have on thyroid gland function.

Methods: A review of the published studies on tyrosine is made and showed little improvement in thyroid hormone levels. Tyrosine supplementation may increase catecholamine hormone levels which may suppresses thyroid hormone production. Excess iodine intake is suppressive on thyroid hormone synthesis. In the United States, the salt has been iodized, and so caution in supplementing patients with more iodine is advised.

Results: Reviewing nutritional and biochemical studies on tyrosine and iodine supplementation suggests that these nutrients are overused in the treatment of thyroid gland problems. When these two supplements cause an all-muscles-strong phenomenon on AK testing, a condition of sympathetic dominance should be suspected.

Conclusion: The author suggests that iodine and tyrosine should be used with caution in the treatment of patients with thyroid gland disturbances, especially with patients who are under a stress response and/or exposed to excess amounts of sodium in their diet. When testing patients with these supplements, an all-muscles-strong evaluation should be made to avoid iatrogenic problems. Further case studies of these hypotheses should be made. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:75-76)

Key Indexing Terms: *Thyroid Gland; Thyroid Function Tests; Hypothyroidism; Tyrosine; Iodine; Dietary Supplements; Evaluation; Kinesiology, Applied*

NUTRITIONAL SUPPORT FOR THE THYROID: A BRIEF REVIEW

Datis Kharrazian, D.C., M.S., F.A.A.C.P., D.A.C.B.N., D.I.B.A.K., C.N.S., C.C.N., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To offer a brief review of thyroid gland physiology, and several well-known nutritional and herbal compounds that support the thyroid gland's metabolism.

Data Sources: Information was obtained from English language medical, nutritional, and endocrine scientific journals and textbooks concerning the thyroid gland.

Methods: A review of the following nutrients on the thyroid gland was made: withania somnifera, vitamin A, vitamin D, selenium, zinc, iodine, the guggulsterones compounds in Commiphora, and other anti-oxidant nutrients.

Conclusion: Many compounds are important in supporting thyroid metabolism and are described. This paper suggests that nutrients that help quench peroxidation directly and indirectly via glutathione synthesis can be helpful in optimizing thyroid hormone metabolism. Further outcome studies into these factors are necessary. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:77-80)

Key Indexing Terms: *Thyroid Gland; Hypothyroidism; Dietary Supplements; Kinesiology, Applied*

LOW-TECH INDICATORS OF DECREASED BLOOD OXYGEN LEVELS

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Background: Measurement of blood oxygen levels has become increasingly prevalent in the chiropractic profession over the past 10 years. Correlating low blood oxygen levels with chiropractic tests would be valuable.

Objective: A relationship between weak grip strength as measured with a pinch meter between the second and third fingers and reduced blood oxygen levels below 96 (using a Pulse-Oxygen meter) is hypothesized.

Design: Private practice.

Methods: 20 patients were chosen from the author's practice who had decreased grip strength and decreased blood oxygen levels and whose symptoms worsened with activity. The symptoms listed were fatigue and loss of muscle strength. A control group of 10 patients who did not have symptoms were tested also. Both groups were asked to march in place with their knees up to horizontal for 90 seconds, and the blood oxygen test was repeated. In the symptomatic group, 18 of 20 patients had their blood oxygen levels drop by an average of 3% or more after exercise. In the control group, the blood oxygen level dropped by 1%.

Results: For patients with low blood oxygen readings, decreased pinch strength, and lowered oxygen levels after exercise, a treatment protocol to increase respiratory function was employed. This consisted of normalization of rib, diaphragm, cervical spine, phrenic nerve, and oral and nasal breathing functions. Treatment rendered to the symptomatic group resulted in an increase in the pinch meter measurements and a 1% reduction of oxygen levels after exercise in all but 1 of the 20 cases.

Conclusion: In patients who are suspected of having low blood oxygen levels and have weakness or fatigue with activity, a simple screening test and clinical protocol is suggested. Further tests for evaluating and treating low blood oxygen levels in chiropractic practice are needed. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:83-85)

Key Indexing Terms: *Respiratory System; Anoxia; Diagnostic Techniques; Clinical Protocols; Diaphragm; Phrenic Nerve; Ribs; Kinesiology, Applied; Chiropractic*

CASE STUDY: SEVERE ADRENAL STRESS SYNDROME AS A CAUSE OF ANXIETY IN A 17-YEAR-OLD CAUCASIAN FEMALE

Tyran Mincey, D.C.

ABSTRACT

Objective: To discuss the assessment, diagnosis, and chiropractic management of a 17-year-old female with anxiety. The relationship of hypoadrenia to anxiety disorders is hypothesized.

Clinical Features: This patient complained of anxiety, nausea, amenorrhea, and fatigue (for seven years), and had been undergoing medical treatment with the drug Paxil for 15 months. The patient demonstrated orthostatic hypotension (Ragland's sign) and a low breath-holding time (below 40 seconds). A salivary Adrenal Stress Index (ASI) measuring free cortisol demonstrated elevated A.M. cortisol levels and borderline midnight levels.

Intervention and Outcome: A modification of the patient's diet to correct the carbohydrate to protein ratio (75% of her calories were from carbohydrates). Treatment to the upper cervical spine (injury-recall technique, developed by Dr. Walter Schmitt), spinal manipulation determined by applied kinesiology testing, the addition of essential fatty acid (flax seed oil), adrenal gland nutritional support, probiotic supplementation, and treatment for *candida albicans* were given. After 6 months of treatment, the author reports that her anxiety, nausea, fatigue, and amenorrhea were corrected. Method of determining the patient's status was not described.

Conclusion: This paper suggests the importance of adequate treatment for adrenal stress disorder in cases of anxiety and fatigue. A larger patient cohort and single treatment protocols would help determine which therapy would be most beneficial in cases with anxiety disorder. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:87-88)

Key Indexing Terms: *Anxiety Disorders; Amenorrhea; Adrenal Insufficiency; Nutrition Therapy; Case Reports; Kinesiology, Applied; Chiropractic*

THE IMMUNE SYSTEM: UNDERSTANDING T-HELPER CELLS

Eric Pierotti, D.C., D.O., Ch.D (Adel)

ABSTRACT

Objective: The relevance of T lymphocytes to the response of the immune system is reviewed. A clinical finding of bilateral weakness of the infraspinatus or the middle deltoid muscle after challenging the mid-sternal area is correlated with T-helper 2 and T-helper 1 cell excess.

Data Sources: Information was obtained from English language medical and scientific journals and medical/physiology textbooks relating to the immune system.

Methods: A review of the standard AK methods of treatment for the immune system is given, as well as suggestions for nutritional support for immune system dysfunction. The key nutrients are identified and their mode of action discussed.

Conclusion: This paper suggests that a key to correcting immune dysfunction is to balance the Th1 to Th2 ratio. A clinical protocol for diagnosis and treatment are outlined. The outcomes for patients receiving these treatment methods should be reported. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:93-105)

Key Indexing Terms: *Immune System; T-Lymphocytes, Helper-Inducer; Clinical Protocols; Kinesiology, Applied*

SECONDARY GAIT REFLEXES OF THE HAND

William H. Tolhurst, D.C.

ABSTRACT

Objective: To describe acupuncture treatment points on the hands that improve paired muscle group function on opposite sides of the body. These muscle groups are hypothesized to be active during ambulation and gait.

Clinical Features: 10 patients from the author's practice are examined who had weaknesses of muscles that are facilitated simultaneously in ambulation.

Intervention and Outcome: The paired muscle groups that would test weak when tested together were as follows. The infraspinatus and/or teres minor and the contralateral piriformis muscles; the supraspinatus and contralateral tensor fascia lata; the teres major and contralateral gracilis; the biceps brachii and contralateral biceps femoris; the wrist flexors and contralateral soleus; and the subscapularis and contralateral pectineus muscles. Weaknesses in testing these muscles are successfully treated with acupuncture point stimulation (method of treatment was not described).

Conclusion: The specific correlations between paired muscle weakness on testing and the acupuncture point treated by the author were not described, so this protocol could not be repeated as presented. The value of reflexes on the hands in relationship to paired muscle weakness in the muscles of ambulation should be explored more fully with treatment methods and outcome measurements more clearly identified. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:109-112)

Key Indexing Terms: *Gait; Reflexes; Diagnostic Techniques; Clinical Protocols; Kinesiology, Applied; Chiropractic*

OVERACTIVE MERIDIANS AND FOOD SENSITIVITY TESTING

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the effect of nutritional supplementation in patients with over-active meridians using applied kinesiology diagnostic methods.

Clinical Features: A case series of 1,236 patients showing meridian involvement was evaluated, 827 women and 409 men.

Intervention and Outcome: The over-active meridian identified using applied kinesiology methods was tested using the appropriate nutritional substances for the involved meridian (organ concentrates, vitamins or minerals). Treatment to the over-active meridian using non-nutritional methods (mid-day/mid-night law, connecting point, and other methods commonly used in AK) eliminated the need for nutritional support for the over-active meridian(s).

Conclusion: During allergy or food sensitivity testing, the author cautions that nutritional treatment to an organ that has an over-active meridian may give a false-positive test during manual muscle testing because the nutrients may be reacting to the over-active meridian. The author suggests that appropriate treatment of all general meridian involvements will improve allergy and food sensitivity evaluations. A study including concurrent laboratory testing of patients with these problems and their outcomes from

treatment would be valuable. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:115-116)

Key Indexing Terms: *Acupuncture; Meridians; Food Hypersensitivity; Outcome Assessment (Health Care); Kinesiology, Applied*

THE NEW ALARM POINTS FOR THE GOVERNING AND CONCEPTION VESSELS

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

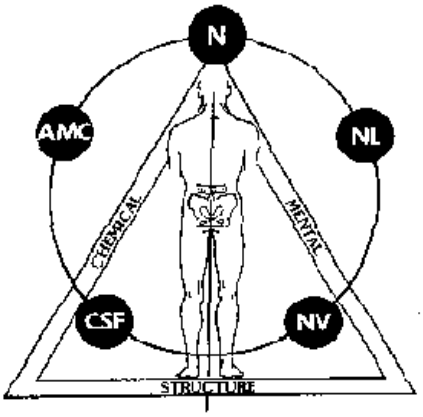
Objective: To present two new locations for the alarm points of the governing vessel (GV) and conception vessel (CV) meridians.

Clinical Features: 110 patients were evaluated who had involvement of the governing and/or the conception vessel. The traditional alarm point for the governing vessel is GV-1 and for the conception vessel is CV-24. In applied kinesiology, the pulse point for the GV and CV is located on the palm surface of the forearm near the base of the thumb. The superficial point is the conception vessel and the deep point is the governing vessel. The associated muscles for these meridians are the teres major for the governing vessel and the supraspinatus for the conception vessel.

Intervention and Outcome: The author consistently found over activity of the governing vessel and under activity in the conception vessel. This was surmised by testing the teres major (strong) and the supraspinatus (weak). Therapy localization to the new alarm points for the governing vessel CV-22, and conception vessel CV-2, would correct this pattern of testing.

Conclusion: Two other alarm points are hypothesized for the governing and conception vessel meridians. Evaluation of this hypothesis using electro-diagnostic and other types of equipment for meridian evaluation would be valuable. (Collected Papers International College of Applied Kinesiology, 2004-2005;1:119-120)

Key Indexing Terms: *Acupuncture Points; Meridians; Diagnosis; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2003-2004

-- Edited by Scott Cuthbert, D.C.

ENDOMETRIOSIS: A CASE STUDY

Glen P. Alis, D.C. and Supna Alis, D.C.

ABSTRACT

Objective: To discuss a case of symptomatic endometriosis in a female successfully treated with applied kinesiology chiropractic care.

Clinical Features: A 25-year-old female presented with severe abdominal pain and cramping with her menstrual cycle, especially in the lower right quadrant. She also experienced pain with intercourse. This pain had been present for 2 months, and was rated a 10 on a pain scale of 1 to 10 (10 being worst). Her menstrual cramps had been present since the age of 12. A medical diagnosis of endometriosis had been given, and laproscopic surgery to remove endometrial and scar tissue were performed. Six months after the surgery, the symptoms returned with the same severity.

Intervention and Outcome: AK examination revealed an open ileocecal valve, subluxations at the L3 and L5 vertebrae, and sacral misalignment. Chiropractic adjustments were made 1-2 times per week for one month. Orthostatic hypotension was found on initial examination. A diagnosis of estrogen dominance was made. Digestive supports and progesterone cream was given, and dietary modifications were made eliminating white flour and sugar, coffee and colas from her diet. An exercise program was begun to increase her strength and endurance. After one month her symptoms decreased significantly so that she did not have to miss work due to menstrual pain. She now feels minor bloating and discomfort with her menses but does not need medication for relief.

Conclusion: This paper describes a method for treatment of a patient with endometriosis. Its applicability to other patients with this condition should be explored. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:1-2)

Key Indexing Terms: *Menstruation Disturbances; Endometriosis; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

MEDIAL EPICONDYLITIS: A CASE STUDY

Glen P. Alis, D.C.

ABSTRACT

Objective: To describe a case of medial epicondylitis in a tennis player that was limiting his ability to play due to pain. The relevance of gait testing for elbow pain is explained.

Clinical Features: A 48-year-old male presented with right medial elbow pain of six months duration. He played tennis 4-5 times a week, and his pain was definitely worse with his forehand and serve. After an hour of play, the sharp pain in his medial elbow prevented him from playing further. He received 2

cortisone shots that did not alleviate the problem. He was taking 4 Ibuprofen per day in order to continue playing.

Intervention and Outcome: On initial examination, Cozen's test was positive, as was a medial ligament stress test of the elbow. Manual muscle testing showed inhibition of the right bicep, right supraspinatus, right pronator quadratus, left popliteus, left tibialis posterior, and left rectus femoris, and these were treated. Subluxations of the T8 vertebrae and the left navicular bone were corrected. A nutritional supplement for ligament injury was given. Gait testing demonstrated improper muscle coordination, and after AK treatment for this problem the tenderness in the elbow was improved. The concept of ligament interlink in AK is presented, and in this case it improved the interaction between his left knee and right elbow. Dietary changes to improve his inflammatory response related to hypoadrenia were made. After 7 treatments over a 6-week period the patient felt 85% improved (patient's self-assessment), and was able to play tennis for 2 hours with only slight discomfort.

Conclusion: The value of this method of treatment for other cases of medial epicondylitis, especially in tennis players, should be investigated. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:3-4)

Key Indexing Terms: *Tennis Elbow; Tendinitis; Case Reports; Treatment; Kinesiology, Applied*

FUNCTIONAL TESTS AND TREATMENTS FOR MALE MENOPAUSE AND PENILE DYSFUNCTION

Eugene Charles, D.C., D.I.B.A.K.

ABSTRACT

Objective: To review the male menopause and its symptomatology, and to offer methods of testing for endocrine imbalances. The nutritional needs related to the treatment of male menopause, prostatic hypertrophy, and penile dysfunction are described.

Data Sources: Information was obtained from English language medical and scientific journals and medical/physiology textbooks. 36 articles related to the subject of this paper are listed in the references.

Methods: A review of scientific literature regarding the vitamins, minerals, and herbs in the treatment of sexual dysfunction, prostate health, and aging in men is given. The review given suggests that zinc, essential fatty acids, saw palmetto, adrenal hormones, licorice, ginseng, and nitric oxide are needed for prostate health and adequate sexual performance. Symptom patterns and specific tests are described that purport to identify the need for these nutrients in the symptomatic patient. A male version of the Kegel exercises was described to alleviate mechanical pressures on the prostate and bladder.

Conclusion: The functional tests offered in this paper do not diagnose a disease process but seek to identify functional problems with the pelvic and urogenital muscles, hormones, and biochemical impairments to the organs of the reproductive system in older males. Concurrent EMG, urological, and other diagnostic studies should be conducted concurrently to evaluate this method of diagnosis and treatment of male menopause, prostatic hypertrophy, and penile dysfunction. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:5-16)

Key Indexing Terms: *Andropause; Impotence; Prostatic Hyperplasia; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

OBJECTIVIZATION OF MANUAL MUSCLE TESTING THROUGH ANALYSIS OF THE DYNAMIC FORCE SPECTRUM

Tatiana N. Chernysheva, M.D., Vladimir I. Korenbaum, Ph.D., Tatiana P. Apukhtina

ABSTRACT

Background: To study a new instrument designed to objectively measure manual muscle testing outcomes.

Design: To design a force transducer EMG that measures the amplitude of low-frequency (less than 2 Hz) effort in the tested muscle. The portable dynamic force transducer that was used in the experimental trial was described.

Method: 8 volunteers were recruited for testing. Therapy localization to specific reflexes was employed during the tests. The sequence of reflex points used was unknown to the examiner and the patient. Changes in muscle strength in the thumb and middle finger of the same hand were tested using the instrument. The same TL sequence to the same reflexes was then employed while testing the middle deltoid muscle using the instrument. In this test, the upper flange of the transducer was held by the examiner's hand and the lower flange was put on the bend of the patient's arm during the middle deltoid test.

Results: When the examiner tested the eight patients' middle deltoid muscle after reflex stimulation, there was a 73.7% (K2 = 0.47) agreement between the instrumental reading of an inhibited muscle after therapy localization and the examiner's reading. When the instrument was used alone to measure the muscle response of the thumb and middle finger, there was poor agreement 65.5% (K1 = 0.31).

Conclusion: In the first measuring sequence there were several muscles involved in the test (thumb and middle finger), whereas in the second the middle deltoid was the only muscle tested. This study has research design and methodological problems that make understanding or reproducing its protocols problematic. The translation from Russian was poor. A future study should refine the framing of the research question, improve the method of testing, describe the results more clearly, and enlarge the number of participants. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:17-22)

Key Indexing Terms: *Muscle Weakness; Evaluation Studies; Research Design; Instrumentation; Kinesiology, Applied*

CASE STUDY: ECZEMATOUS DERMATITIS AND THE DEEP TENDON REFLEX EXAMINATON

Robert Ciprian, D.C.

ABSTRACT

Objective: A patient who sought chiropractic care for right ankle, knee, and low back pain was also successfully treated for eczematous dermatitis.

Clinical Features: A 28-year-old male presented with basketball injuries to his right ankle, knee, and low back. For the past 1.5 years there was also an eczematous dermatitis present that was being treated with a topical prescription cream without success. The area of dermatitis and the medication prescribed were not given.

Intervention and Outcome: Standard applied kinesiology care for a pelvic category III, category II, right lateral tibia, right lateral talus, right inferior navicular, right superior 1st cuneiform and right lateral cuboid were corrected. The deep tendon reflex examination of Dr. Richard Belli was employed for residual low back pain, and treatment to L3 (posterior left subluxation listing) improved the patient's low back, knee, and ankle pain. After the patients third visit, the pain in the ankle, knee and low back were improved, and the dermatitis had disappeared.

Conclusion: This case demonstrated that structural corrections to spinal and extremity joints improved a patient with eczematous dermatitis. Further research on the mechanism of this type of therapy and larger patient cohorts would be valuable to evaluate if this system of treatment would be of benefit to larger groups of patients with eczematous dermatitis. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:23-24)

Key Indexing Terms: *Eczema; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

CASE STUDY: MULTIPLE SCLEROSIS

Robert Ciprian, D.C.

ABSTRACT

Objective: To discuss the treatment of a female patient with multiple sclerosis who had been wheel chair bound for 2 years.

Clinical Features: A 28-year-old female presented with low back pain. She was wheel chair bound. She showed considerable atrophy of the lower extremities, and had a decreased L4 reflex. Her toenails were discolored, brittle and flaking, and she had a fungal infection. On consultation it was discovered that the fungal infection began just before she started having the symptoms of multiple sclerosis.

Intervention and Outcome: Treatment of a category III pelvic fault and treatment of the ileocecal valve reflexes were employed with spinal adjustments to positive areas of challenge. Nutrients given (using standard AK protocol) were: calcium lactate, Spanish black radish, Zymex II, SF 722 (10-undecylenic acid from castor oil). Nutritional instruction to remove sugar, wheat, corn, dairy, soy and fermented foods was given, and instructions to eat whole foods were advised. After 5 months of chiropractic care she was able to get out of her wheel chair and perform the activities of daily living and able to go to the bathroom by herself and to stand up in the kitchen sink to wash the dishes. Her L4 reflex was normal, she had a healthier appearance to her toenails, her digestion was improved, her lower extremity strength was improved ("60%," method of determining this not given), and 90% decrease in low back pain. Physical therapy was advised at this time to help improve the atrophy in her lower extremities.

Conclusion: A number of other case reports on the treatment of functional disabilities in patients with multiple sclerosis using AK chiropractic methods are in the literature, and this research should be expanded. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:25-26)

Key Indexing Terms: *Multiple Sclerosis; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY MANAGEMENT OF NOCTURNAL ENURESIS: A CASE STUDY

Cecilia A. Duffy, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case of a 4-year old male who was successfully treated for nocturnal enuresis that had been present every night of his life.

Clinical Features: This boy had never had a dry night and would also lose bladder control while napping during the day. He was otherwise toilet trained during waking hours.

Intervention and Outcome: The patient was treated using applied kinesiology protocol eight times over a 5-month period. Manual muscle testing revealed a conditionally inhibited upper trapezius that became conditionally facilitated upon oral insalivation of Cataplex B (Standard Process Labs). The L5 and T4 vertebrae were anterior; a category II pelvic fault and sphenobasilar inspiration assist cranial fault were corrected. The volume of liquids the child consumed was to be recorded. 2-weeks later the child had 5 dry nights, and the daytime bedwetting was resolved. The patient had never experienced a dry night to this point. ADH levels were evaluated for diabetes insipidus, and were negative. Instructions to limit water consumption to 4 ounces per hour with no water consumption after 6 p.m. were given. An adrenal supplement was given also. Bilateral foot pronation was corrected. If the boy did not drink water after 6 p.m., the nighttime enuresis problem remained corrected.

Conclusion: It appears that patients with nocturnal enuresis do undergo chiropractic treatment in practice. Consequently, this should be an area of research importance. More clinical trials using reliable diagnostic criteria and outcome measurements are needed.
(Collected Papers International College of Applied Kinesiology, 2003-2004;1:27-29)

Key Indexing Terms: *Enuresis; Manipulations, Spinal; Case Reports; Kinesiology, Applied*

THE INTRAOSSEOUS SUBLUXATION, ASSOCIATED POINTS OF ACUPUNCTURE, AND REDOX PROBLEMS

Daniel H. Duffy, Sr., D.C., D.I.B.A.K.

ABSTRACT

Objective: The aim of this paper was to review the intraosseous subluxation described in applied kinesiology methods and to suggest that this subluxation is present at the associated points of meridians indicated by alarm point diagnosis.

Methods: A review of the intraosseous subluxation, its examination and treatment, and its hypothesized relationship to the cranial rhythmic impulse, the Governing Vessel and Bladder meridians, and many other factors are discussed. A review of the author's own experience with measurable improvements in patients' performance after correction of this subluxation is given.

Results: The beneficial, often immediately observable results from the correction of the intraosseous subluxation was hypothesized to be related to the improvement in the function of meridians whose alarm points are affected by the intraosseous subluxation.

Conclusion: Search for an intraosseous subluxation at the associated point of the involved meridian was recommended whenever acupuncture meridian imbalance is diagnosed using AK methods. Intraosseous subluxations should be considered a potential cause of meridian imbalances in patients. Clinical trials to evaluate this hypothesis are needed. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:31-36)

Key Indexing Terms: *Acupuncture Points; Meridians; Clinical Protocols; Manipulation, Spinal; Kinesiology, Applied*

ACID-BASE METABOLISM: A STUDY TO EVALUATE DIFFERENT MEASUREMENT METHODS (INCLUDING SUMMARY OF 5 CASE HISTORIES)

Hans Garten, MED, D.I.B.A.K.

ABSTRACT

Objective: In this study a comparison is made of methods of acid-base measurements using the blood gas analysis method of Astrup, urine acid titration according to Sander, lactate measurement in venous blood, and the sensory provocation methods from applied kinesiology. Therapy for acid-base disturbances is described.

Methods: The importance of the acid-base physiology in the blood is discussed, and a review of the literature on the various methods of measuring acid-base balance is given. The signs and symptoms of acidosis and alkalosis are described. Methods for diagnosing hyperacidic and hyperalkaline conditions in patients using applied kinesiology sensory provocation and manual muscle testing responses are delineated. 246 patients were part of this study, 190 of whom were patients at the pain therapy section of the department for anesthesiology and operative intensive care medicine of the Justus-Liebig-University in Giessen. 5 detailed case studies and applied kinesiology evaluation and treatment are described, and their outcomes are matched to the acid titration urinary tests of Sander.

Results: Applied kinesiology sensory provocation testing was found to be the most consistently effective method for evaluating the specific acid-base imbalances of patients and the method that best enabled the physician to design a therapeutic program to improve their acid-base balance.

Conclusion: Using specific chiropractic and nutritional therapy it was possible in these patients to reduce several types of metabolic stress that led to decreased acid elimination. This was one sign of correction of acid-base imbalances. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:41-68)

Key Indexing Terms: *Acid-Base Imbalance; Acidosis; Alkalosis; Biochemical Phenomena, Metabolism, and Nutrition; Clinical Protocols; Urinalysis; Hematologic Tests; Kinesiology, Applied*

CASE STUDY: CHRONIC SEVERE CONSTIPATION CAUSED BY ASYMPTOMATIC L3-4 INTERVERTEBRAL DISC SYNDROME AND CLOSED ILEOCECAL VALVE

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the applied kinesiology management of a patient who had never moved his bowels and who had depended upon a weekly enema for his entire life.

Clinical Features: A 13-year-old boy presented who had never moved his bowels on his own since birth. Medical x-rays were taken for diagnosis and treatment with mineral oils had not been effective.

Intervention and Outcome: Physical examination revealed a bilateral sprain/strain of the sacroiliac joints, with a compression of the L3-4 intervertebral disc. The L3 vertebra was anterior, and there was a positive challenge suggesting a closed ileocecal valve. Palpation of the gallbladder showed tenderness, and the patient was counseled to eat beet greens. A correlation between bilaterally weak pectoralis clavicular muscles and hypochlorhydria was made. Intersegmental traction to the L3-4 disc along with corrective stretching exercises were given. He was told to increase his water-soluble fiber with papaya and apples, and told to avoid milk, corn, soy and wheat that were found to cause muscle inhibition with oral nutrient challenge. Correction to the lumbosacral spine and the closed ileocecal valve, along with nutritional treatment, corrected this young boy's bowel pattern and by the fourth visit he was moving his bowels daily.

Conclusion: Normalization of the lumbosacral plexus outflow to the gastrointestinal tract and specifically the ileocecal valve is hypothesized to be the effective factor in the treatment of a severe, life-long constipation. Many patients experience chronic constipation that visit chiropractic offices, and so further evaluation of this method of treatment is warranted. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:69-70)

Key Indexing Terms: *Constipation; Ileocecal Valve; Lumbosacral Plexus; Case Reports; Manipulations, Spinal; Kinesiology, Applied*

CASE STUDY: CORRECTION OF SEVERE HIATAL HERNIA COMPLAINTS IN A PATIENT WITH A CONGENITAL FAILURE OF SKELETAL MUSCLE GROWTH WITH RESULTANT SEVERE SCOLIOSIS

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the chiropractic care of a patient medically diagnosed with Werdnig-Hoffman disease (a spinal muscular atrophy), who had been unable to hold down food for five months previous to chiropractic treatment, and to discuss issues clinically relevant to this disorder.

Clinical Features: A 13-year-old male with a medical diagnosis of Werdnig-Hoffman disease (type I, infantile) presented for chiropractic care related to a severe hiatal hernia. The patient was wearing a body cast made out of semi-dense foam, and presented in an electric wheelchair that he could operate with digital controls. At the age of 18-months the child received applied kinesiology cranial treatment that helped with his extreme weakness at the time. This allowed him to hold his head up and start to have normal bowel movements. The child had been previously given a prognosis of death before age 2. For 5 months prior to the treatments in this report, he would regurgitate his food with copious amounts of liquid upon eating just a few bites. Occasionally he could eat one meal within a two-day period.

Intervention and Outcome: Due to the lack of muscle development in this child, surrogate testing as developed in applied kinesiology methods allowed for the AK evaluation of skeletal misalignment in this boy. Bilateral sacroiliac subluxations with a right inferior sacral base, right L3, left L4, right L5, C1 right, C2 left, C3 right were corrected. T9-L1 were found anterior with the ribs bilaterally lateral. A positive challenge to the diaphragm muscle was discovered. Origin-insertion technique and muscle spindle cell technique along with related neurolymphatic reflexes were performed to strengthen the diaphragm, abdominal, and major pelvic muscles. The patient responded well to the interventions and was able to swallow an entire meal without side effects. He was treated through age 18, and graduated from college with a major in psychology and a minor in special education.

Conclusion: In the remarkable outcome presented in this case report, there is evidence of precise biomechanical and neurological individuality. As a result, this patient only responds to a singular form of adjusting and may have failed to respond to others. Apparently, this young man with type I, infantile Werdnig-Hoffman disease was in this category. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:71-73)

Key Indexing Terms: *Spinal Muscular Atrophies of Childhood; Hernia, Hiatal; Muscle Weakness; Manipulation, Spinal; Kinesiology, Applied*

CASE STUDY: CRYPTORCHIDISM CORRECTION WITH CONSERVATIVE CHIROPRACTIC APPLIED KINESIOLOGY

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the case of an infant with a congenital right inguinal hernia and undescended testicle (cryptorchidism) who received chiropractic treatment prior to surgery.

Clinical Features: The parents of a nine-month old child sought a second opinion for their child diagnosed one week earlier with a right inguinal hernia and undescended testicle. The child was born vaginally without difficulty, although he was six weeks premature.

Intervention and Outcome: Due to the age of this child, surrogate testing as developed in applied kinesiology methods allowed for evaluation of skeletal misalignment in this infant. A bilateral sacroiliac sprain was corrected using gentle respiratory adjustments to correct the misaligned pelvic joints. The author describes a right inferior sacral base, right L3, left L4, right L5, C1 right, C2 left, C3 right vertebral subluxation complex to arise with the sacroiliac sprain, and these were corrected also. The thoracolumbar junction was also rotated at T10-12, and corrected. These corrections were performed one week apart with complete resolution of the cryptorchidism after the second visit.

Conclusion: There are indications that patients suffering from cryptorchidism (undescended testicle) may benefit from a holistic chiropractic approach that not only includes examination and care to the primary areas of complaint (e.g. inguinal hernia and undescended testicle) but also potentially from significant pelvic subluxation concomitants. Since surgery is the only current approach, and the applied kinesiology method is conservative and cost-effective, further validation studies should be undertaken due to the global increase in this condition. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:75-76)

Key Indexing Terms: *Cryptorchidism; Hernia, Inguinal; Manipulations, Spinal; Case Reports; Chiropractic; Kinesiology, Applied*

THE PINEAL CRANIAL FAULT

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: This study investigates a hypothesized relationship between a particular cranial fault, the pineal gland, and melatonin metabolism.

Design: Prospective case series. 78 patients recruited from the practice of the treating clinician.

Intervention and Outcome: The patients' tensor fascia lata muscles were tested supine, with simultaneous crossed thumb therapy localization (TL) to the cruciate suture of the maxillary bones. In these patients, an inhibition of the muscle was found with therapy localization and a particular phase of respiration (inspiration or expiration) would negate the inhibition. A particular cranial vector of correction would be sought in these patients, the contact point being from the center of the palate with the index finger and an open hand contact on both mastoid processes simultaneously. The direction of correction for both hands would be the direction that caused the greatest muscle inhibition on challenge. A figure 8 motion of the palate hand, and a clockwise or counter clockwise motion of the hand on the occiput for 40 seconds were needed to achieve correction. It was also found that pineal gland and melatonin nutritional extracts would also negate the positive TL to the cruciate suture.

Conclusion: The results of this prospective case series indicate that this particular cranial fault may be associated with the pineal gland and melatonin metabolism. Specific biochemical measurements and more precisely documented outcomes from the treatment given should be measured and described in future studies. Further research into this method of evaluation and treatment, and into the proposed physiology of the mechanisms involved is warranted. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:75-76)

Key Indexing Terms: *Pineal Gland; Melatonin; Case Reports; Musculoskeletal Manipulations; Kinesiology, Applied*

CRITERIA FOR ACCURATE MANUAL MUSCLE TESTING AS USED IN APPLIED KINESIOLOGY PRACTICE

Hans Boehnke, D.C., D.I.B.A.K.

ABSTRACT

Introduction: For years, applied kinesiology chiropractors have used the term muscle tests as one of their most important methods for examining patients. There are a number of descriptions of the basic manual muscle test in AK, and this paper presents them and attempts to delineate their differences.

Purpose: To seek a nomenclature for three differing types of muscle tests presently in use by applied kinesiologists, and to seek consensus in the terminology used to describe manual muscle testing outcomes. This paper seeks to investigate the rationale behind three differing forms of muscle testing and to present possible theories for their existence and their clinical value. The three types of muscle testing described are: Examiner Started Manual Muscle Testing (EsMMT), Patient Started Manual Muscle Testing (PsMMT), and Patient Started sub-maximum Manual Muscle Testing (PsMMTsm). The criteria used to determine manual muscle testing outcomes are described.

Discussion: While there have been no definitive studies comparing the use of these different types of manual muscle testing as a diagnostic and treatment modality, there have been some reported case studies which support its value.

Conclusion: Future research is necessary to further understand these differing types of manual muscle testing methods that are already partially accepted in the applied kinesiology chiropractic community. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:89-97)

Key Indexing Terms: *Terminology; Muscle Weakness; Kinesiology, Applied; Chiropractic*

DIFFERENTIAL DIAGNOSIS USING APPLIED KINESIOLOGY METHODS IN A CASE OF LONG-TERM HEAD PAIN

Scott C. Cuthbert, D.C.

ABSTRACT

Objective: A patient presenting with constant, daily headaches for the previous 7 years that had been increasing in severity is successfully treated with applied kinesiology chiropractic care. The patient had numerous causative components to her symptomatology, and the methods used to diagnose these varying factors are described.

Clinical Features: A 56-year-old nurse presented with constant, worsening headaches after several severe automobile accidents. In the first one 7 years previous, she was rear-ended and her car was thrown 70 feet forward. She heard a loud popping in her spine that made her think she had broken her neck. For 7 ½ months after the first accident she was unable to work or to lift her head from the pillow.

Intervention and Outcome: Hautant's and Freeman-Wycke's proprioceptive tests revealed postural embarrassment. Dramatic muscle weakness on testing was found (Grade 3 as graded in the *Guides to the Evaluation of Permanent Impairment*, 4th Edition by the American Medical Association). Cranial corrections strengthened the sternocleidomastoid and deep neck flexor muscles, removed positive challenges to the TMJ, removed the positive ocular lock, finger-to-finger, finger-to-nose, Hautant's and Freeman-Wycke's tests, and allowed for manipulation of the patient's occiput and cervical spine. An upper cervical fixation, T1-T2 subluxation, treatment to the foot, and a category II pelvic fault were corrected. At the end of the patient's first treatment her headache was gone. This was the first time she had felt no head pain in over 7 years. Over the next 2 weeks the headaches stayed at the 1-2 level on the VAS, and after 8 visits all of her symptomatology was gone.

Conclusion: This case demonstrated that mechanical faults, especially when present for long periods, could disturb proprioceptive signaling from the eyes, the cervical spine, and the vestibular mechanism. Evaluation and treatment of these mechanisms were possible using AK methods, and were successful in resolving intense symptoms relatively quickly. Consequently, further investigation of this type of chiropractic treatment for patients with severe, long-term head pain is warranted. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:113-117)

Key Indexing Terms: *Headache Disorders; Pain, Intractable; Whiplash Injuries; Cranial Neuropathies; Proprioception; Case Reports; Musculoskeletal Manipulations; Kinesiology, Applied; Chiropractic*

THE ANTERIOR-INFERIOR SACRUM: SUTHERLAND'S DEPRESSED SACRUM REVISITED

Scott Cuthbert, D.C.

ABSTRACT

Objective: To review the anatomy, etiology, and symptoms associated with an anterior-inferior sacral subluxation and to discuss the diagnosis and treatment of this condition using applied kinesiology methods. A historical parallel to the importance of this sacral fault in the writings of William Garner Sutherland, D.O. is presented.

Data Source: The following were searched for information relevant to the anterior inferior sacral subluxation: the AK literature, the writings of Major Bertrand DeJarnette, D.O., D.C., William Garner Sutherland, and the Index to Chiropractic Literature.

Results: The anterior-inferior sacral subluxation is frequently found in new mothers. Post-partum neurosis and depression are frequently improved by correction of this sacral fault in the literature reviewed. Production of this fault may occur traumatically with falls onto the buttocks, or during delivery of a child when the pelvic diameter is increased and the ligaments of the pelvis are relaxed. Mother's in the lithotomy position during delivery may strain the sacral base anteriorly and inferiorly, especially when the obstetrician applies traction to the baby's head.

Conclusion: A definitive diagnosis can best be made using the clinical tests described in this paper, and conservative treatment can be effective in treating this musculoskeletal problem of the pelvis. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:119-124)

Key Indexing Terms: *Sacrum; Sacroiliac Joint; Pelvic Pain; Pelvic Floor; Treatment; Kinesiology, Applied; Chiropractic*

THE PIRIFORMIS MUSCLE AND THE GENITO-URINARY SYSTEM: THE ANATOMY OF THE MUSCLE-ORGAN-GLAND CORRELATION

Scott Cuthbert, D.C.

ABSTRACT

Objective: To review the anatomy, etiology, and symptoms associated with the genito-urinary system and to discuss the diagnosis and treatment of problems associated with it using applied kinesiology methods.

The consistency in AK of specific muscle dysfunction with specific organ or gland dysfunction is described.

Data Source: The following were searched for information relevant to the genito-urinary system and its chiropractic evaluation and treatment: MEDLINE, the AK literature, chiropractic, osteopathic and medical textbooks, and the Index to Chiropractic Literature.

Results: Because of the communication systems in the body between the nervous, circulatory, and muscular tissues, a disturbed portion of the musculoskeletal system may impair the function of other tissues and organs. In the paper the focus was on the genito-urinary system and its communication with the nerves and blood vessels of the piriformis muscle area. In AK, each of the endocrine organs has been given specific diagnostic tests, therapeutic protocols, nutritional correlations, and treatment monitoring methods. The endocrine organs are controlled by the nervous system, and this is hypothesized to be the reason chiropractic has been helpful with several endocrine-related disorders.

Conclusion: The hypothesis of this paper is that using manual muscle testing, the physician may evaluate and work directly with the position, motion, innervation, nutritional needs, and tissues of the genito-urinary organs and their adjacent and supportive tissues. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:125-140)

Key Indexing Terms: *Urogenital System; Urogenital Abnormalities; Diagnosis, Differential; Musculoskeletal Manipulations; Kinesiology, Applied; Chiropractic*

THE OTHER 49% OF THE 51%er

Stephen C. Gangemi, D.C.

ABSTRACT

Objective: In applied kinesiology manual muscle testing, a 51%er occurs when the patient therapy localizes to one of the 5-factors of the I.V.F. and a muscle weakens. The 5-factors of the I.V.F. that may need treatment include the nerve, the blood vascular, lymphatic, cerebrospinal fluid, and acupuncture meridian systems. Another reason for the 51%er phenomenon is described.

Methods: The hypothesis of this paper is that a muscle that tests strong, but weakens with TL to one of the I.V.F. factors, weakens due to an injury that needs to be treated using Injury Recall Technique, a method developed by Dr. Walter H. Schmitt to remove the memory of trauma from tissues. The 51%er may also be due to a need to treat an immune system problem first.

Results: The method of testing for an I.R.T. related 51%er muscle is to perform autogenic facilitation (stretching the muscle spindle cell). If the muscle does not strengthen, then an injury is suspected and I.R.T. evaluation performed. The immune system involvement is suspected if autogenic facilitation strengthens the muscle as it should, yet immune system muscles are found weak or are made weak using the visceral referred pain (VRP) challenges described by Dr. Schmitt.

Conclusion: A 51%er indicates that the muscle should not be treated until the reason for the 51%er phenomenon in the muscle is resolved. The reasons for the 51%er findings are hypothesized to be injuries

and/or immune issues and that should be treated first. Treating the injuries and/or immune system involvements first will either resolve the 51%er muscle phenomenon, or resolve the muscle inhibition altogether. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:163-165)

Key Indexing Terms: *Muscle Weakness; Diagnosis, Differential; Treatment; Kinesiology, Applied; Chiropractic*

THE THYMUS VISCERAL REFERRED PAIN AREA

Stephen C. Gangemi, D.C.

ABSTRACT

Objective: Somatovisceral and viscerosomatic reflexes are well accepted in the research literature. Visceral referred pain (VRP) areas on the body wall exist for most of the organs of the body. The location of the thymus gland's VRP is proposed.

Methods: The neurolymphatic reflex (NL) for the thymus gland, as reported by Dr. Walter H. Schmitt, is over the right 4^{th}-6^{th} ribs between the axillary and midmamillary lines. The VRP area for the thymus is reported to be over the right first rib area both anterior and posterior.

Results: If there is positive TL to the NL for the thymus, then determining whether the organ needs more sympathetic or parasympathetic stimulation is determined. Muscle weakness as a result of rubbing the VRP for the organ indicates a need for a net parasympathetic response, and muscle weakness as a result of pinching the VRP for the organ indicates a need for a net sympathetic response.

Conclusion: The thymus gland, along with the spleen and the gut associated lymph tissue (GALT), account for the majority of the immune system. A hypothesized VRP for the thymus gland is described, and a method for evaluating the thymus gland's functional state is offered. Outcome studies for this method of evaluation and treatment are necessary. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:167-168)

Key Indexing Terms: *Thymus Gland; Reflex, Abnormal; Diagnosis, Differential; Treatment; Kinesiology, Applied; Chiropractic*

INJURY RECALL TECHNIQUE REVISITED

James D.W. Hogg, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present three cases where the Injury Recall Technique (I.R.T.) of Dr. Walter H. Schmitt was employed successfully.

Methods: The I.R.T. addresses withdrawal reflex muscular imbalances that may persist in patients long after the original injury. The protocol for diagnosis and treatment using I.R.T. are described.

Results: A patient with a thick, ropy, and tender to palpation scar from a cesarean section surgery 16-years previous was treated with I.R.T. 6 months later the scar was barely palpable and no longer tender to pressure, and after treatment there was long lasting improvement in her abdominal muscle strength. A second patient had extensive scoliosis surgery, with a scar from T3 to L5 that produced numbness along the length of the scar. I.R.T. treatment was given to her and the numbness was relieved. A third patient had three corneal transplants. After the last surgery, he had a "wrinkle" across his field of vision. I.R.T. treatment was given to both eyes. Three weeks later the patient reported that his vision had gone blurry a few days before for 30 minutes and then cleared. He reported that the "wrinkle" across his visual field was gone and his eyesight was better than it had been since the last surgery.

Conclusion: The author's report suggests that I.R.T. is useful when applied to poorly healed areas of scar tissue. Patients visiting chiropractors frequently have surgical scar tissue, and so this method of treatment warrants further investigation and outcome studies. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:169-172)

Key Indexing Terms: *Cicatrix; Pain; Treatment; Kinesiology, Applied; Chiropractic*

ADRENAL AND INSULIN RELATED DISORDERS: MORE COMPLEX THAN WE THOUGHT

Datis Kharrazian, D.C., M.S., D.A.C.B.N., C.N.S., C.C.N., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To present information regarding the complex web of physiological alterations that take place with adrenal and insulin related disorders. The interactions between insulin and cortisol and their impact on human physiology when abnormal are described. The clinical methods of evaluating these hormonal phenomena, and a review of the scientific literature in regard to natural compounds that help support these patterns of imbalance are described.

Methods: 238 references from the medical, physiological, pathological, endocrine, nutritional, biochemical, pharmacological, and neurological scientific literature are cited and reviewed.

Results: Due to the complexity of insulin and cortisol related disorders a number of vicious cycles and imbalances are created that have a major impact on human physiology. A review of the natural compounds that improve insulin resistance and adrenal function are given, and specific tests developed in AK and using other biochemical assays for evaluating the functional state of the adrenal glands and the pancreas are reviewed.

Conclusion: Insulin resistance and blood sugar handling disorders affect 25-35% of western populations, and contribute to diabetes, cardiovascular disease, sleep apnea, hormone metabolism disorders, obesity,

and certain types of cancer. This problem is multi-factorial, and so it is naïve to think of adrenal and insulin related problems as having a single origin and a single cure. Outcome studies of this method of treatment using concurrent bio-chemical testing on the patients treated would be invaluable. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:173-201)

Key Indexing Terms: *Adrenal Insufficiency; Metabolic Syndrome X; Insulin; Cortisol; Biochemical Phenomena, Metabolism, and Nutrition; Clinical Protocols; Treatment; Kinesiology, Applied; Chiropractic*

AN INTERESTING INTERLUDE – A CASE STUDY

George N. Koffeman, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe the case of a 67-year-old man who had been in a coma for 22 days following severe head trauma. The case is described chronologically and his response to chiropractic treatment is reported.

Methods: The doctor visited the patient in the hospital; he had pneumonia and a tracheal tube inserted as well as a stomach tube for feeding. A diagnosis of massive brain damage had been given. Due to the patient's inability to respond, his wife was tested as a surrogate for manual muscle testing response. TL found positive contacts at the neurovascular (NV) reflex on the left frontal bone, a stress receptor for the supraspinatus on the left, and a cranial adjustment (described as "hemispheric" and determined by the height of the eye sockets) was given.

Results: Within 2 minutes of receiving this treatment, the respiratory rate fell to 19 from 33 per minute, heart rate dropped to 89 from 128, and the rhythm became regular, where it had been spiking every 6 to 10 beats. The next day the patient recognized the doctor and the patient signaled to him by squeezing his left hand. The previous day's surrogate testing routine was now negative. A left-sided temporal tap correction with the suggestion of complete and rapid recovery was given to the patient. The next day the patient had made so much progress that he was moved to a rehabilitation hospital. The patient was still completely paralyzed on the right side – arm and leg. A NV reflex near the junction of the sphenoid, temporal, and parietal bones on the side opposite of the paralysis was treated for over 20 minutes. At 21 minutes the patient reached up and removed the doctor's hand with his left hand. 15 minutes later, he bent his right elbow and laced his fingers together with his left hand and crossed his right leg over his left at the ankle. 15 days later the tracheal tube had been removed, and he was eating on his own. After 2 months the patient was going to physical therapy 2-3 times per week. He is given chiropractic treatment once per week. His right arm still has spastic flexion paralysis and did not respond fully.

Conclusion: Surrogate testing is used with patients who are unable to perform manual muscle testing. In this case, treatment determined using surrogate testing appeared to assist this patient recover from partial paralysis and coma. Further treatments of patients in this condition, often considered hopeless, may be warranted. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:203-205)

Key Indexing Terms: *Coma; Case Reports; Treatment; Kinesiology, Applied; Chiropractic*

NEUROTOXICITY AND ELEVATED HOMOCYSTEINE: THE ROLES PLAYED BY HOMOCYSTEIC ACID, ASPARTATE AND GLUTAMATE AND ACTIVATED FORMS OF FOLIC ACID, VITAMIN B-12, AND VITAMIN B-6

Walter H. Schmitt, D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Background: High concentrations of homocysteine and homocysteic acid (a neurotoxin) and low concentrations of nutrients necessary for its conversion are frequently observed in subjects with neurological symptoms.

Objective: To describe applied kinesiology methods for diagnosing imbalances in homocysteine levels, and to offer methods for treatment.

Methods: In patients with neurological problems related to elevated homocysteine levels, patients were found to have muscle inhibitions following oral insalivation of homocysteine. The metabolism of homocysteine is described, as well as the nutrients necessary for the conversion of homocysteine into amino acids. The procedure for diagnosis and treatment of these factors is described.

Results: The three-pronged approach of nutritional supplementation, neurotoxic substance elimination, and the use of Visceral Challenge Technique help return difficult patients to normal function. The VCT was described in a previous paper for the ICAK, 1999-2000;1:141-148.

Conclusion: The author warns that patients with neurological symptoms related to elevated homocysteine/homocysteic acid are sensitive to aspartame and glutamate. Avoidance of these substances, for these patients, is necessary for full recovery. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:211-215)

Key Indexing Terms: *Homocysteine; Neurotoxicity Syndromes; Biochemical Phenomena, Metabolism, and Nutrition; Clinical Protocols; Treatment; Kinesiology, Applied; Chiropractic*

THE SOMATIC WINDOW ON NEUROLOGICAL FUNCTION – PART 2. INDUCING PATTERNS OF OVER FACILITATION TO EVALUATE CORTICAL HEMISPHERIC DOMINANCE PATTERNS

Walther H. Schmitt, D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To outline procedures for assessment and treatment of cerebral cortical hemispheric imbalances. The author, a diplomate chiropractic neurologist, describes the neurological, somatic, and muscle testing consequences of cortical hemispheric imbalances.

Methods: The assessment of cortical functional status may be assessed by Weber's test, comparing passive range of motion right to left, right to left pupillary light response, and many other autonomic assessments. Right cortex challenges are inducing right brain activity (humming/music); right nostril olfaction; meaningful left distal extremity movement; left visual field stimulation (eyelights). Left cortex challenges are inducing left brain activity (counting/math); left nostril olfaction; meaningful right distal extremity movement; right visual field stimulation (eyelights). After the cortex challenge, manual muscle tests are performed to assess the functional neurological state of the cortex.

Results: The side of hemispheric dominance will demonstrate increased muscle tone on the same side (demonstrated by failure of autogenic inhibition to the muscle, as described by Richard Belli, D.C.). Right sided cortex dominance will produce an open ileocecal valve finding (also increased parasympathetic function on the right); and left sided cortex dominance will produce an open Houston Valve finding (also increased parasympathetic function on the left).

Conclusion: The integration of applied kinesiology principles with the principles of chiropractic neurology may help the physician to get a more complete view of a patient's cortical neurological status. In so doing, these therapies are suggested to help the patient achieve their optimal improvement in neuron metabolic function, and to overcome the problems created by cortical hemispheric dominance. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:217-226)

Key Indexing Terms: *Dominance, Cerebral; Autonomic Nervous System; Diagnostic Techniques and Procedures; Clinical Protocols; Treatment; Kinesiology, Applied; Chiropractic*

THE SOMATIC WINDOW ON NEUROLOGICAL FUNCTION – PART 3. ENCEPHALIC TRANSNEURAL DEGENERATION: THE CAUSE OF MANY TMJ PROBLEMS AND BILATERAL JOINT PROBLEMS

Walter H. Schmitt, D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To review the concepts of transneural degeneration (TND). Assessment and treatment procedures for this problem are outlined. The paper primarily focuses on the clinical effects of TND that arise from the mesencephalic nucleus of the trigeminal nerve and the parabrachial nucleus of the brainstem. The neuroanatomy of the mesencephalon is reviewed.

Methods: TND is an established metabolic phenomenon that affects many motor functions that are commonly identified by AK MMT procedures. TND is associated with the metabolic effects on neurons when they no longer receive adequate stimulation of their cell membrane receptors to keep the neurons metabolically healthy, such as occurs in cases of deafferentation.

Results: Restoration of TND neurons to normal metabolism depends on supplying the neurons with: 1) oxygen, 2) fuel (glucose and substances necessary for its oxidative phosphorylation), and 3) stimulation. Since the TMJ significantly relates with the mesencephalon, AK challenges to the TMJ are suggested to evaluate mesencephalon status. If TL to the TMJ is positive, and the TL is negated by a) slow stretch of the contralateral distal flexors, b) ipsilateral cortical activity, c) contralateral hemifield stimulation, d) oxygen, or e) mesencephalon homeopathic supplement, then mesencephalon treatment for TND is initiated. Treatment involves a) slowly stretching the patients contralateral distal flexors (toes and ankle, fingers and wrist), b) patient performs ipsilateral cortex activity (humming, math), c) perform contralateral hemifield stimulation (Eyelights), d) patient is instructed to move the TMJ through all ROMs. Following mesencephalic rehabilitation procedure, recheck challenge procedure.

Conclusion: A disturbed mesencephalon due to TND explains many TMJ symptoms that are often bilateral in nature, with mental/emotional sequelae autonomic in nature, and related to difficult stomatognathic symptoms. Outcome studies of this treatment method are warranted considering the neurological importance of the areas discussed in this paper. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:227-233)

Key Indexing Terms: *Spinocerebellar Degenerations; Neuron Degeneration; Mesencephalon; Diagnostic Techniques and Procedures; Treatment; Kinesiology, Applied; Chiropractic*

REOCCURRING PITCH PATTERN AND THE FRONTAL FAULT

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the hypothesis that the PRY-T distortion pattern will recur in some cases until a subtle frontal bone cranial fault correction is made that the author reports will eliminate the recurrence.

Methods: This study is a retrospective analysis of 25 cases that had recurring PRY-T distortions. The PRY-T is an AK examination technique of the major body modules and their ability neurologically to function individually and together. It is an acronym derived from an airplane's attitudes: pitch, roll, yaw, and tilt. In these cases, the author searched for faults that still remained in these patients and found that a subtle cranial fault of the frontal bone was present, using the Eye Into Distortion method of testing. When the pitch pattern was discovered, the doctor had the patient TL the involved side of the frontal bone. This negated the positive pitch test, and suggested to the author the connection between PRY-T and frontal cranial faults.

Results: The author has found that recurring modular distortions in patients, diagnosed using the PRY-T method in AK, frequently correlated with frontal cranial faults and that once the cranial fault was corrected, recurrence of the PRY-T was eliminated.

Conclusion: The presence of a subtle frontal bone cranial fault in patients with recurring PRY-T modular distortions was reported. Correction of the frontal bone cranial fault improved the treatment outcomes for these patients. (Collected Papers International College of Applied Kinesiology, 2003-2004;1:235-236)

Key Indexing Terms: *Musculoskeletal Abnormalities; Clinical Protocols; Diagnosis; Treatment; Kinesiology, Applied; Chiropractic*

SUPRASPINATUS MUSCLE AS AN INDICATOR OF BRAIN SEROTONIN LEVELS

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the hypothesis that the supraspinatus muscle may be inhibited bilaterally in patients with low serotonin levels and depression, general anxiety syndrome, obsessive-compulsive disorders, and phobias. Patients taking serotonin reuptake inhibitors (SSRI) like Prozac may have this physical finding also. A discussion of the biochemistry of serotonin and its function in the brain is presented.

Methods: This study is a retrospective analysis of 226 patients, 132 females and 94 males. The patients were asked to bring the medication that they had been prescribed for their psychological problems that included Zoloft, Wellbutrin, Paxil, Prozac, Effexor, Remeron, Elavil, Norpramin, Depakote, and Tofranil. The author also tested St. John's Wart and SAMe.

Results: The author found the supraspinatus muscle to be inhibited bilaterally in each of the patients. The muscle was found to strengthen when the proper medication or alternative therapy was put in the patient's mouth. The method of assuring whether the supplement, therapy, or medication was the "proper therapy," and whether the psychological condition was ameliorated, were not described.

Conclusion: In this study using the supraspinatus muscle on a select population, a correlation was established between bilateral weakness of this muscle and patients with a clinical profile of depression and low serotonin levels. There was no definite correlation in this study between changes in these patients' supraspinatus muscle function and professional psychological testing to demonstrate their improved psychological state. This test may offer mental health practitioners another objective tool to measure their progress with treating patients with mental disorders. Further study of this clinical information is needed to identify the clinical relevance of this finding.
(Collected Papers International College of Applied Kinesiology, 2003-2004;1:237-239)

Key Indexing Terms: *Serotonin Uptake Inhibitors; Depression; Case Reports; Muscle Weakness; Diagnosis; Treatment; Kinesiology, Applied; Chiropractic*

FOOD SENSITIVITIES AND ARTERIAL HYPERTENSION

M. Stegagno, D.C.

ABSTRACT

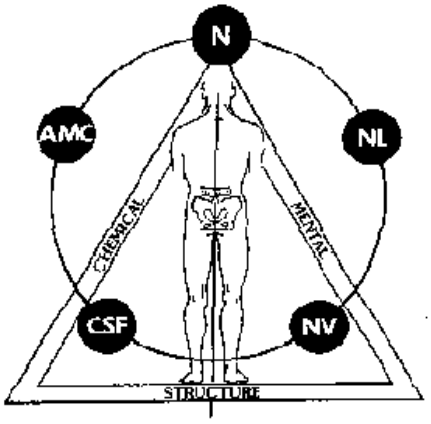
Objective: To present a case series of 364 hypertensive patients and their treatment using AK methods.

Clinical Features: 364 hypertensive patients were evaluated for food sensitivities based on postural deviations due to induced muscle imbalance as evidenced on a computerized quadrilateral weight scale before and after challenge with 30 different diluted foods.

Intervention and Outcome: 70% of the subjects who avoided or were successfully treated for the identified offending foods achieved at least 20/15 mm hg improvement in their hypertension, with 30% of the total achieving normalized blood pressure within one year's follow up. Postural distortions and postural reactions to food challenges improved as well.

Conclusion: The correlation between hypertension, food sensitivities, and oral nutrient testing is made in this report indicating that another possible treatment approach, non-invasive, cost-effective, and effective is available. Further studies into this important discovery are warranted.

Key Indexing Terms: *Hypertension; Food Hypersensitivity; Case Reports [Publication Type]; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2002-2003

-- Edited by Scott Cuthbert, D.C.

ARTHRITIS – A CASE STUDY

John Erdmann, D.C.

ABSTRACT

Objective: To discuss a case of symptomatic arthritis of the left hip and knee in a male successfully treated with applied kinesiology chiropractic care.

Clinical Features: This patient had experienced gout one year previous, and was taking two blood pressure medications, a herpes medication as needed, and glucosamine-chondroitin supplements. A symptom survey form was completed and found cardiovascular and parasympathetic areas to be primary. The method for determining this, or a discussion about the symptom survey's validity as a measurement tool, is not described. An acoustic Cardio Graph showed a depressed S1 sound in all valves, and a decreased separation of the heart sounds at the aortic valve. Another observation, "liver and adrenal stress predominant in the mitral valve area" was not explained. A positive Ragland's sign, and an acidic urinary and oral pH were present, as well as a positive zinc tally test.

Intervention and Outcome: The patient was adjusted on three visits in a two-week period focusing on spinal fixations. Kidney meridian acupressure and vitamin A supplementation was given. Chiropractic adjustments were given to the occiput, C1, L3 and sacrum, including Category I and II pelvic blocking. Cardio-Plus (S.P.), HCl acid, and zinc supplementation were also dispensed to the patient. Patient was restricted from eating corn as identified by a supraspinatus muscle weakening to lingual tasting of corn. On the second visit, the patient reported slight improvement. After three visits, the patient had no arthritic pain in his knees and hips. 3 weeks later the patient showed significant improvements on the Acoustic Cardio Graph and the patient remained symptomatic.

Conclusion: Because applied kinesiology treats the entire person, the discovery of the precise mechanism of clinical improvement in a case like this one is difficult. However, there are many simultaneous physiological problems occurring in our patients, and it may be that treatment of all of these are required to restore the patient to full function. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:15-16)

Key Indexing Terms: *Arthritis; Knee; Hip; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

LOW ENERGY – A CASE STUDY

John Erdmann, D.C.

ABSTRACT

Objective: To discuss a patient presenting with numerous symptoms including low energy, shoulder, knee and heel pain.

Clinical Features: This 36-year-old male had asthma since childhood, flat feet, and is lactose intolerant. A symptom survey form found environmental and food sensitivity, B vitamin need, and adrenal dysfunction. An Acoustic Cardio Graph discovered aortic and mitral valve agitation associated with allergy and "adrenal spikes," indicating possible cortisol imbalance. Ocular lock testing was positive, with positive TL to the atlas vertebra.

Intervention and Outcome: The patient was adjusted 9 times. The right acromio-clavicular joint was adjusted, the proximal ulnar and lunate bones also. Both feet were adjusted, with fascial flush and spindle cell techniques to the plantar fascia. The feet were taped after adjustment and the patient was instructed to tape his feet for the following 2 weeks. Nutritional support to the adrenal glands was given. He was instructed to avoid dairy, sugar, bread, and drink more water. By the 3rd visit the patient had no knee or heel pain. On the 8th visit, the patient remained free of pain with increased energy.

Conclusion: Because applied kinesiology treats the entire person, the discovery of the precise mechanism of clinical improvement in a case like this one is difficult. However, there are many simultaneous physiological problems occurring in our patients, and it may be that treatment of all of these are required to restore the patient to full function. The use of the "standard symptom survey form" and the Acoustic Cardio Graph in patient evaluation and treatment should receive further research since they were helpful in the case described here. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:17-18)

Key Indexing Terms: *Abnormalities, Multiple; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

HIDDEN SUBLUXATIONS

George N. Koffeman, D.C., D.I.B.A.K.

ABSTRACT

Objective: To describe a method of discovering subluxations that remain in the patient after all major corrections have been made.

Clinical Features: Using a DeJarnette (the founder of Sacro-Occipital Technique) occipital and upper trapezius chart, a method of therapy localization was devised to discover subluxations that, in the author's experience, eliminated the subjective complaints patients sometimes have after major spinal corrections.

Intervention and Outcome: When a patient complains of a persisting pain after treatment, the author advises palpation of the upper trapezius and occipital fibers described in S.O.T. Where tenderness is elicited, the patient is asked to TL this point. If it weakens, the doctors challenges from coccyx to the occiput to find the area that abolishes the TL weakness. Correction of the subluxation found will abolish positive TL to the occipital or trapezius fiber. According to the author, this removes persisting pains in the patient by discovering and correcting remaining subluxations.

Conclusion: This system of analysis and treatment should be evaluated with outcome studies and other objective measurements of response to the treatment outlined here. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:23-24)

Key Indexing Terms: *Clinical Protocols; Manipulation, Spinal; Kinesiology, Applied*

COMMENTS ON UTILIZING SOME OF THE CONCEPTS OF JANDA

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss the applied kinesiology application of one of the findings of Vladimir Janda in his book "Muscles as a Pathogenic Factor in Back Pain."

Clinical Features: Weakness of the flexor and/or extensor hallucis muscles of the foot can produce a short stride and a failure of the patient to toe-off during the gait cycle. According to Janda, a kinematic chain of muscles will be short or hypertonic as a result of mechanical problems. This can be demonstrated using AK MMT methods. This foot problem may produce hypertonicity of the gastrocnemius, hamstrings, thigh adductors, rectus femoris, iliopsoas, tensor fascia lata, some of the trunk extensors, especially in the upper lumbar and neck region, quadratus lumborum, the sternoclavicular portion of the pectoralis major, the upper part of the trapezius, levator scapulae, and flexors of the upper extremity.

Intervention and Outcome: Correction of the weak foot muscles, followed by proprioceptive neuromuscular facilitation (PNF) activity to normalize and repattern the ankle and foot produces reflex normalization of the above muscles with resultant increased range of motion. Common foot problems causing the failure of normal great toe function include a posterior calcaneus, anterior talus, and separation of the tibia and fibula both proximally and distally.

Conclusion: The importance of foot evaluation and treatment for total body treatment is an important concept in applied kinesiology therapy, and is confirmed by some of the findings of Vladimir Janda.
(Collected Papers International College of Applied Kinesiology, 2002-2003;1:25-26)

Key Indexing Terms: *Foot Injuries; Muscle Hypertonia; Muscle Hypotonia; Gait; Treatment; Chiropractic; Kinesiology, Applied*

THE CHANGE OF THE ASYMMETRY OF RESTING CALCANEAL STANCE POSITION BY APPLIED KINESIOLOGY

Seung Won Lee, M.D., Ph.D., D.C., Je Woon Lee, M.D., Francis I. Park, D.P.M.

ABSTRACT

Objective: To demonstrate the correction of asymmetry of the resting calcaneal stance position (RCSP) by the intervention of applied kinesiology.

Clinical Features: A multidisciplinary clinic of AK, podiatry, and orthopedics selected 40 patients (11 males, 29 females) with RCSP asymmetries of more than 3 degrees who also had low back, pelvic, and lower extremity symptoms. Any patient with significant pathology that might contribute to RCSP problems was excluded from this study.

Intervention and Outcome: AK methods were used to treat the problems found including correction of muscles and joints of the spine, cranium, pelvis and lower limb, and gait problems. For the 40 patients, the mean asymmetry in the RCSP was 4.45 degrees. After AK treatment for 2 weeks there was an average change in RCSP of 1.62 degrees. It was found that patients who did not have significant change in RCSP after AK treatment had structural asymmetry that should be treated with the prescription of orthotic support.

Conclusion: AK has traditionally held that leg length inequality may produce, on the long leg side, foot pronation, internal tibial rotation, medial knee joint degenerative changes, medial rotation of the pelvis, iliopsoas tightness, piriformis tightness with sciatic impingement, etc. AK intervention may be beneficial not only for the structural asymmetry of the foot but also for some of the functional consequences that may be occurring as a result of this foot problem in some patients. This precise, elegant study should be repeated with a larger patient population and a control group for outcome comparisons. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:27-32)

Key Indexing Terms: *Foot Deformities, Congenital; Foot Diseases; Evaluation Studies; Treatment; Chiropractic; Kinesiology, Applied*

MIGRAINE HEADACHES AND FOOD SENSITIVITIES – A CASE HISTORY

Robert A. Ozelio, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss a patient with migraine headaches successfully treated with the identification and elimination of food sensitivities using applied kinesiology chiropractic care.

Clinical Features: A 30-year-old male presents with intermittent and unpredictable migraine headaches. The patient also had non-migraine headaches several times a week. The patient completed a diet log for 7 days and he consumed a large quantity of dairy and wheat.

Intervention and Outcome: Muscular, cranial, and spinal manipulative therapy was employed following AK methods. AK methods to identify food sensitivities were also employed. The suspected food that was irritating the patient was placed in his mouth, and if a strong muscle weakened, the patient was considered to be potentially sensitive to that food. The patient proved to be sensitive to dairy and wheat. Removing these from his diet made some improvement for his headaches. He also consumed olive oil every day, and he was tested and found sensitive to olive oil, an unusual finding in the population. His headaches stopped completely after eliminating the olive oil. Other oils, such as butter, coconut butter and other fats were used instead.

Conclusion: In this patient, it was important to check for food sensitivity. The patient proved to be sensitive to a food item that is not usually written about in textbooks. The author suggests that doctors keep an open mind when evaluating food sensitivities, as this may be necessary to achieve success. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:35-36)

Key Indexing Terms: *Migraine; Tension Headache; Food Hypersensitivity; Food Analysis; Treatment; Chiropractic; Kinesiology, Applied*

NEW TOOL FOR DX & TX OF SWITCHING

Jose Palomar Lever, M.D.

ABSTRACT

Objective: To present a new method of diagnosis for the problem called "switching" in applied kinesiology, and a case series report is presented on 200 random patients using this method.

Clinical Features: Switching (also called neurologic disorganization) is of particular concern in the examination of patients because when switching is present, erroneous information may be derived from various testing procedures. A review of the standard AK methods for determining if a person is neurologically disorganized is presented. The method presented by the author does not require TL to points on the body, which prevents false-positive or false-negative test results due to the presence of other physical problems in the area of TL.

Intervention and Outcome: Using the principles developed in the "Brain Gym Handbook," the author presents two images to the patient. The images are either two parallel lines, or two crossed lines in the shape of an X. 200 patients with positive TL to K-27 were also evaluated using this method. 164 of these patients had unpredictable muscle responses to testing. The character of these unpredictable findings was not described. These same 164 patients with positive TL to K-27 and unpredictable muscle responses on testing also showed a positive "X" and "ll" test, meaning that a previously strong indicator muscle remains strong after viewing the "ll" image and/or becomes weak with "X."

Conclusion: Treatment is directed toward the factor that corrects the positive visual test. Correcting neurological disorganization makes manual muscle testing outcomes more predictable, thereby improving accurate diagnosis and treatment. The relationship of this method of diagnosis and treatment to specific patient morbidity and dysfunction will require further research. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:37-40)

Key Indexing Terms: *Diagnostic Techniques, Neurological; Evaluation Studies; Treatment; Chiropractic; Kinesiology, Applied*

CASE HISTORY: ILEOCECAL VALVE AND HIDDEN CERVICAL DISC

Bruce Shin, D.C.

ABSTRACT

Objective: To discuss a case of low back pain with sciatica with no history of trauma, except a recent bump of the patient's head against a wall.

Clinical Features: A 55-year-old female complains of sudden onset of low back pain and sciatica. Normal lumbar ROM was noted, but with stiffness; Kemp's sign was negative, but the straight leg raise test was positive on the right due to tight hamstrings.
During AK examination, diagnosis of an open ileocecal valve and a hidden cervical disc were made. A few days prior to the onset of the back pain the patient had a night of abnormal alcohol intake and nuts at a bar.

Intervention and Outcome: Chapman's reflexes for the open ICV were stimulated at upper 3" of the right arm, posterior lamina of C3, inferior to the right ASIS, the Bennett's neurovascular reflex for the ICV between the ASIS and umbilicus. The Luo points at KI-5 on the right and BL 58 on the left were stimulated. Vertebral subluxations of C5 and L1 were challenged and adjusted accordingly. Due to the bump on her head a few days prior to the low back pain onset, the ICV stress receptors were challenged and adjusted. A hidden cervical disc was located at the level of C3, and adjusted. This correction relieved the calf pain almost instantly. All of the originally weak muscles found on examination were now strong.

Conclusion: In some patients, biochemical disturbances may be seriously affecting the structural components in the body. Subluxations and other tissue aberrancies found in AK examination may disrupt the biochemistry of the body and may also cause subluxations to recur. A thorough, whole-body examination may be needed to adequately correct cases with low back pain and sciatica. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:41-42)

Key Indexing Terms: *Low Back Pain; Sciatica; Ileocecal Valve; Intervertebral Disc Displacement; Treatment; Chiropractic; Kinesiology, Applied*

CASE HISTORY: SHOULDER PAIN AND THE 24-HOUR CLOCK

Bruce Shin, D.C.

ABSTRACT

Objective: To discuss the benefits of examining the meridian system of traditional Chinese medicine for a case of shoulder pain.

Clinical Features: A 40-year-old female presents with right shoulder pain of a few weeks duration. No trauma to the shoulder was revealed in the patient's history. Movement of the shoulder produced a mild "boring" pain. The drop arm test, shoulder apprehension, and Wright's test were all negative. The only muscle weakness was in the subscapularis on the right. Pulse point TL diagnosis was positive at the left distal pulse point. Correlating muscles of the small intestine and heart were tested, showing only a weak right subscapularis. The alarm point for the heart did not strengthen the muscle.

Intervention and Outcome: The examiner went backwards on the 24-hour clock, classically described in traditional Chinese medicine, to the lung alarm point, which strengthened the weak subscapularis muscle. T3 was challenged and corrected. LI-6, the Luo point, was stimulated to balance the flow of energy. The patient's shoulder pain was resolved by the end of treatment.

Conclusion: The author points out that symptoms anywhere in the body may be connected to the meridian system. Meridians carry energy from one meridian to the next every 2 hours. If there is a blockage in the energy to prevent proper flow, symptoms can occur. Pulse point diagnosis is recommended as a part of the regular AK diagnostic workup of every patient. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:43-44)

Key Indexing Terms: *Medicine, Chinese Traditional; Shoulder Pain; Meridians; Acupuncture Therapy; Treatment; Chiropractic; Kinesiology, Applied*

A NEW EPIDEMIC OF KNEE INJURIES: A.C.L. IN WOMEN ATHLETES

Paul T. Sprieser, D.C., B.S., D.I.B.A.K.

ABSTRACT

Objective: To present information on the increase in anterior cruciate ligament knee injuries in women, and to present additional information about some of the overlooked causes and treatment methods for this sometimes devastating injury.

Clinical Features: Research literature is reviewed, and some of the causative factors in women are listed: wider hips, hormonal changes at certain times of the menstrual cycle, the smaller size of the A.C.L. and of the notch through which it connects to the femur in the upper leg. Women also begin to play sports at a later age, tend to land in a more upright position than men when jumping, with their knees turned more inwardly. When jumping and cutting, women depend more on the quadriceps muscles which pulls the shinbone forward and tightens the anterior cruciate ligament, while men rely more on their hamstrings which provide more backward draw and pressure on the posterior cruciate ligament. Muscular factors that control the angle of pull into the knee joint complex during activity are described. The importance of balance in the vastus medialis and vastus lateralis muscles for proper patella tracking is cited as critical factors in balanced function of the knee. The balance of the divisions of the hamstrings is also of great importance in this problem. The sartorius and gracilis, popliteus, tensor fascia lata and gluteus maximus muscles are also reviewed in relationship to this problem.

Intervention and Outcome: Several particular tests developed in AK are invaluable in correcting injuries to the knee. These are: reactive muscles, ligament stretch reactions, repeated muscle activation patient induced problems, contributing foot problems, category 2 pelvic faults, TMJ dysfunction that is often related to the category 2 pelvic fault, and cranial faults that can lead to muscular weakness with respiration.

Conclusion: Using traditional orthopedic and AK diagnosis and treatment methods for A.C.L. injuries and for their prevention increase the success for physicians who treat this problem. It is suggested by the

author that treatment of athletic women using these methods would greatly reduce the likelihood of A.C.L. tears. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:45-49)

Key Indexing Terms: *Anterior Cruciate Ligament; Knee Injuries; Diagnosis, Differential; Treatment; Chiropractic; Kinesiology, Applied*

ADOLESCENT CASE STUDY: APPLIED KINESIOLOGY AS AN ADJUNCTIVE PROTOCOL IN AN ACUTE CERVICODORSAL SPRAIN/STRAIN (SHEARING) INJURY

Juli Tooley, D.C., D.I.C.C.P.

ABSTRACT

Objective: To describe the case of a young female with a sprain-strain injury that produced acute left neck, shoulder, and arm pain.

Clinical Features: An 11-year-old female was pushed off a fire hydrant the previous day. She caught her fall on an adjacent fence that created a strain in her left shoulder and left neck. On examination, left cervical rotation was very painful and limited, and left shoulder abduction was slightly limited. All the muscles of her neck and left shoulder were facilitated, except for the levator scapula. A strengthening effect occurred with TL to the insertion of the Golgi tendon organ and the insertion of the muscle. Oral nutrient testing of a supplement for ligament support produced strengthening of the muscle also. When the patient was asked to visualize the event and the boy who pushed her off the fire hydrant, a previously strong indicator muscle became inhibited.

Intervention and Outcome: Chiropractic manipulative therapy was given to the 6^{th} cervical, 12^{th} thoracic, and 5^{th} lumbar vertebrae. Origin/insertion technique was applied to the insertion of the left levator scapula (i.e. approximating the origin and insertion). The Golgi tendon organ of the left levator scapula was corrected by directing pressure toward the belly of the muscle. The emotional neurovascular reflexes were contacted and the patient asked to "picture" the incident and the boy who pushed her until an equal pulse was felt under the author's fingertips. The patient was given a nutritional support for ligament injury. Immediately following the origin/insertion and GTO technique to the left levator scapula muscle and adjustment of the 6^{th} cervical vertebrae, the patient could actively rotate her head equally in both directions, and the pain was gone with full range of motion in the arm and shoulder restored.

Conclusion: Whole body treatment involving the structural, chemical, and emotional components affecting a patient may sometimes be needed. The author argues that AK allows the physician to diagnose the need for such treatment, supply the treatment, and observe whether or not the results of treatment have been effective in solving the patient's problem. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:51-54)

Key Indexing Terms: *Sprains and Strains; Shoulder; Neck; Diagnosis, Differential; Treatment; Chiropractic; Kinesiology, Applied*

"BASIC AK" APPLIED TO AN EXISTING PATIENT: PULSE POINTS UNCOVER "THE WEAKEST LINK" CASE STUDY

Juli Tooley, D.C., D.I.C.C.P.

ABSTRACT

Objective: To present the case of a female with back pain and left thumb pain that was successfully treated in one visit using AK meridian therapy procedures.

Clinical Features: A 52-year-old female with left dorsolumbar and thumb pain presented with no history of trauma (back pain rated at 7-8, and thumb pain 4-5 on a 1-10 scale). The patient has a severe S-type scoliosis that developed in early childhood and has been under chiropractic care for most of her life. Pulse point diagnosis was employed to locate her primary deficient meridian. In AK, there are 6 traditional pulse points that TL on each wrist, 3 superficial and three deep. The scanning of pulse points utilizing MMT and TL ascertains which meridian is currently the patient's weakest link and directs treatment toward improving this factor. The active pulse point in this case was the kidney and bladder meridians. Muscles related to these meridians – tibialis anterior for the bladder and psoas for the kidney – were tested. The psoas was found inhibited on the left, and TL to the left kidney alarm point caused the left psoas to become strong.

Intervention and Outcome: The tonification point for the kidney meridian (KI7) was stimulated for 15-20 seconds using a low frequency infrared laser. The associated point for the kidney on the spine at the L2/L3 level was found subluxated and corrected with a chiropractic adjustment. The extraspinal articulation closest to the tonification point for the kidney on the left ankle showed a subluxation of the talus, which was adjusted. The left psoas muscle tested strong after this treatment. The patient experienced an immediate increase in dorsolumbar ROM and a marked decrease in pain that was now a 0 or 1 on the 1-10 scale.

Conclusion: This case demonstrated that using AK methods of MMT, TL, and pulse point diagnosis could help diagnose the cause of a patient's discomfort and impaired function. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:55-58)

Key Indexing Terms: *Back Pain; Acupuncture Therapy; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY TO DIAGNOSE AND TREAT A CASE OF CHRONIC LOW BACK PROBLEMS: CASE STUDY

John K. Wittle, B.S.N., D.C.

ABSTRACT

Objective: To present a case of chronic low back pain following an injury in 1975 that was successfully ameliorated using AK therapy.

Clinical Features: A male patient was injured playing basketball in 1975, and was put in traction at that time. Since then he has experienced episodes of acute low back spasm caused by very slight movements: in the presentation described here, bending over to plug a cord into his laptop computer produced his acute low back pain, with a left antalgic lean and abnormal gait.

Intervention and Outcome: A right lateral L5 disc correction (diagnosed using AK MMT methods), as well as a T7 and left occiput subluxation corrections were made. Reflex treatment and muscle work were performed for the psoas muscles and the right multifidus. Oral nutrient testing showed a need of nutrients for an inflammatory problem and disc support with additional selenium. Patient was seen one-week later reporting improvements. "This was the quickest resolve I've ever had." The L5 disc was adjusted again as well as a category II pelvic fault. The following week the patient showed no disc involvement and continued improvement. He was seen 4 additional times in a 5-month period dealing primarily with category II faults. He reported feeling great with only occasional discomfort even with stress.

Conclusion: With the use of AK as a diagnostic method, the patient has experienced the most beneficial results in the 25 years since his original injury. The use of AK in cases of low back injury as a result of trauma may result in improved treatment outcomes for the chiropractic physician. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:65-66)

Key Indexing Terms: *Low Back Pain; Intervertebral Disc Displacement; Case Reports; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

REVIEW OF THE AK MUSCLE TESTING PROCESS

Donald C. Baker, D.C., N.M.D.

ABSTRACT

Objective: This paper reviews several basic aspects of AK MMT processes, related scientific studies, basic definitions and terminology relating to MMT.

Clinical Features: Three types of MMT are occasionally described in the AK literature. Type 1 testing is when the physician begins the test and the patient resists this force. In Type 2 testing, the patient comes to a maximum contraction at which time the physician adds additional force. In Type 3 testing the patient is not allowed to come to maximum force; before he does so, the physician applies additional force attempting to move the muscle into eccentric contraction. Graphical representations of these three types of tests are presented, and a mathematical model of the three types of MMT is described.

Intervention and Outcome: Mathematically or graphically, what is being measured during a MMT is the differential of force with respect to displacement. A differential of force with respect to displacement would be the slope of the curve of force versus displacement on a graph that measured the muscle test. If the muscle "locks" there would be little change in displacement for a relatively large change in force. The quality being measured during an AK MMT is a dynamic curve of neuromuscular function; it is not a static value such as the muscle's absolute contractile strength.

Conclusion: Goodheart, Walther, Gerz, Schmitt, Maffetone, and many others have noted that speaking of "muscle strength" alone does not characterize all the variables of an AK MMT. Further, attempts to objectify AK MMT results with instruments that simply measure muscle strength have met with limited success. The reason appears to be that you cannot evaluate a dynamic process (e.g. dF/dx, the rate of change of force with respect to displacement) with a single static measurement like that produced by a force transducer. Guyton states that the contractile strength of a muscle is a single value not descriptive of a dynamic process. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:69-74)

Key Indexing Terms: *Myography; Review Literature; Terminology; Research Design; Chiropractic; Kinesiology, Applied*

EXCESS TISSUE ACIDITY CO-EXISTING WITH REDUCED PARIETAL CELL HYDROCHLORIC ACID SECRETION

Donald C. Baker, D.C., N.M.D.

ABSTRACT

Objective: This paper considers whether excess tissue acidity and hypochlorhydria may co-exist. AK clinical procedures to diagnose and treat this functional pattern are described.

Clinical Features: Aldosterone deficiency is one possible cause of mild tissue acidosis. The function of aldosterone is the reabsorption of sodium and the secretion of potassium by the kidneys. A secondary function of aldosterone is the secretion of hydrogen ions by the kidney tubules. The reduced section of hydrogen ions in cases of aldosterone deficiency (caused by adrenal stress disorders) may reduce the secretory action of the parietal cells in the stomach. Receptors for aldosterone have been found in the stomach. The relationship between adrenal function and the stomach based on the work of Hans Selye is described. A hypothesis linking aldosterone disturbances to lowered hydrochloric acid levels and excess acidity in the extracellular fluids of the body is made.

Intervention and Outcome: In clinical practice this may mean that there are situations where the patient should be advised to reduce tissue acidity (by recommending alkaline ash diet, supplementation with alkaline ash minerals, etc.), and at the same time the patient may need supplementation with hydrochloric acid with meals in order to assist gastric function.

Conclusion: It is proposed in this paper that a finding of excess tissue acidity does not rule out hypochlorhydria, or vice versa. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:75-78)

Key Indexing Terms: *Achlorhydria; Hydrochloric Acid; Hydrogen-Ion Concentration; Buffers; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY AND DOWN SYNDROME: A STUDY OF TWELVE CASES

Scott C. Cuthbert, D.C.

ABSTRACT

Objective: A case-series of 12 children with Down syndrome is presented. This study describes these children's histories, their clinical findings, and their evaluation and treatment using applied kinesiology methods.

Clinical Features: Down syndrome is the most common readily identifiable cause of intellectual disability, accounting for almost one-third of all cases. It occurs equally in all races with an overall incidence of approximately 1 in 800 births. Congenital heart disease affects 40% of these babies. Severe congenital heart disease remains a major killer of children with Down syndrome, despite advances in surgical treatment. In the absence of a congenital heart defect, the majority of patients can expect to live into their sixth decade. Up to 15% of children with Down syndrome will have radiological evidence of instability of the atlanto-axial joint, but in only a handful of cases will this instability result in an impingement of the spinal cord with resultant neurological signs. It occurs equally in all races with an overall incidence of approximately 1 in 800 births; approximately 4,000 children with Down syndrome are born each year. Children with Down syndrome will be developmentally slower than their siblings and peers and have intellectual functioning in the moderately disabled range, but the range is enormous and the distance from their peers is the crucial factor. This is why the author argues that chiropractic therapeutics can make a profound difference.

Intervention and Outcome: Following applied kinesiology spinal and cranial bone treatment these children's ability to move, to crawl, to breathe through breathe through the nose, to use their hands and feet together and their tongue with improved fine motor skills showed significant improvement.

Conclusion: Further studies into applied kinesiology and cranial bone manipulative treatments for Down syndrome are indicated to evaluate whether this case study can be representative of a group of patients who might benefit from this care. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:83-94)

Key Indexing Terms: *Down Syndrome; Child; Outcome Assessment (Health Care); Treatment; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY AND THE MYOFASCIA

Scott C. Cuthbert, D.C.

ABSTRACT

Objective: To describe the importance of myofascial dysfunction to human function, and to present the AK methods of evaluation and treatment of myofascial dysfunction.

Clinical Features: A major source of complexity in the practical application of applied kinesiology procedures is that no muscle exists in isolation, and frequently no single factor produces weakness on MMT. If a muscle has been weak for a long time, there will probably be many of the 5 factors of the IVF that are active in the muscle as well as the local muscle dysfunction. The additional problems are likely due to the body's adaptation to the original factor causing the problem. It has been consistently demonstrated in applied kinesiology that muscular dysfunction is not a simple, localized musculoskeletal disorder. Rather, it ties local musculoskeletal dysfunctions to a variety of other phenomena including pain, increased neurologic confusion, autonomic arousal, visceral dysfunction and disease and, by implication, decreases in the effectiveness of the endocrine and the immune systems.

Intervention and Outcome: The distinct methods of diagnosis in AK for the different myofascial problems originally described by Drs. Travell, Jones, Rolf, and Fulford are presented. Their treatment using a mechanical devise, called the percussor, is described.

Conclusion: Myofascial changes occur when mechanical, chemical, or emotional stresses remain in place in the patient's body for extended periods. What begins as changed muscle tone as the body adapts to these stressors progresses to structural changes in the connective tissue elements that surround and supplement the muscle fibers involved in the adaptation. The suggestion is made that to effectively repair the faulty "tissue tone" that is found in chiropractic patients then we must effectively repair the imbalanced myofascia that is present. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:95-103)

Key Indexing Terms: *Fascia; Myofascial Pain Syndromes; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied*

GASTROINTESTINAL DISORDERS: AN UPDATE AND A REVIEW

Datis Kharrazian, D.C., M.S., C.N.S., C.C.N., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To present the complex interactions that takes place between the gastrointestinal track and the other major systems in the body, and to review diagnostic methods and treatment strategies.

Clinical Features: An extensive review of the research literature shows how gastrointestinal inflammation may impair the function of the thyroid gland; induce insulin insensitivity, adrenal stress syndrome, hypoglycemia; disturb the citric acid cycle and electron transport chain; up-regulate the immune system; induce megablastic anemia; cause DNA damage, produce oxidative stress, autoimmune disease, estrogen dominance; and produce depression, neurodegenerative disease, cardiovascular disease, intestinal permeability and food sensitivities. The metabolic pathways of these mechanisms are elaborated.

Intervention and Outcome: A review of the functional medical tests related to the gastrointestinal tract is given. The author argues that the combination of laboratory tests and AK evaluations give the clinician many other objective tools to make the diagnosis and to evaluate treatment effectiveness. Many treatment options are discussed, and the most effective are ones that include dietary and lifestyle changes, nutritional and herbal supplementation (even pharmaceutical medications at times), and treatments that

optimize neurological inputs involving different aspects of the 5 factors of the IVF. A "4R Program" is delineated, which stands for remove, reinoculate, replace, and repair the gastrointestinal tract.

Conclusion: This elegant literature review shows that gastrointestinal disorders have far reaching impacts on human physiology. Every major system suffers when the gastrointestinal tract is not healthy. The tools in AK and functional laboratory tests help clinicians assess and treat these dysfunctions. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:117-136)

Key Indexing Terms: *Gastrointestinal Tract; Intestinal Diseases; Diagnostic Techniques, Digestive System; Treatment; Chiropractic; Kinesiology, Applied*

MALE HORMONE DISORDERS – UNDERSTANDING ANDROPAUSE

Datis Kharrazian, D.C., M.S., C.N.S., C.C.N., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To review male hormone disorders and the clinical signs and symptoms of andropause; the influence of testosterone on human physiology; male hormone laboratory profiles; and AK and nutritional protocols to manage male hormone disorders.

Clinical Features: The term andropause refers to the time when the production of androgen dominant hormones declines. A review of its symptoms and signs is given. The most common cause of functional andropause occurs when the ratio between serum levels of testosterone and estrogen changes. This problem may be due to increased levels of xenoestrogens and exotoxins in the environment, increased stress, decreased essential fatty acids in our diets, and decreased hepatic detoxification. The identification of andropause is commonly overlooked because there is a slow and gradual drop of testosterone compared to the female menopause. In addition, the managed-care health system does not look favorably into routinely measuring hormone levels in men who do not have serious endocrinological dysfunction. The influence of testosterone upon: 1) cardiovascular function, 2) energy and red blood cell production, 3) bone density, 4) the prostate, 5) body mass, 6) the libido, 7) mood and depression, is described in detail.

Intervention and Outcome: Male hormone laboratory testing (salivary male hormone profile) is outlined. AK MMT also provides the clinician with information that cannot be evaluated by laboratory tests, such as which systems are a priority in therapy or which nutrients will be the most effective for the patient. A vitamin B6 deficiency is described that may explain why there are symptoms of estrogen dominance. Treatment to modify estrogen metabolism; stimulate testosterone synthesis; optimize the pituitary-hypothalamic axis; improve gastrointestinal dysfunction; optimize liver detoxification; and dietary advise for andropause are described in depth.

Conclusion: Male hormone disorders may be one of the most overlooked dysfunctions in health care today. This paper offers protocols for the evaluation and treatment of this sometimes unrecognized and untreated condition that affects ½ of the population. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:137-156)

Key Indexing Terms: *Andropause; Testosterone; Estrogen; Dehydroepiandrosterone; Diagnostic Techniques, Endocrine; Treatment; Chiropractic; Kinesiology, Applied*

THE TRANSVERSE ABDOMINAL – THE FORGOTTEN MUSCLE

David Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: This paper describes the importance of the transverse abdominal muscle and presents a MMT that can be used to measure the strength of the muscle. Treatment for the muscle's inhibition and an exercise program for strengthening the muscle are described.

Clinical Features: The MMT of the transverse abdominal is performed by elevating the legs of the supine patient until they are flexed 15 degrees or approximately 12 inches off the table, and then the legs are moved 10 degrees off the center line of the patient's trunk. The test pressure is directed to bring the legs to the centerline of the table.

Intervention and Outcome: The most common cause of weakness found by the author is an imbalance of the ribs to which the muscle is attached. In cases of low back problems, the diaphragm (rib expansion) and the muscles of the pelvic floor should be tested and corrected if inhibited. AK treatment of these factors is reviewed. Instructions are given for this muscle's rehabilitation that has the patient expire and pull their umbilicus toward their spine and hold it for a count of ten, to be repeated five times a day.

Conclusion: The function of the transverse abdominal is essential to the stabilization of the lumbar spine. Imbalances of the inner and outer muscle systems of the pelvis are effectively corrected by these methods. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:157-159)

Key Indexing Terms: *Abdominal Muscles; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

THE SUGGESTIVE INDICATION OF ORTHOTIC APPLICATION IN EXCESSIVE PRONATION OF THE FOOT FOR APPLIED KINESIOLOGISTS THROUGH THE MULTIDISCIPLINARY APPROACH

Seung Won Lee, M.D., Ph.D., D.C., Je Woon Lee, M.D., Francis I. Park, D.P.M.

ABSTRACT

Objective: To identify when the application of a permanent semi-rigid orthotic will be necessary in cases of excessive foot pronation syndromes.

Clinical Features: 50 patients (14 males, 36 females) were selected from a combined chiropractic, podiatric, and orthopedic medical practice who had excessive pronation of the foot as well as symptoms and signs in the spine, pelvis, or feet. AK and podiatric measurements diagnosed the excessive foot pronation. The total range of motion of the subtalar joint was measured using podiatric standard methodology. The shock absorber test, weight bearing test, gait analysis, and biomechanical examination of single limb stance was done on the initial examination of every patient.

Intervention and Outcome: All patients were treated with standard, whole body AK treatments for 2 months. Two groups were delineated from the study's results. 23 patients achieved significant correction of both excessive pronation with improved symptoms and signs by AK intervention with or without temporary use of a modular type of semiflexible orthotic support. 27 patients were not successful by the treatment of AK methodology but were recommended long-term application of semi-rigid orthotic support. The differentiating factor that was consistent with these two groups was the total range of motion in the subtalar joint. The 23 patients successfully treated with AK had an average subtalar ROM of 42.30 +/- 6.74 degrees. The 27 patients requiring semi-rigid orthotic support had an average subtalar ROM of 55.59 +/- 7.99 degrees. The angle of single limb stance of the 23 patients was 9.39 +/- 2.81 degrees and that of the 27 patients was 11.70 +/- 2.14 degrees.

Conclusion: From this comprehensive study on chiropractic treatment of foot dysfunction, is was concluded that more than 50 degrees of passive range of motion of the subtalar joint will be correlated with the application of orthotic support in patients with excessive foot pronation. Larger patient numbers in a controlled clinical trial should be conducted to confirm these findings. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:161-170)

Key Indexing Terms: *Flatfoot; Pes Planus; Orthotic Devices; Podiatry; Treatment; Chiropractic; Kinesiology, Applied*

SYMPHYSIS PUBIS DYSFUNCTION: THE LYNCHPIN IN UNEXPLAINED LUMBO-PELVIC SYMPTOMS

Eric Pierotti, D.C., D.O., Ch.D (Adel)

ABSTRACT

Objective: To introduce the author's discovery of a specific muscle inhibition related to several specific symphysis pubis subluxations with corrective and rehabilitative procedures offered.

Clinical Features: The biomechanics of the symphysis pubis and pelvis is reviewed. The author correlates a bilateral weakness of the quadriceps muscle group with a number of symphysis pubis subluxations. The test for this has the patient supine, the leg flexed to 45 degrees and the knee in full extension. The opposite leg remains flat on the examining table. A posterior tilt of the pelvis will be found on postural examination in these cases. In 50 patients with symptoms of symphysis pubis subluxations (urinary frequency and urgency, dysuria and dyspareunia, and pain in the pubic area, usually associated with trauma to the area or with diastasis of pregnancy), this bilateral inhibition of the quadriceps muscle was found. TL to the pubis will negate the weakness of the quadriceps group test. The etiology of this finding is explained by pregnancy because within 24 hours of parturition the blood levels of relaxin

reduce markedly and ligaments begin to tighten regardless of joint position, even if the symphysis is in a separated or sheared position.

Intervention and Outcome: A specific protocol for correction of this subluxation is given, as well as rehabilitative exercises.

Conclusion: The author states that this condition is multifactorial, and that the protocol offered here is the structural component of this problem. The chemical and emotional sides of this condition should be evaluated and corrected as well. Because the number of women who experience back pain after pregnancy and who see chiropractors for the problem, further research into this method of therapy should be conducted. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:171-182)

Key Indexing Terms: *Pubic Symphysis Diastasis; Pregnancy; Sprains and Strains; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

NO-STUFF STUFF: STRUCTURAL PATTERNS OF CHEMICAL IMBALANCES: WHAT TO DO WHEN YOU FORGET YOUR TEST KIT

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To present concepts from the author's work on "links between the nervous system and the body chemistry" showing specific sensory receptor challenge procedures that parallel oral challenges with hormones, neurotransmitters, neurotransmitter-related drugs, and nutrients (vitamins, minerals, and amino acids).

Clinical Features: AK assessment is a series of sensory receptor based diagnostic challenges followed by the measurement of subsequent motor activity (MMT outcomes). Clinical decisions on what therapies to administer are based on sensory receptor challenges and MMT outcomes which, combined with other assessment procedures (history, laboratory, other exam findings, etc.), guide the clinician on what is most appropriate for that patient. Articles are reviewed that were written in the 1980s showing parallels between specific neuromuscular and postural patterns (MMT outcomes) and specific biochemical patterns in the patient. The specific sensory receptor challenges and their interpretation from that body of research are summarized.

Intervention and Outcome: The concepts/challenges reviewed are: "Centering the spine"; GV21 challenges; 4 body quadrant and electrolytes; TMJ protrusion and retrusion challenges; autonomic challenges; epinephrine challenge; endocrine Chapman's reflexes and tonic labyrinthine reflexes challenges; visceral referred pain challenges; fats and nitric oxide challenges; type 2 and 3 ligament receptor challenges; and foods, chemical, and heavy metal challenges.

Conclusion: This paper demonstrates that there are links between the nervous system, the muscular system, and body chemistry. The links may be observed by specific sensory receptor challenges and subsequent MMT outcomes that parallel gustatory challenges. Controlled clinical trials of these concepts are warranted. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:183-191)

Key Indexing Terms: *Biochemistry; Diagnostic Techniques, Endocrine; Lingual Nerve; Chiropractic; Kinesiology, Applied*

THOUGHT FIELD THERAPY AND ITS ASSOCIATED EFFECTS ON THE AUTONOMIC NERVOUS SYSTEM

Paul T. Sprieser, D.C., B.S., D.I.BA.K.

ABSTRACT

Objective: To demonstrate the effect of Thought Field Therapy (TFT) by measuring its effects on the autonomic nervous system.

Clinical Features: TFT is the discovery of Roger Callahan, Ph.D., who uses MMT methods for the treatment of emotional problems such as phobia, anger, bad habits, anxiety, guilt, grief, depression, obsessive-compulsive disorders. A presentation of the premises and protocols of TFT is given.

Intervention and Outcome: 106 patients participated in this study, 64 females and 42 males. Five autonomic nervous system measurements were made before and after TFT treatments. These were passive range of motion of the hip joints bilaterally, blood pressure, pulse rate, oral pH, and body temperature. The results were as follows. Median ROM before TFT was 89.62 degrees, and 107.66 degrees after treatment. Every patient showed an improvement in ROM. The blood pressure change was a median decrease in systolic pressure of 4.03 mm Hg, and 4.68 mm Hg decrease in diastolic pressure after TFT. Pulse rate changes showed a median decrease of 4.8 beats. The median oral pH changes were not given. An average temperature increase of .728 degrees occurred in 70 patients, and a decrease of .428 degrees in 28 patients.

Conclusion: According to this author's interpretation of the measurements used, TFT has a beneficial effect on the autonomic nervous system of patients. The author reports anecdotally that this system of therapy has positive emotional effects on his patients also. The mathematical presentation of this study should be repeated with greater controls and with other blinded physicians conducting the therapy to determine the effect of this treatment system in other clinical settings. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:203-215)

Key Indexing Terms: *Emotions; Mental Disorders; Mental Healing; Treatment; Kinesiology, Applied*

MIGRAINES: A THEORY AND TREATMENT PROTOCOL

Steven Zodkoy, D.C., D.A.C.B.N., C.C.N., C.N.S.

ABSTRACT

Objective: To present a theory and treatment protocol for patients with migraine headaches.

Clinical Features: A review of the clinical and nutritional literature related to migraine is presented. This review demonstrates that an accumulation of endotoxins and exotoxins may overburden the liver in migraine cases, followed by an increase in the blood levels of these toxins that act as a stimulus to the intracranial vascular system producing the headaches. This literature review suggests also that nutritional deficiencies of magnesium, superoxide dismutase, and tryptophan are present in migraine patients, and oral supplementation of these nutrients have proven to be an effective prophylactic. Dietary factors including artificial coloring, flavoring, caffeine, alcohol, and preservatives are triggering mechanisms that also and require liver detoxification.

Intervention and Outcome: The author states that positive TL to the liver alarm point is positive in these patients. The nutrient testing described in this paper are: zinc tally, salivary pH, urine pH, vitamin C urine test, calcium urine test, Koenigsburg test for the adrenal glands, 3-hydroxy indol indican urine test (bowel dysbiosis), and cellular oxidation-reduction in urine (aldehyde formation from free radicals). Patients with this pattern of liver detoxification problems with migraines caused by endotoxins and exotoxins will be positive on these tests. Nutritional supplementation approaches found by the author to be effective in these patients are presented.

Conclusion: A review of the nutritional literature on migraine shows that nutritional supplementation may be effective in the treatment of migraine headaches. Controlled clinical trials using this method of diagnosis and treatment are needed since millions of patients suffer from this painful, sometimes debilitating condition. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:233-240)

Key Indexing Terms: *Migraine Disorders; Review Literature; Diagnostic Techniques, Digestive System; Nutrition; Treatment; Kinesiology, Applied*

A NEW TECHNIQUE THAT CORRECTS CRANIAL FAULTS AND TMJ DYSFUNCTION IN ONE ACTION

Paul T. Sprieser, D.C., B.S., D.I.B.A.K.

ABSTRACT

Objective: To present a method of treatment that corrected numerous cranial faults in this study population that are described in AK.

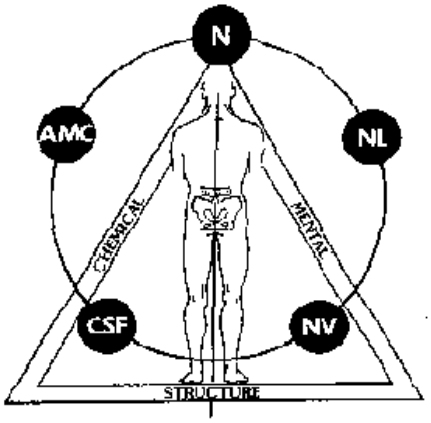
Clinical Features: 250 patients who were diagnosed with cranial faults or TMJ dysfunction were chosen for this study.

Intervention and Outcome: The author placed his hands behind the patient's head and asked the patient to press their neck and head into extension while breathing in. Then the patient was asked to press their neck and head into flexion while exhaling. The author resisted this movement, and the patient repeated

this movement 5 times. The author found that this simple technique corrected the standard types of cranial faults described in AK.

Conclusion: The individual presentations of these cases were not described, nor the method of evaluation precisely outlined so that bias, error, inconsistency, etc. could be ruled out. However, this simple method of treatment is claimed to have far-reaching positive benefits upon patients, and so clinical trial more objectively designed should be conducted. (Collected Papers International College of Applied Kinesiology, 2002-2003;1:243-245)

Key Indexing Terms: *Diagnostic Techniques, Neurological; Evaluation Studies; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2001-2002

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGY MANAGEMENT OF MULTIPLE SCLEROSIS – A CASE HISTORY

Janet Calhoon, D.C., D.I.B.A.K.

ABSTRACT

Objective: An ongoing case study of a 43-year-old female with multiple sclerosis is updated.

Clinical Features: A diagnosis of multiple sclerosis from a medical neurologist was confirmed with MRI. The patient first came for treatment after having all of her amalgams removed and undergoing IV chelation therapy with no improvement. She was using a cane on one side and the support of her mother's arm on the other. The patient's current major complaints are pain in the tailbone, right shoulder, and right neck. Hair analysis showed that the mercury level remained unchanged after the amalgam removal and chelation therapy, and arsenic levels decreased slightly. The nutrient levels of magnesium, sodium, manganese, chromium, selenium, and cobalt all decreased; calcium and zinc increased.

Intervention and Outcome: Oral nutrient challenges were tested and mineral supplementation given. Nutritional counseling was given to the patient, and instructions on food combining offered. Basic AK treatment methods were employed that treated problems in the biochemical and structural areas. After 2 years of AK care she went from not being able to write a check to showering without assistance. The patient was a conditioned athlete at the onset of MS.

Conclusion: Treatment directed to basic structural, chemical, and emotional problems in this patient with multiple sclerosis improved her condition and reduced her pain. Concurrent neuro-radiologic studies are warranted to discover if the care rendered to this patient would benefit other patients with multiple sclerosis. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:1-2)

Key Indexing Terms: *Multiple Sclerosis; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

CASE HISTORY: CERVICALGIA, TINNITUS, AND PERIODONTOSIS

Marcello Caso, D.C.

ABSTRACT

Objective: To present the case of a female with cervical pain and tinnitus of 18 months duration that was co-treated using AK and an oral surgeon.

Clinical Features: A 52-year-old female presented with cervicalgia and incessant tinnitus of 18 months duration, especially in the right ear. The condition developed suddenly, 2 weeks after the implantation of a left inferior bridge by her dentist. The implant procedure was difficult for the patient, and there was a crack in the bridge that had to be repaired. Previous therapies of hypnosis and psychological evaluation, acupuncture, physical therapy, massage and chiropractic were of small benefit to her. An orthodontist made a bite splint for her, which she was using at the time of her visit to the author's office, without benefit.

Intervention and Outcome: Evaluation of the bite for pre-contacts, by means of dental occlusion paper, revealed an anterior pre-contact at the incisors. AK MMT evaluation showed that the bite splint was not helping the patient, and the dentist agreed and made a new one for her. The AK neurologic tooth protocol was treated at the second pre-molar on the left. This was the first tooth of the bridge that was created 18 months prior. Injury Recall Technique was also applied to this tooth. Following the first treatment, palpatory pain of the oral musculature and cervical ROM were both improved. The relief was short lived. This treatment approach was done twice more, with only short-lived results. The author believed, because of the recurring problems, that some type of oral pathology should be ruled out. Another set of films was performed and a large, expansile, lytic lesion was found under the tooth in question. Oral surgery to repair the periodontosis was performed, as well as repair of the bridge. Several weeks after the surgery, the patient presented with a 50% decrease in cervical pain, as well as a decrease in the tinnitus.

Conclusion: Muscular inhibitions that are present on repeated office visits that do not respond to therapy should always be followed up by a more complete examination, occasionally using the expertise of other health professionals. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:3-5)

Key Indexing Terms: *Periodontitis; Tinnitus; Neck Pain; Dental Care; Treatment; Case Reports; Chiropractic; Kinesiology, Applied*

CASE HISTORY: CHAPMAN'S NEUROLYMPHATIC REFLEXES, CONGENITAL INTESTINAL ABNORMALITY, AND BOWEL EVACUATION TIME.

Marcello Caso, D.C.

ABSTRACT

Objective: To describe the applied kinesiologic evaluation of Chapman's neurolymphatic (NL) reflexes in the management of a male with a congenital bowel abnormality and its role in the manifestation of low back pain. The theoretical foundations of these reflexes will be elaborated upon and their clinical applications discussed.

Clinical Features: A 29-year-old man presented with chronic low back pain. Radiographs of the patient's lumbar spine and pelvis were normal. Magnetic resonance imaging (MRI) demonstrated a mild protrusion of the fifth lumbar disk. Oral anti-inflammatory agents, cortisone injections, and chiropractic manipulative therapy provided little relief. Though generally in robust health, the patient was aware of a congenital intestinal abnormality diagnosed when he was a child; it was thought to be of no consequence with regard to his current back condition.

Intervention and outcome: The patient's history, combined with applied kinesiology examination, indicated a need to direct treatment to the large intestine. The essential diagnostic indicators were the analysis of Chapman's neurolymphatic reflexes, coupled with an evaluation of the traditional acupuncture meridians. The primary prescribed therapy was the stimulation of these reflexes by the patient at home. This intervention resulted in the resolution of the patient's musculoskeletal symptomatology, as well as improved bowel function.

Conclusion: The remarkable outcome from the application of this relatively simple, yet valuable, diagnostic and therapeutic procedure represents a thought-provoking impetus for future study and clinical application. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:7-9)

Key Indexing Terms: *Gastrointestinal Disease; Low Back Pain; Chiropractic Manipulation; Treatment; Kinesiology, Applied*

H.I.V. – THE ACHILLES HEEL OF A.I.D.S.

Heath Motley, D.C.

ABSTRACT

Objective: To make the argument that the HIV-AIDS hypothesis is scientifically unproven, and the treatment of carriers of HIV-AIDS with cytotoxic DNA chain terminators originally designed to kill growing human cells for chemotherapy, like AZT, has been a failure.

Data Sources: A literature synthesis of the work of Duesberg is presented.

Results: This paper proposes that American and European AIDS is caused by the long-term consumption of recreational and anti-HIV drugs like AZT. The evidence presented here includes: 1) AIDS is restricted to intravenous and oral users of recreational drugs and AZT; 2) AIDS is 87% male, because males consume this share of recreational drugs; 3) AIDS occurs in newborns, because mothers use recreational drugs during pregnancy; 4) AIDS is new in America, because AIDS is a consequence of the recreational drug use and of AZT prescriptions that started in 1987; 5) AIDS occurs only in a small fraction of recreational drug users, because only the highest life-time dose of drugs causes irreversible AIDS-defining diseases - likewise only the heaviest smokers get emphysema or lung cancer; 6) AIDS manifests as specific diseases in specific risk groups, because each group has specific drug habits. For example, pulmonary Kaposi's sarcoma is exclusively diagnosed in male homosexuals who inhale carcinogenic alkyl nitrites; 7) AIDS does not occur in millions of HIV-positive non-drug users, and there are thousands of HIV-free AIDS cases, because AIDS is not caused by HIV; 8) evidence is cited showing that AIDS is stabilized, even cured, if patients stop using recreational drugs or AZT - regardless of the presence of HIV. The drug-HIV hypothesis predicts that AIDS is an entirely preventable and in part curable disease.

Conclusion: This paper suggests that the solution to AIDS could be as close as a very testable and affordable alternative to the HIV hypothesis - the drug-AIDS hypothesis. The hypotheses in this paper need thorough examination, review, and clinical evaluation. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:17-28)

Key Indexing Terms: *HIV; Acquired Immunodeficiency Syndrome; Etiology; Drug Therapy; Zidovudine; Sexually Transmitted Diseases; Epidemic; Communicable Disease Control*

EPISODIC PAROXYSMAL VERTIGO: A CASE HISTORY

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case of a woman successfully treated with AK methods for episodic paroxysmal vertigo that had been present from childhood.

Clinical Features: A 17-year-old female presented with episodic paroxysmal vertigo that started at approximately 13 months of age. In her first 6 years of life she had episodes of vertigo and vomiting once a month that were from 4 to 30-40 hours in duration and usually began early in the morning while asleep. Thorough pediatric medical examination resulted in her taking Inderal, Periactin, and Meclizine, though they were not very helpful. She had an intense illusion of rotation toward the left and profuse vomiting. These symptoms had forced her out of high school. The symptoms were usually time related, with the vertigo waking her between 5 to 7 a.m. and continue until 3 p.m. when they stopped abruptly.

Intervention and Outcome: AK treatment of cranial and pelvic faults, a fixation at C1 and occiput, Yaw #2 left, and PRY-T were given on her first visit. The most significant factor was the lack of any meridian involvement, except for the Then and Now technique finding. TL to the alarm point for the start of the vertigo symptoms, and then the alarm point for the end of the vertigo symptoms was positive. In her case the vertigo begins at 6 a.m., which in the circulation of chi energy is the large intestine meridian, and 12:30 p.m., which is the heart meridian. Treatment was tapping H5 for 60 seconds. 4 treatments over the course of 7 months have kept this patient free from her episodic paroxysmal vertigo for 3 years.

Conclusion: The inclusion of AK evaluation and treatment of the meridian system, specifically the Then and Now technique, appears to be the proper treatment for this patient with episodic paroxysmal vertigo. Since there are many causes of vertigo, the use of AK to evaluate the whole person was able to discover the precise cause of vertigo in this particular case. Larger clinical trials are indicated for this debilitating condition. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:29-31)

Key Indexing Terms: *Vertigo; Case Reports; Treatment; Acupuncture Points; Chiropractic; Kinesiology, Applied*

SPINOUS PROCESS SENSITIVITY AS AN INDICATOR OF SUBLUXATION

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: A case series of 200 patients are examined to determine the correlation between spinous process tenderness and a subluxated vertebra as found with AK methods.

Clinical Features: 118 males and 82 females were evaluated, ranging from 5 to 75 years of age. Each patient was examined by manual palpation for spinous process sensitivity, and the patient gave a numerical value from 1 to 10 for the pain level. Care was used in assuring that the amount of pressure

used would not cause pain in normal subjects. An electronic scale was used and found that 8 to 10 pounds of force was sufficient to elicit the tenderness response. After this examination method, each section of the spine that elicited tenderness to spinous process pressure was evaluated by standard AK MMT procedures to see if these sections would also therapy localize and be positive to challenge.

Intervention and Outcome: The study showed an 83.3% correlation between the presence of spinous process pain and subluxation findings using AK methods.

Conclusion: There are a number of criteria that chiropractors use to determine which vertebrae to adjust. Demonstrating a correlation between these findings is desirable. This paper demonstrates a statistically significant correlation between the signs and symptoms AK physicians use to determine the presence of vertebral subluxation and spinous process tenderness.
(Collected Papers International College of Applied Kinesiology, 2001-2002;1:37-39)

Key Indexing Terms: *Pain Measurement; Spine; Diagnosis, Differential; Chiropractic Manipulation; Kinesiology, Applied*

THE ASSOCIATION OF THE SPONDYLOGENIC REFLEXES TO THE TEMPOROMANDIBULAR JOINT

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case series and discussion of the effects of tapping the T2-T4 spondylogenic reflex areas of Dvorak and Dvorak for pain reduction in the lateral pterygoid muscles of the TMJ.

Clinical Features: Patients with TMJ problems are frequently found in clinical practice, and acute pain in the lateral pterygoid muscles is a frequent finding in these cases. An AK method is described for treatment that consists of contacting the involved lateral pterygoid muscle while the patient is seated and tapping firmly on the spinous and transverse processes of T2-T4. A theoretical discussion of how stimulation of peripheral mechanoreceptors can depress transmission of pain signals, and specifically how the AK treatment of the lateral pterygoid tenderness works, is offered. The relationship of stimulation to the T2-T4 levels and the lateral pterygoid pain reduction is presented.

Intervention and Outcome: The author discusses the endorphin system in his presentation, and he acquired a tablet form of sublingual naloxone and tested it on the patients in this study (a drug that blocks endorphin receptor sites). Naloxone produced diminution in pain for the lateral pterygoid muscles, as did the spondylogenic reflex tapping, suggesting that this AK treatment method may affect the endorphin system in the CNS.

Conclusion: The spondylogenic reflex treatment for pain in the lateral pterygoid muscle was successful in the 48 patients studied. In patients with painful TMJ syndromes, especially those with lateral pterygoid muscle dysfunction, treatment with AK methods may be beneficial. Larger clinical trials with greater controls are warranted.
(Collected Papers International College of Applied Kinesiology, 2001-2002;1:41-45)

Key Indexing Terms: *Temporomandibular Joint; Pterygoid Muscles; Clinical Trials; Models, Theoretical; Treatment; Chiropractic; Kinesiology, Applied*

THE TREATMENT OF URINARY TRACT DISORDERS AND INTERSTITIAL CYSTITIS

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present an overview of urinary tract disorders, particularly interstitial cystitis, and a successful method of treatment using meridian therapy.

Clinical Features: Interstitial cystitis is a painful inflammation of the bladder that might be related to collagen disease, autoimmune disorders, allergic conditions, or an infectious agent not yet identified. A case series of 49 female and 1 male patient is presented.

Intervention and Outcome: A protocol of treatment is presented for patients with urinary tract or pelvic diaphragm problems. TL to the alarm point for the bladder was negative, but with simultaneous TL to the lung alarm point, it became positive. The author was able to neutralize this TL pattern in these patients by tapping bladder meridian's second point, BL2 for 60 seconds on both sides. The author also treated the bladder's associated point BL28. This method of treatment improved the bladder problem in all the patients in this study. The extent of improvement and the method of measuring this were not documented in this report.

Conclusion: This method had a high success rate for patients with urinary tract problems, including interstitial cystitis. Because interstitial cystitis afflicts millions of patients with bladder urgency, frequency, and pelvic pain, this method should be investigated for its value to these patients. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:49-50)

Key Indexing Terms: *Cystitis, Interstitial; Pelvic Inflammatory Disease; Pelvic Pain; Case Reports; Diagnosis; Treatment; Acupuncture Points; Chiropractic; Kinesiology, Applied*

SKELETAL RESPIRATORY PATTERNS AND THE RELATIONSHIP TO MUSCLE FACILITATION OR INHIBITION

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case series report and review on the skeletal motion created by respiration and its effects on patterns of muscle facilitation and inhibition.

Clinical Features: 100 patients (50 male and 50 female) were evaluated to discover if there was a specific relationship of the respiratory motion in the sacrum and ilium to the muscles that relate to each of these structures. All of the muscles that have origin or insertion on the innominate bones were tested. If they were inhibited, treatment to strengthen them was given before the research protocol was begun.

Intervention and Outcome: Each patient's pelvis was challenged by hand bilaterally with 8 to 10 pounds of pressure at the ASIS in the opposite direction of the normal inspiratory motion (an upward and medial direction) for 4 or 5 cycles during inspiration. Each of the muscles that attach to the innominate was retested to discover if a weakening effect occurred. Profound muscle weakening was found in the gluteus maximus, gluteus medius, tensor fascia lata, rectus abdominus, internal and external obliques, and the entire 4 heads of the quadriceps. When sacral respiratory motion was challenged in reverse of its normal respiratory movement on inspiration (sacral base forward), only the hamstrings and adductors would weaken.

Conclusion: This study showed a specific relationship between the respiratory motion of the sacrum and innominate bones and the function of specific muscles that attach to them. When this motion is disturbed, specific muscle weaknesses occur. The importance of this finding should be investigated in larger groups of patients with spinal problems. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:51-52)

Key Indexing Terms: *Respiratory Mechanics; Diagnostic Techniques, Respiratory System; Sacrum; Ilium; Kinetics; Chiropractic; Kinesiology, Applied*

ABOUT PECULIARITIES OF THE EFFECT OF MUSCLE FUNCTIONAL WEAKNESS

Vasilyeva, L.F., Chernysheva, T.N., Korenbaum, V.I., Apukhtina, T.P.

ABSTRACT

Objective: To report the results of electromyography changes in muscle strength in three patients who received sensory provocations of a mechanical, chemical, and emotional nature.

Clinical Features: Electromyographic measurement of the pectoralis major and the deltoid muscle was made during 3-second muscle contractions. The examiner found the muscles to be strong on MMT.

Intervention and Outcome: When the patients received sensory provocations, the examiner found muscle inhibition on MMT. The EMG amplitudes during the muscle tests were plotted graphically, and confirmed the changes in muscle strength detected manually by the examiner after sensory provocation.

Conclusion: The evaluation of muscle strength changes measured with an EMG instrument confirms that muscle strength changes can be detected by AK physicians using MMT methods after appropriate sensory provocation, and that this phenomena can be measured by instrumentation. AK muscle testing procedures can be objectively be evaluated through quantification of the electrical characteristics of muscles, and the course of AK treatments can be objectively plotted over time. Numerous clinical trials relating differing clinical conditions to changes in EMG measurements on MMT are called for. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:63-66)

Key Indexing Terms: *Electromyography; Evaluation Studies; Neurologic Manifestations; Muscle Weakness; Chiropractic; Kinesiology, Applied*

AN APPLIED KINESIOLOGY EVALUATION OF FACIAL NEURALGIA: A CASE HISTORY OF BELL'S PALSY

Scott C. Cuthbert, D.C.

ABSTRACT

Objective: To discuss the assessment, diagnosis and successful chiropractic management of a patient with Bell's palsy.

Clinical Features: A 51-year-old female presented with left-sided facial nerve paralysis, as well as intense neck pain and tingling in her left arm that had been present a week before the onset of the facial nerve paralysis. On examination her left lip was quivering, her left tear duct was pulsing, swollen and painful. Her vision was slightly blurred, and she had hyperacusis in her left ear. Her sense of taste was also affected by the problem, with a "mediciney taste mixed with rancid oil." Sugar diluted in water was applied to the anterior 1/3 of the tongue with a cotton swab to evaluate the chorda tympani portion of the facial nerve, and a medicine like flavor was detected. A review of the neuroanatomy of cranial nerve VII is given, with possible entrapment neuropathies and disturbances to its function given.

Intervention and Outcome: Cranial and spinal adjustments were made as indicated by AK findings on examination. Tenderness along the left occipitomastoid suture was eliminated with a left inspiration, right expiration assist cranial fault correction, and compression of the 4th ventricle techniques. The deep neck flexor and sternocleidomastoid muscles were strengthened by these corrections. An occipito-atlantal fixation correction strengthened the psoas muscles. A category I pelvic fault was corrected. She was similarly treated 7 times over 24 days and was completely free of facial paralysis, without the slightest cosmetic residual problem apparent. The Bell's palsy of 2 weeks duration had not returned 5 years later.

Conclusion: Further studies into AK and cranial treatments for facial nerve dysfunctions may be helpful to determine whether this single case study can be representative of a group of patients who might benefit from this care. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:67-72)

Key Indexing Terms: *Facial Paralysis; Bell Palsy; Case Reports [Publication Type]; Diagnostic Techniques and Procedures; Treatment; Chiropractic; Kinesiology, Applied*

THE PECTORALIS MAJOR CLAVICULAR, HYDROCHLORIC ACID PRODUCTION, AND ZINC STATUS

Terry M. Hambrick, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case series where the gastric acid level was measured with the Gastro-Test Kit from HDC, Inc. These values were then correlated with MMT of the pectoralis major, clavicular division muscle (PMC) as well as zinc levels measured with the zinc tally test in the patient series.

Clinical Features: The Gastro-Test procedure requires that the patient swallow a weighted capsule attached to a cotton string. The patient rests on their left side for 7 minutes, then the string is withdrawn. The cotton string is then swabbed with a reagent and reacts with the gastric juices that have soaked into the distal end of the string. The resultant color is matched with a color chart that reflects the pH of the gastric juices. Zinc status is measured with a saturated zinc solution that the patient holds in their mouth for 10 seconds. The patient reports their taste sensation to the examiner after this time. The predictable outcome is that the patient tastes nothing or has a strong sense of taste, with a grade scale from 1 to 4.

Intervention and Outcome: 5 students at a seminar were tested using the above parameters. The study found that an inhibited pectoralis major, clavicular division muscle was not reflective of reduced hydrochloric acid production as measured by the Gastro-Test kit. The one patient with alkaline gastric pH was also the only one to show a facilitated PMC. Zinc levels were normal in all participants but one and this subject demonstrated an inhibited PMC muscle.

Conclusion: These results challenge one of the more basic AK teachings which has shown itself to be clinically effective, i.e. that the PMC will be inhibited in cases of decreased hydrochloric acid production in patients. Possible complicating factors to the study are the sample size, the lack of screening for lumbo-dorsal fixations (that may mask the PMC weakness). The author suggests that further studies should be done to quantify and validate the correlation between an inhibited PMC muscle and gastric pH levels. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:111-113)

Key Indexing Terms: *Gastric Acidity Determination; Achlorhydria; Diagnosis, Differential; Muscle Weakness; Case Reports [Publication Type]; Kinesiology, Applied*

RETAINED PRIMITIVE REFLEXES: STRUCTURAL CORRECTIONS THAT ASSIST THEIR INTEGRATION

Keith Keen, Dip. Ac., D.O., D.C.

ABSTRACT

Objective: To present concepts regarding primitive and postural reflexes that can be retained past their normal age of integration and their use as a tool for physicians to find out why a child is not performing at their age level. Craniosacral corrections that assist the integration of retained primitive reflexes are presented.

Clinical Features: Neonates are routinely checked for the presence of primitive reflexes, as they are essential for their survival and normal development. The work of Capute, Blythe and Goddard are cited that show primitive reflexes may remain long after the normal age of integration. The reflexes described here are the Fear Paralysis Reflex; Moro Reflex; Asymmetrical Tonic Neck Reflex (ATNR); Tonic

Labyrinthine Reflex (TLR); and Spinal Galant Reflex. The function of these reflexes is described, and the learning, developmental, and sensorimotor delays that the presence of these reflexes may produce if they are retained are discussed.

Intervention and Outcome: The author describes a retrospective statistical analysis study he performed in 1998 on a group of children. They were tested for retention of primitive reflexes by a neurodevelopmental assessor before and after the corrections described in this paper. The results of that study are reviewed, showing positive changes at probabilities ranging from $p<.05$ to $p<.01$ (Keen, 1999). Treatment involves placing the child into the position of the primitive reflex and then MMT of an indicator muscle for weakening. The doctor then must find what is causing the problem (what abolishes the indicator muscle change), and then correct this factor. A cranial or a sacral fault was usually found to be necessary.

Conclusion: Structural, mostly craniosacral, corrections were developed that assist the integration of retained primitive reflexes. The research offered shows that this therapy helps aspects of learning difficulties, behavioral problems, and developmental delay. Controlled clinical trials of this method for the treatment of these kinds of problems in children are necessary. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:121-127)

Key Indexing Terms: *Reflex, Abnormal; Developmental Disabilities; Diagnosis, Differential; Muscle Weakness; Chiropractic; Kinesiology, Applied*

THE ROLE OF DERMAL PROPRIOCEPTORS IN REACTIVE MUSCLE PATTERNS

Datis Kharrazian, D.C., C.C.N., C.S.C.S., C.C.S.P.

ABSTRACT

Objective: To discuss the role of the proprioceptors in the skin and their role in causing reactive muscle patterns.

Clinical Features: In traditional AK methodology, the reactive muscle phenomenon occurs when a muscle becomes inhibited because of inappropriate proprioceptive impulses from another previously contracted muscle. This paper proposes that reactive muscle patterns can also be caused by aberrant afferent input from dermal proprioceptors in the skin, and that this aberrant input produces similar neurologic consequences as the reactive muscle phenomenon produced by aberrant muscle spindles.

Intervention and Outcome: The involvement of the skin can be diagnosed by challenging the skin manually over the hypertonic muscle in the reactive muscle pattern. The challenge is produced by gently tugging the skin in the vector that produces the reactive muscle finding. Treatment by tugging on the skin in the opposite direction that initiated the reactive muscle pattern corrects this pattern of reactive muscle inhibition.

Conclusion: The author recommends that the dermis be checked for its influence on reactive muscle patterns. It is a common finding in his experience, and corrects more thoroughly the reactive muscle patterns found clinically. Clinical trials to differentiate this treatment from treatment of the muscle spindles beneath the skin are warranted to discover which element has priority in the reactive muscle

pattern. Outcome studies on the effects of this treatment in symptomatic patients are needed. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:129-130)

Key Indexing Terms: *Proprioception; Dermis; Muscle, Skeletal; Muscle Spindles; Muscle Hypotonia; Physiological Processes; Diagnosis, Differential; Chiropractic; Kinesiology, Applied*

SEVERE EQUILIBRIUM PROBLEMS NON-RESPONSIVE TO PHARMACOLOGICAL CARE TREATED WITH CHIROPRACTIC AND APPLIED KINESIOLOGY: A CASE HISTORY

David W. Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case of severe equilibrium problems successfully treated with cervical traction.

Clinical Features: A 48-year-old female presented with equilibrium problems of 16 months duration. She reported that the symptoms started 2 weeks after she stood up under the kitchen sink and hit her head, and the problem was made worse when she closed her eyes. 4 neurologists and another chiropractor had treated the patient with no change in symptomatology. She exhibited an abnormal gait that resembled a drunken swagger, and was able to stand with her feet separated at least 10 inches apart but lost her balance with the feet closer together. The technique of cervical traction while the patient is walking on a treadmill, first described by Fred Illi, D.C., of Geneva, Switzerland, is presented.

Intervention and Outcome: The patient showed marked inhibition of all her extensor muscles, and exhibited bilateral nystagmus. The weak extensors became strong after cervical traction challenge testing. The author used cervical traction of 6 pounds while the patient walked on a treadmill for 15 minutes. After this, she was able to stand with her feet together with no body sway. She presented no signs of nystagmus and her vertical height had increased by 2 inches after treatment.

Conclusion: In this case there appeared to be a pattern of muscle inhibition as a result of compression of the occipito-atlantal articulations. This showed on MMT as inhibition of the extensor muscles of the body. Use of a home cervical traction device with 6 pounds of water causing distraction while the patient moves in a walking pattern reversed the symptom pattern in this patient. Larger clinical trials of this method for the treatment of equilibrium and imbalance disorders are warranted. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:133-134)

Key Indexing Terms: *Musculoskeletal Equilibrium; Traction; Therapeutics; Chiropractic; Kinesiology, Applied*

CASE HISTORY: CLUSTER HEADACHE

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case of cluster headache successfully treated using AK methods with an 8-year follow up and no recurrence.

Clinical Features: Cluster headaches represent one of the most severe forms of headache, causing some of its victims to commit suicide. In 85% of patients, the attacks are regular to the same hour or hours each day until the headache ends. Discussion of the theoretical pathogenesis of this problem from a literature review is presented. A 62-year-old male, with a 17-year history of cluster headaches, presents for treatment. The pain was severe and located over the entire left side of the face, accompanied by belching, facial pallor, conjunctival injection, nasal stuffiness and rhinorrhea, bradycardia, and lacrimation. He used Florinal to relieve the pain. The headaches occurred daily and although heavily medicated he would often lie on his back on the floor during his lunch hour and pound his head on the floor to create some relief.

Intervention and Outcome: Multiple cranial faults were found: bilateral sphenobasilar flexion, left laterally displaced occiput, left parietal descent, and right temporal parietal bulge cranial faults. The cruciate and sagittal sutures were compressed, and the left clavicle was displaced laterally. AK treatment was used for reducing the strain in the craniosacral system. Food related provocation of the cluster headache was suspected, and supplemental hydrochloric acid tablets, a digestive cleansing/bulking agent, and multivitamin and multimineral were given. The patient was treated 30 times over a 7-month period, and there was a progressive reduction in the intensity of the headaches. He was not seen for 6 months, and at that time the headaches were “practically gone.” The patient has been free of headaches since that time for 10 years.

Conclusion: A prospective, controlled clinical trial of chiropractic management in this condition is warranted, considering the absence of otherwise effective therapy. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:135-138)

Key Indexing Terms: *Cluster Headache; Case Reports [Publication Type]; Treatment; Kinesiology, Applied*

CASE HISTORY: SUCCESSFUL TREATMENT OF CERVICAL RADICULOPATHY ACCOMPANIED BY HERNIATED NUCLEUS PULPOSUS WITH CHIROPRACTIC, APPLIED KINESIOLOGICAL AND PHYSICAL MEDICINE MODALITIES

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case of a herniated intervertebral cervical disc successfully treated by chiropractic methods.

Clinical Features: A 37-year-old female presents with signs and symptoms of C5 and C6 disc pathology. There had been two prior cervical acceleration/deceleration (CAD) accidents producing trauma to the

cervical spine. The role of prior CAD in the pathogenesis of her problem is discussed, as are the altered biomechanical factors specifically assessed and treated using AK techniques combined with other physical modalities.

Intervention and Outcome: The patient was treated 49 times over a 6-month period and made a complete subjective and functional recovery. A pre-treatment MRI of the cervical spine showed "nucleus pulposus herniations at C5-6 level centrally and to the right," that "appear to impinge on the thecal sac and extend into the right neural foramen." A CT scan following myelography had the same findings. A post-treatment MRI of the cervical spine showed that though the herniated disc was still present, the previous "annular bulging" had improved with a reduction in the thecal sac impingement, and there was diminished foraminal encroachment (no extension to the right neural foramen on the post-treatment MRI study.

Conclusion: The effectiveness of chiropractic care for this type of condition compared to medical care is evaluated in this paper from the research literature, showing that chiropractic care for this kind of severe pathology can be successful that might otherwise require more costly and aggressive measures. The author suggests that not all patients with symptoms referable to a demonstrated herniated disc need be considered surgical candidates. More chiropractic clinical trials to evaluate this contention are underway. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:139-144)

Key Indexing Terms: *Intervertebral Disk Displacement; Cervical Vertebrae; Case Reports [Publication Type]; Costs and Cost Analysis; Treatment; Kinesiology, Applied*

TREATMENT OF BELL'S PALSY BY THE CORRECTION OF FAULTS IN THE STOMATOGNATHIC SYSTEM: CASE HISTORY

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: The successful treatment of 2 patients with Bell's palsy by manually correcting faults in the stomatognathic system is described.

Clinical Features: The natural history and prognosis of Bell's palsy in the research literature is reviewed. 35 references are cited and discussed involving the pathogenesis, symptom picture, and prognosis of the condition. The first patient, a 57-year-old male, experienced right-sided facial paralysis 3-hours after chewing a "very thick crusted pizza while eating quickly" that had been present for 1 week. Multiple cranial disrelationships were found on examination, as well as TMJ movement problems, with masseter, temporalis, and pterygoid muscle hypertonicity. A cervical disc syndrome at the C4/5 and C5/6 levels were found, as well as a lumbar disc syndrome at L5/S1. The second patient, a 39-year-old male, had left-sided facial paralysis for 9 days. A few days prior he noted suboccipital and frontal headaches, left neck stiffness and a "tired feeling" came on with the facial paralysis, but that feeling subsequently cleared. Hyperacusis in the left ear was present also.

Intervention and Outcome: Treatment for both cases consisted of cranial, muscular, and spinal adjustments to normalize aberrant skeletal and cranial biomechanics. This treatment was accompanied by

rapid and permanent resolution of the clinical problem of Bell's palsy. Although the two patients were treated early in the course of their illnesses, the speed of their recovery and small number of treatments (4 treatments over a 6-day period in the first case, and 3 treatments over a 14-day period in the second case) is notable.

Conclusion: Alleviation of the structural problems in patients with Bell's palsy, which are hypothesized to create the pathology, predispose to viral infection, or hinder healing, should be applied early on to shorten the course of the illness and to lessen the severity of the symptoms. The author states that he has found the same stomatognathic compartment syndrome in 12 other cases of Bell's palsy, and all of these cases resolved adequately in a short time frame with this treatment. Well-designed clinical trials of this potentially life-altering condition are recommended. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:145-151)

Key Indexing Terms: *Facial Paralysis; Bell Palsy; Case Reports [Publication Type]; Diagnostic Techniques and Procedures; Treatment; Chiropractic; Kinesiology, Applied*

PEDIATRIC CASE HISTORY: COST EFFECTIVE TREATMENT OF BLOCKED NASO-LACRIMAL CANAL UTILIZING APPLIED KINESIOLOGY TENETS

William Maykel, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a case of a blocked tear duct in a 14-month-old child that was successfully treated using AK methods.

Clinical Features: A 14-month-old presented with poor drainage from his left eye causing it to be consistently crusty. The child had several colds over the past 6-months, and the child has been referred by the mother's pediatrician to a pediatric plastic surgeon for surgical correction of the blocked tear duct.

Intervention and Outcome: Surrogate testing, utilizing the mother's arm muscles was used to specify necessary treatment. Treatment of cranial faults, cervical, thoracic and lumbar dysarthrias, as well as bilateral sacroiliac sprain was given. A left parietal descent, right temporal-parietal bulge, bilateral sphenobasilar flexion, left internal frontal, and left external zygoma cranial faults were manually corrected by AK methodology. A category II pelvic fault on the left was corrected, as well as a left sacral inferiority that produced left rotation of L5, L3, C3 and C1 vertebrae. The left upper trapezius was strengthened by origin-insertion technique, and spasm of the masseter, temporalis, and pterygoid muscles were balanced manually. The child was treated 5-times over a 6-week period with complete resolution of the blocked tear duct.

Conclusion: Jamming of the orbital bones in this case as well as locking of the vault bones was suspected to lead to increased tension, then swelling and closure of the nasal lacrimal canal. This conservative, cost-effective approach may become the standard protocol in the future should subsequent studies validate this method of treatment. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:153-154)

Key Indexing Terms: *Lacrimal Apparatus Diseases; Case Reports [Publication Type]; Diagnostic Techniques and Procedures; Treatment; Chiropractic; Kinesiology, Applied*

VISCERO-SOMATIC REFLEXES: THEIR CLINICAL MANIFESTATIONS USING MUSCLE TESTING TO EVALUATE THE HEART AND ESOPHAGUS

Victor J. Portelli, D.C., D.I.B.A.K.

ABSTRACT

Objective: This paper examines several clinical relationships that have been discovered by the author between the motion of an organ and specific MMT outcomes compared to general MMT outcomes to an organ challenge.

Clinical Features: MMT is found to be a useful tool to help in the identification of visceral fixations and their correction. The paper demonstrates methods of diagnosis and treatment using viscero-somatic reflexes using the heart and esophagus organs as examples. Pushing or pulling an organ into or out of 'lesion' while the doctor performs a MMT produces a visceral challenge. The author states that a visceral lesion refers to an organ that is in an incorrect anatomical position, has movement aberrations or adhesions, or has its blood or lymph supply compromised by an anatomical neighbor. A theoretical explanation of the mechanisms of the visceral challenge and of visceral therapy in general is presented. The anatomy of the heart and the esophagus is presented, as well as signs, symptoms and tests that may help the clinician identify when these organs may require this type of treatment.

Intervention and Outcome: Specific methods of challenge for the heart and the esophagus are given. Treatment protocols for positive findings on these tests are described. The relationship of the subscapularis muscle to the heart challenges, and of the supraspinatus muscle to the esophagus challenges are delineated. The numerous treatment methods for both the heart and the esophagus involve whole-body analysis and comprehensive therapy for these organs.

Conclusion: The author reports that visceral challenge reveals a neurological relationship exists between muscles and organs and that this relationship is muscle and organ specific. This relationship may be useful to determine whether physiologically normal patterns or aberrant biomechanical visceral faults are present in patients. Clinical trials with measurable outcome studies need to be done to validate this method of diagnosis and treatment. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:155-175)

Key Indexing Terms: *Visceral Afferents; Visceral Prolapse; Diagnostic Techniques and Procedures; Treatment; Chiropractic; Kinesiology, Applied*

TECHNIQUES BASED ON CONCEPTS OF THE ENTERIC NERVOUS SYSTEM

Walter H. Schmitt, D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To present 3 new challenge techniques and therapeutic approaches for the evaluation of the enteric nervous system (ENS).

Clinical Features: The work of Michael D. Gershon, M.D., is reviewed. His discovery of the functioning of the enteric nervous system and the field of neurogastroenterology is described, and its clinical relevance illustrated. Fatty acids anywhere in the intestinal lumen stimulates the ENS to decrease peristalsis of the gut at the ileocecal area, what is called in AK the closed ileocecal valve (ICV) syndrome. This reflex exists to keep undigested fat from entering the colon where it may stimulate the growth of unfriendly flora. Carbohydrate also stimulates the ENS and produces an open ileocecal valve syndrome. The gastrocolic reflex causes increased peristalsis in the large intestine following food intake that stretches the stomach. When the stomach is stimulated by the presence of food, the colon is stimulated to empty. These reflexes have produced 3 sensory challenges that evaluate whether or not they are functioning properly.

Intervention and Outcome: Fatty acid function in the ENS is evaluated with the ileal brake challenge. First, normal ICV treatments are given if needed. Then, the doctor places a good fat like olive in the mouth. If this produces a positive challenge for the closed ICV, then the patient TLs to Chapman's neurolymphatic reflexes (NL) for the pancreas, liver, gallbladder to identify which one negates the fat-induced closed ICV challenge. Nutrients may also negate the positive challenge and are tested. Treatment to the reflex and supplementation are given. Carbohydrate challenge for the open ICV syndrome involves placing sugar or other carbohydrate in the mouth. If this produces a positive open ICV challenge, then the patient TLs the NL for the small intestine. Treatment is by rubbing NL reflex with the carbohydrate that caused the weakening in the mouth. The gastrocolic reflex challenge has 3 steps. First, the doctor pinches the referred pain area for the stomach, puts pressure through the abdominal wall to stretch the stomach, and challenges for an open ICV or Houston valve. If challenge is positive, an offending dietary substance, when tasted, will cause a positive TL to the stomach Chapman's reflex area. Rubbing this reflex with the offending substance in the mouth will negate the challenge. If there is a recurrence of this finding, the offending substance may have to be permanently avoided.

Conclusion: It appears that ENS concepts may be clinically applied by monitoring MMT outcomes following various specific sensory receptor challenges. It is suggested by the author that this treatment has improved patients' complaints and decreased recurrence of a variety of digestive symptoms. Controlled clinical trials on appropriate patient cohorts are necessary. (Collected Papers International College of Applied Kinesiology, 2001-2002;1:177-180)

Key Indexing Terms: *Enteric Nervous System; Reflex, Abnormal; Diagnostic Techniques and Procedures; Treatment; Chiropractic; Kinesiology, Applied*

THE ASSOCIATION OF REPEAT MUSCLE ACTIVATION PATIENT INDUCED (R.M.A.P.I.) TO HYPOADRENIA

Paul T. Sprieser, D.C., D.I.B.A.K.

ABSTRACT

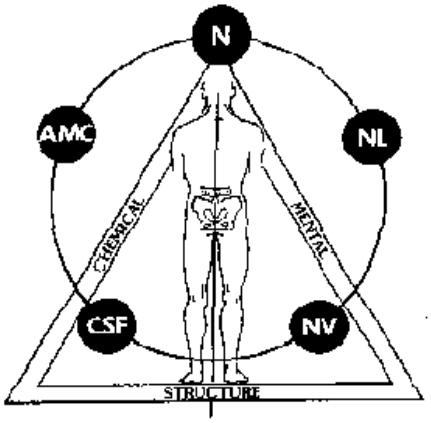
Objective: To present a clinical finding connecting R.M.A.P.I. to functional hypoadrenia.

Clinical Features: 50 patients were part of this study, 29 females and 21 males. The R.M.A.P.I. is a finding in some patients whose muscles test weak after the patient repeatedly contracts the muscle. Each patient was evaluated for a number of factors including blood pressure lying, seated and standing (Ragland's effect noted, or a drop in the systolic blood pressure). The ligament stretch reaction (associated in AK with adrenal stress disorder), and sphenobasilar cranial fault (sometimes associated with adrenal stress disorder) were tested in each patient.

Intervention and Outcome: Two methods of evaluating each patient in the study was performed. If R.M.A.P.I. was discovered during examination, then the other tests for hypoadrenia were performed. If the patient's symptoms indicated hypoadrenia, these tests were performed as well as an evaluation of the R.M.A.P.I phenomenon. All of the patients in this study showed a drop in systolic blood pressure from lying to sitting or sitting to standing, a positive Ragland's sign. All showed the sphenobasilar fault, the ligament stretch reaction, positive TL to the temporosphenoidal line when cross TL was done, and all patients showed one or more muscles that had the R.M.A.P.I. finding. The most common muscle to show the R.M.A.P.I. was the rectus abdominus. Nutritional support was needed by all cases to correct these findings in this study that included adrenal support with choline or adrenal tissue, and a low dosage of vitamin E from wheat germ oil or octacosanol.

Conclusion: This study showed that the R.M.A.P.I. phenomenon was a part of the adrenal stress syndrome. The mechanisms of this connection should be studied further, and other clinical trials to demonstrate the significance of this finding conducted.
(Collected Papers International College of Applied Kinesiology, 2001-2002;1:181-182)

Key Indexing Terms: *Muscles; Muscle Fatigue; Physiological Processes; Adrenal Insufficiency; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 2000-2001

-- Edited by Scott Cuthbert, D.C.

EVALUATION OF TMJ IN ONE CASE STUDY WITH CONGENITALLY ABSENT RIGHT FOREARM

Janet Calhoon, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case of a young female with temporomandibular joint disorder who also had a congenitally absent right forearm, wrist, hand and fingers.

Clinical Features: A 13-year-old female presented who was unable to open her mouth more than two finger widths. This problem had been present for 1 week after she fell during physical education class and struck the left side of her head against the floor. The patient's right upper extremity is normal in size and function from the shoulder to the elbow, but her forearm ends 2 inches below the elbow with no carpals or metacarpals and rudimentary digits, each about $1/8^{th}$ inch in length.

Intervention and Outcome: AK examination revealed an upper cervical fixation, a cervicothoracic fixation, and thoracolumbar fixation. When the patient was asked to TL the right TMJ with her right hand, she was able to do so only by changing the position of her head and neck that would have added unwanted variables to the evaluation. With the doctor's guidance, the patient was able to TL the right TMJ without moving her neck and head. Positive TL was demonstrated in this patient even with the congenitally abnormal right forearm. Examination showed a need for neuromuscular spindle technique to inhibit the right internal pterygoid muscle, and the inhibited right sternocleidomastoid muscle responded to neurolymphatic reflex treatment, Golgi tendon organ and neuromuscular spindle techniques. An intraosseous universal cranial fault was corrected on the first visit also. At the end of the first treatment, the young woman opened her mouth almost wide enough to accommodate 3 knuckles. On follow up visits, she continued to make progress with AK treatment.

Conclusion: Bilateral TL is a valuable tool in evaluation of the TMJ. In this case, a rudimentary limb was used successfully to identify malfunctioning muscles and joints.
(Collected Papers International College of Applied Kinesiology, 2000-2001;1:1-2)

Key Indexing Terms: *Temporomandibular Joint Disorders; Case Reports [Publication Type]; Kinesiology, Applied; Chiropractic*

APPLIED KINESIOLOGY MANAGEMENT OF ASTHMA: A CASE HISTORY

Cecilia A. Duffy, D.C., D.I.B.A.K.

ABSTRACT

Objective: A case history of the management of asthma in a child is presented.

Clinical Features: A 6-½ year old female presents with symptoms of asthma. A medical pediatrician had previously diagnosed her with asthma at 10 months of age, with continuous use of prescription medications since that time (Proventil and Ventolin) for symptom control. Asthmatic episodes were intermittent.

Intervention and Outcome: AK physical examination revealed: axillary temperature 98.4 degrees; salivary pH 6.8; blood pressure seated 80/60, standing 80/58, and supine 90/50; pulse seated 100, standing 100; Lingual Ascorbic Acid Time was elevated at 15 seconds on the right and left sides of the tongue; hematocrit 38; breath holding time diminished at 10 seconds; vital capacity diminished at 650 (normal for her age is 980); right hand and foot dominance with left eye and ear dominance; Sulkawich testing for calcium levels elevated at grade 4; Koenigsberg testing for chloride (indirect sodium) elevated at 30 plus. Auscultation of the lungs revealed scattered rales and wheezing throughout both lung fields. Based on the history and physical findings (positive orthostatic hypotension, mild vitamin C deficiency, and elevated urinary chloride level), adrenal dysfunction was presumed and examined for via AK testing. The left sartorius muscle was inhibited on MMT, and strengthened with oral nutrient testing of Drenamin (Standard Process Laboratories). A category II pelvic subluxation, T9, T2 subluxations, and fixation at the right C7-1st rib junction were corrected. Dietary restrictions were given (no milk or refined grains and sugars, and she was to consume only vegetable, fruit, non-processed proteins, high quality fats, and non-processed whole grains). The patient complied with her supplementation instructions and dietary restrictions, and was seen 5 times in 3 months. Her mother discontinued both asthma medications after the first visit. During the 3 months of therapy, the patient experienced 1 episode of an asthmatic reaction that was preceded by heavy consumption of refined grain and sugar earlier in the day. At 7 and 10 months following initial presentation the patient returned after experiencing 1 asthmatic reaction and several asthmatic reactions respectively. Each time, the patient was seen twice in 2 weeks for AK treatment and prescribed adrenal and immune system supports. On each occasion, after the first visit, the asthmatic reactions stopped.

Conclusions: Successful AK management of asthma over a 32-month period in a 6-½ year-old female is presented. Further investigation into the effectiveness of AK management for asthmatics is warranted. The primary approach of medical management of asthma is medication, and correcting the underlying causes of asthma is preferable to drug-induced control of the symptoms of this condition. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:3-4)

Key Indexing Terms: *Asthma; Anti-Asthmatic Agents; Case Reports [Publication Type]; Therapy; Diagnosis; Adrenal Insufficiency; Chiropractic; Kinesiology, Applied*

USING AK MUSCLE BALANCING TECHNIQUES TO IMPROVE SPECIFIC EXERCISE MOVEMENT PATTERNS (PILATES)

John K. Moore, D.C., C.C.N., C.C.S.P.

ABSTRACT

Objective: To investigate the impact of AK treatment upon experienced Pilates class athletes.

Clinical Features: Joseph Pilates developed The Pilates Method in the 1940s. It is a method of physical training that focuses on posture, alignment, and breathing. Strengthening the abdomen, lower back and hips (core strength) are its primary focus. A questionnaire was given to 5 participants in a Pilates class (each participant had at least 1 year of experience with the technique) before and after AK evaluation and treatment of muscular imbalances. Both the individual performing the Pilates exercises and the instructor of the class (not the author) was polled as to any perceived improvements.

Intervention and Outcome: The Pilates routine was rated as improved in all cases by utilizing basic AK methods to correct muscular and spinal imbalances.

Conclusion: From this pilot study evidence is offered that athletic performance can be improved when AK treatment is employed. Improved performance may also mean that pain after exercise and the longevity of the athlete's career may also be improved. Larger clinical trials with larger patient numbers are warranted. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:13-14)

Key Indexing Terms: *Task Performance and Analysis; Sports; Therapy; Chiropractic; Kinesiology, Applied*

A FUNCTIONAL APPROACH TO THE TREATMENT OF URINARY INCONTINENCE

Michael D. Allen, D.C., N.M.D., Chiropractic Neurologist

ABSTRACT

Objective: To describe the potential effects of AK therapy upon patients with urinary incontinence who are free from frank pathology, and to illustrate how the pelvic diaphragm muscles are involved in this condition.

Clinical Features: More than 13 million people in the U.S. have experienced urinary incontinence (UI), with one in four women ages 30 to 59 affected. Especially in the elderly, four basic types of UI occur: 1) the bladder contracts when it should not (detrusor muscle over activity, the most common cause of geriatric UI, 2) the bladder fails to contract appropriately (detrusor under activity; the least common cause of UI in the elderly, 3) bladder outlet resistance is high when it should be low (obstruction, the second most common cause of UI in older men), or 4) bladder outlet resistance is low when it should be high (outlet incompetence; which is secondary to pelvic muscle laxity, and is the second most common cause of UI in older women).The pathological causes and medical treatment of UI are reviewed. The anatomy of the pelvis is reviewed with reference to the problems that produce UI, and the bladder control systems (neurologic and digestive) are described.

Intervention and Outcome: Testing the muscles of the pelvic diaphragm, correction of subluxations and fixations affecting the nerve supply to the pelvic muscles and organs are the most common type of treatment given for UI in AK. A review of the AK methods used for the treatment of these muscles is offered. The relationship of the peroneus longus, brevis and tertius muscles and the anterior tibialis muscles to the bladder is described. The author observes that a fixation at the cervico-dorsal spine is often present when a bilateral inhibition of these muscles is found.

Conclusion: From an AK perspective, treatment of UI should be directed toward optimizing the function of the muscles of the pelvic diaphragm that helps control the unwanted release of urine found in patients with UI. Because this treatment is non-invasive and UI so widespread in the elderly, clinical trials of this method of evaluation and treatment are indicated. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:27-35)

Key Indexing Terms: *Urinary Incontinence; Epidemiology; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

MUSCLE TEST RELIABILITY, OR WHEN SCIENCE CONFRONTS OBSERVATION

Michel Barras, D.C.

ABSTRACT

Objective: To review the factors that must be taken into consideration when doing MMT in order to increase the procedure's reliability.

Clinical Features: The major challenge to accurate and reproducible MMT is the mastery of the technical procedures of the MMT itself. Proper angulation of the part tested, the timing of the test, the amount of force applied, and the direction of the force applied are critical. The difficulty of MMT is due to the fact that all these parameters must be respected at the same time. The ability to artfully test muscles is the most important physical talent an AK practitioner will develop. Besides this, several other factors that may modify a MMT response are reviewed.

Intervention and Outcome: The factors that may alter a MMT outcome are listed: 1) bone tapping and pressure, 2) neurological disorganization, 3) recruitment of synergistic muscles, 4) hand/finger "short-circuiting" (related to the meridian system's effect upon muscle function), 5) head position (the neurology of this factor is reviewed), 6) position of feet/legs of the patient while testing them either prone, supine, sitting or standing, 7) tongue position (the effect of this upon the cranial mechanism is reviewed), 8) mechanical leverage on the teeth (chewing gum, etc.), 9) sphincter synergy (the interaction between the sphincters of the body is described).

Conclusion: The MMT is complex and in order to be reliable, a number of factors must be respected. It is the mandatory price to pay in order to have constant reproducible parameters. It is the key to success in using AK as a diagnostic modality. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:37-40)

Key Indexing Terms: *Muscle Weakness; Diagnosis; Evaluation Studies; Models, Theoretical; Kinesiology, Applied; Chiropractic;*

THE TEMPOROMANDIBULAR JOINT REVISITED

Hans W. Boehnke, D.C., D.I.B.A.K.

ABSTRACT

Objective: This paper presents the AK approach for treating structurally based disorders of the temporomandibular joint through an integrated approach to patient care.

Clinical Features: Dental occlusion is suggested to be part of a larger pattern of function and interdependence that includes the spine, pelvis, cranium, extremities, and neuromuscular systems that span them. A review of the kinematics of the jaw is provided, as well as the relevant anatomy of the TMJ. The AK protocol for evaluation of these factors is presented, and specific techniques for the diagnosis and treatment of the musculature of the stomatognathic system are offered. Factors that create a recurrence of the TMJ problem are reviewed, and diagnostic approaches and treatments for these factors are offered. Specific inter-relationships between the muscles of the TMJ and the function of the feet are described. 4 case histories elucidating these findings are offered.

Intervention and Outcome: The doctor who treats problems in the TMJ faces a great number of therapeutic possibilities that can make the use of the proper technique for the problems found perplexing and difficult. The author's review of these factors may be helpful to a physician seeking a comprehensive understanding of the problem of the TMJ.

Conclusion: With the use of MMT in the demonstration of the complex interactions going on in a patient's body that creates problems in their TMJ, communication and understanding between the doctor and the patient is improved. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:41-49)

Key Indexing Terms: *Temporomandibular Joint; Stomatognathic System; Diagnosis; Treatment; Case Reports [Publication Type]; Chiropractic; Kinesiology, Applied*

SWITCHING, STRESS, MUSCULAR HYPERTONICITY, FIRE ELEMENT, CENTRAL AND GOVERNING VESSELS – NEW ASPECTS FOR AN INTEGRATING OVERVIEW

Wolfgang Gerz, M.D., D.I.B.A.K.

ABSTRACT

Objective: To present a literature review that suggest a direct connection exists between the meridian system, the skeletal system, the cranio-sacral system, Selye's system of adaptation, the hormone system and the phenomenon called "switching" in AK.

Clinical Features: AK therapists have found one of the most common problems in patients is the "switching" or "neurological disorganization" phenomenon. This condition in the patient may cause erroneous information to be derived from various AK testing procedures. A review from both the European and American AK literature on the topic of switching and its diagnosis is given. A literature review of biomedical, AK, and acupuncture is also given that suggests how the meridian system in its interaction with the neuromuscular system and the adaptation system (Hans Selye) may play an important role in the switching phenomenon. The rationale for use of the conception vessel and governing vessel in therapy localization is described.

Intervention and Outcome: The meridian correlations with the endocrine glands are reviewed, and its relevance to clinical presentations and treatment strategies for patients are described. The author states

that in many cases of switching, SI3 and LU7 will demonstrate a positive TL. Positive TL to SI3 is frequently found on the side of handedness and LU7 is contralateral.

Conclusion: AK allows the physical demonstration of a connection between the muscle and the meridian systems. AK hypothesizes that the muscles and organs share physiological systems connected via the nervous system. It is suggested in this paper that AK and acupuncture interact and validate one another and that both can be used in the diagnosis and treatment of patient problems. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:65-74)

Key Indexing Terms: *Review Literature; Meridians; Acupuncture Therapy; Medicine, Chinese Traditional; Kinesiology, Applied*

THE RETICULAR FORMATION AND ITS ROLE WITH THE BEGINNING AND END POINTS OF THE GOVERNING VESSEL

Datis Kharrazian, D.C., C.C.N., C.C.S.P., C.S.C.S.

ABSTRACT

Objective: To describe a treatment protocol to normalize aspects of the reticular formation.

Clinical Features: The reticular formation is the bridge for many neurological pathways between spinal segmental and suprasegmental areas. In a paper presented to the ICAK last year, the author discussed a technique for patients who had minimal facilitation with TL, gustatory motor responses, and other afferent pathway stimulations. It was argued that performing a simple procedure enhanced afferent pathways and TL. This paper discusses TL to the beginning and end points of the governing vessel meridian to assess if that technique is required. The author had found numerous discrepancies between his findings with laboratory assessment and AK indicators. The author reasoned that there was aberrant information being sent to the alpha motor neuron by the neurological pathways used in his sensory receptor challenges or TL. A review of the neurological function of the reticular formation is given, and its relevance to the discrepancies he found between AK and laboratory testing presented. For instance, when a patient TLs using light touch afferents, or when a challenge procedure to a vertebra is performed inducing mechanoreceptor afferents to cause a change in the central integrative state of the alpha motor neuron, the test is dependent upon a properly integrated thalamohypothalmoreticulospinal loop. Or when a gustatory challenge is used, the test is dependent upon properly integrated pathways from cranial nerves VII, IX, and X to the solitary nucleus and down the hypothalmoreticulospinal tract to the anterior horn. The common denominator between these pathways is the reticular formation and its medial and lateral reticulospinal tracts' influence on the anterior horn through the final common pathway.

Intervention and Outcome: The author found that a loud noise such as clapping near the patient's ears would stress the reticular formation and create a suprasegmental muscle inhibition pattern. The correction is made by clapping and then finding which beginning and ending acupuncture point negates the inhibition pattern. The treatment consists of performing injury recall technique after clapping and stimulating the B and E point.

Conclusion: The author has found that performing this technique resulted in dramatic improvements in TL and other afferent receptor challenges commonly used in AK. Doctors usually assume the neurological pathways from the receptor challenges to the anterior horn are modulated appropriately. This may not always be the case. In these cases the author argues that it is important to assess and correct these pathways in the initial stages of treatment. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:77-79)

Key Indexing Terms: *Reticular Formation; Afferent Pathways; Hypesthesia; Acupuncture Points; Kinesiology, Applied*

THE ROLE OF THE TRANSVERSE LIGAMENT IN SUPRASCAPULAR NERVE ENTRAPMENTS

Datis Kharrazian, D.C., C.C.N., C.C.S.P., C.S.C.S.

ABSTRACT

Objective: To discuss the role the transverse ligament plays in the suprascapular entrapment syndrome, and elaborate upon the mechanism of neuroischemia as the model for peripheral nerve entrapments.

Clinical Features: Suprascapular entrapment syndrome may produce diffuse shoulder pain, scapula-thoracic instability, even atrophy of the infraspinatus muscle. A stretching of the suprascapular nerve when the scapula is unstable is the cause of the entrapment. Activities that require scapular stability exacerbate the patient's symptoms. This entrapment becomes evident when the infraspinatus muscle is inhibited as it is tested with the arm flexed to 90 degrees and the shoulder rotated anteriorly. The entrapment is corrected by normalizing the function to the scapular stabilizing muscles. AK techniques such as origin and insertion, strain-counter strain, fascial stretch reactions, muscle spindle techniques, reactive muscle patterns, etc. are usually successful.

Intervention and Outcome: The author presents a case where the above protocol had only limited results. A professional tennis player presented who hurt his shoulder 2 years before while attempting to hit a ball out of his reach. The patient had immediate stabbing pain in his shoulder that had diminished in 2 years to a constant boring pain. He had developed severe atrophy of the infraspinatus muscle that was obvious with inspection of the scapula. 2 years of rubber band exercises to strengthen the infraspinatus and other rotator cuff muscles were of no value. He demonstrated proper facilitation of the infraspinatus muscle on MMT, but when his arm was flexed to 90 degrees and shoulder rotated anteriorly – inhibition of the infraspinatus muscle was dramatic. The suprascapular nerve passes through a foramen created by the scapular notch on the superior border of the scapula and the transverse ligament. Challenge of the ligament to a stretch caused inhibition of all muscles. This was a rebound challenge that is commonly used in AK. After applying forceful pressure to the transverse ligament for 60 seconds there was a dramatic facilitation of the infraspinatus muscle when tested in 90-degree flexion and anterior rotation of the shoulder.

Conclusion: Restoring proper function to the scapula stabilizers and correcting the transverse ligament of the scapula has been found to correct the suprascapular entrapment syndrome among the author's patients.

Clinical trials of these methods are warranted. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:81-83)

Key Indexing Terms: *Shoulder Joint; Scapula; Nerve Compression Syndromes; Case Reports [Publication Type]; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

THE ROLE OF THE SCALENUS ANTICUS MUSCLE IN DYSINSULINISM AND CHRONIC NON-TRAUMATIC NECK PAIN

Thomas A. Rogowskey, D.C., D.I.B.A.K.

ABSTRACT

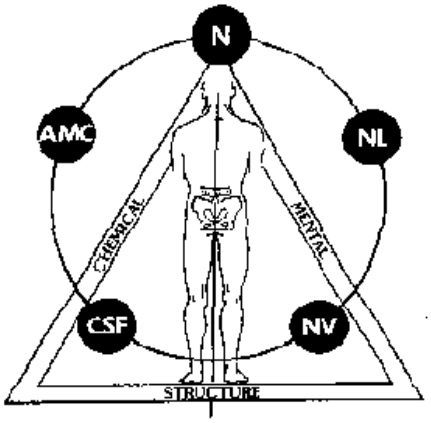
Objective: To present a case series report on the AK treatment of dysinsulinism that also facilitated the anterior scalene muscles thereby ameliorating cervical spine related symptoms.

Clinical Features: The author presents his investigation of chronic neck stiffness in his patients and its association to anterior scalene weakness and sugar metabolism mechanisms. The physiology of dysinsulinism is presented, and its signs and symptoms are described. The author presents 4 cases (ages 15 to 65, 3 female and 1 male) that showed how the successful treatment of dysinsulinism in his patients using AK methods eliminated the need to treat this muscle's weakness.

Intervention and Outcome: Dysinsulinism syndrome was diagnosed using two methods. Each requires a challenge to a previously facilitated long head of the biceps muscle with the arm in full extension and flexed at the shoulder 45 degrees. Pinching the pancreas visceral referred pain area (VRP), or hard rubbing of the pancreas neurolymphatic reflex produces inhibition of the long head of the biceps in this syndrome. If a facilitated muscle becomes inhibited after the patient insalivates 6X or 8X homeopathic insulin, it is interpreted as dysinsulinism also. Laboratory tests and other AK tests relating to blood sugar handling mechanisms should be used to substantiate the findings of dysinsulinism. Using the muscle that is inhibited, or any muscle that shows weakness found with insulin exposure, a receptor stimuli that overrides this test would indicate that the dysinsulinism is secondary to the receptor that was stimulated. This factor would then be treated. If no receptor stimuli are found that overrides this test, then dysinsulinism is primary. The author reviews the nutrients from the biochemical literature and other methods used in AK to treat dysinsulinism.

Conclusion: Dysinsulinism is pertinent to the practice of functional medicine because of its prevalence in the population and its importance in the physiology of patients. Its symptoms are very wide and diverse. This paper argues that applied kinesiologists have the means to help reverse this condition, and associating the anterior scalene muscle inhibition with dysinsulinism can help the practitioner investigate the root causes of this problem. (Collected Papers International College of Applied Kinesiology, 2000-2001;1:97-103)

Key Indexing Terms: *Insulin Resistance; Metabolic Syndrome X; Nutrition Disorders; Diagnosis; Muscle Weakness; Treatment; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1999-2000

-- Edited by Scott Cuthbert, D.C.

THERAPEUTIC REGIMEN FOR A PATIENT WHO BECAME H.I.V. NEGATIVE

Dean B. McGee, D.C.

ABSTRACT

Objective: To present a case report of the treatments used for 7 years involving a patient with Type A hemophilia and H.I.V. who became H.I.V. negative.

Clinical Features: The author was treating an 8-year-old boy with hemophilia who had contracted H.I.V. The paper presents a yearly documentation of the patient's condition and his treatment for H.I.V. The patient was tested frequently for his H.I.V. status. This included: CD4 level; CD4-CD8 ratio; P24 Ag tests (including the acid-wash and the Coulter tests); and the HIV-1 RNA Viral Load count. The lab values for the boy and many other assessment measures are given for each year from 1989-1998. These show that in May of 1997 the patient showed a viral load test of less than 400, at which time the virus was non-detectable in the blood. Follow up tests for his H.I.V. status had remained negative through December 1998.

Intervention and Outcome: The patient was treated with nutritional therapy, dietary counseling, and neuromuscular corrections to improve function and reduce pain, microcurrent, and pharmacological medications currently in use for H.I.V., A.I.D.S., and hemophilia treatment. These treatments were effective in reducing the patient's pain, improving his digestive and immune systems, and reducing his viral load to the point where the H.I.V. could not be detected in the patient's blood.

Conclusion: The author reports on a spectrum of therapies, both medical and chiropractic, that has resulted in the resolution of a reportedly incurable disease and to present possible treatment options to those who are managing similar cases. While this case report does not provide a formula for success with every H.I.V. patient, it does provide viable options that may have value to others. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:1-13)

Key Indexing Terms: *HIV; Acquired Immunodeficiency Syndrome; Case Reports; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

A CASE REPORT OF NEUROLOGICAL DISORGANIZATION

John G. Sherman, D.C.

ABSTRACT

Objective: To present the case of a man treated for low-test scores and slow reading times due to dyslexia and learning disorders.

Clinical Features: A 31-year-old male had been diagnosed with dyslexia and learning disorders by a psychologist in 1995. The patient had trouble reading and taking exams, and was a student in a chiropractic college. The patient had trouble in school from the age of 11 on, and must be given extra time for his written exams. He wears reading glasses that help decrease the incidence of letter reversal; he has

motion sickness since the age of 16; and has asthma since birth. He uses Albuterol to help with his breathing.

Intervention and Outcome: After orthopedic and neurologic testing (all within normal limits) an AK examination was performed. Muscle weaknesses are described consistent with cranial faults and adrenal stress disorder, both of which were improved bilaterally with TL to the adrenal neurolymphatic and neurovascular reflexes. Treatment consisted of wearing two 800 gauss, non-polar magnets (2mm in diameter) directly over the adrenal neurolymphatic reflex points 24-hours a day for 4 weeks. The patient was seen twice weekly to evaluate the cross crawl and homolateral crawl patterns which weakened him on testing. After 4 weeks of this therapy, the patient was able to retain what he read after reading it once, thereby decreasing his reading time 10-15 minutes out of a 3-hour time period. He no longer fell asleep after reading 3 pages and can now read over 10 pages without fatigue. His class notes no longer contain as many switched letters as they once did. However, his test taking time has not changed significantly.

Conclusion: More research in different areas of magnetism is suggested by the author to determine if there really are any long-term benefits to this type of therapy. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:15-18)

Key Indexing Terms: *Dyslexia; Learning Disorders; Case Reports; Magnetics; Treatment; Chiropractic; Kinesiology, Applied*

THE EFFECT OF OMEGA THREE FATTY ACIDS ON THE PREVENTION OR PROLONGATION OF ACUTE EPISODES OF LEG PAIN IN A 23-YEAR-OLD FEMALE PATIENT WHO HAS BEEN DIAGNOSED WITH SACROILIITIS SECONDARY TO ULCERATIVE COLITIS: A TIME SERIES CASE REPORT

John G. Sherman, D.C.

ABSTRACT

Objective: An AB time series study of a female patient with sacroiliitis secondary to ulcerative colitis is presented.

Clinical Features: A 23-year-old female complaining of leg pain caused by sacroiliitis participates in this study. The patient was hospitalized for ulcerative colitis and given steroid therapy at that time, and had surgery for a perforated ulcer caused by the steroid use. A surgical procedure called an endorectal ileal pull through was performed also. The pain from the sacroiliac joint was incapacitating at times. The pain increased when she sat but decreased with walking and movement.

Intervention and Outcome: The first phase of the study lasted 9 weeks where no intervention was done, and the subject's condition was monitored by the Visual Analogue Scale and repeat muscle testing (aerobic muscle testing) of the right psoas. The second phase of the study was a 5-week intervention period where the subject supplemented her diet with omega three fatty acids once per day at bedtime, as determined by standard oral nutrient testing methods in AK. The supplement contained: marine lipid concentrate of 60 mg of Eicosapentaenoic Acid (EPA); 40 mg of Docosohexiaonic Acid (DHA); Borage oil consisting of 15 mg of Gamma-Linolenic Acid (GLA); 107 mg of olive oil and 10 IU of vitamin E. The trends of the leg pain, both with and without supplementation, show no significant change. The

patient's compliance and VAS charting was good. No side effects from the supplement were reported. Concurrent with this study, ESR was performed during the first phase of the study and showed no significant inflammation was present.

Conclusion: The use of omega three fatty acids to decrease acute episodes of leg pain in a female subject with sacroiliitis secondary to ulcerative colitis did not appear to benefit her. Using other treatments (chiropractic manipulative therapy) during a study of this kind might prove beneficial. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:19-22)

Key Indexing Terms: *Colitis, Ulcerative; Sacroiliac Joint; Arthritis; Fatty Acids, Essential; Case Reports; Treatment; Chiropractic; Kinesiology, Applied*

OBJECTIVE EVALUATION OF THE EFFECTS OF NEUROLOGICAL DISORGANIZATION AND POTENTIAL SUBSEQUENT LEARNING DISABILITIES AND/OR DYSLEXIA

Michel Barras, D.C.

ABSTRACT

Objective: To present a 6-year clinical study, utilizing 6 professional logopedists, who investigated improvements in cognition tests in 117 children undergoing AK treatment.

Clinical Features: The hypothesis that head trauma is a causative factor of neurologic disorganization and the attendant problems with learning and behavior is presented. Because the early changes in cognitive function, reading, and social behavior can be so difficult to measure after head trauma, newer, more sophisticated and sensitive measurements of cognitive function have been necessary. A number of parameters and tests were used in 117 children who were experiencing the sequelae of head trauma called neurological disorganization. The 8 essential tests are described and supporting literature given. These tests evaluated the senses of visual memory and discrimination, auditory perception, discrimination and temporal orientation, right-left knowing, reading, control of facial muscles, spatial orientation and organization, writing words, social adaptation IQ, labyrinth function, Rey memory and copy time, and immediate recall capacity.

Intervention and Outcome: A before and after graph is presented showing that after appropriate AK treatment for the problems found in these children, major improvement in every measured function was the result. The corrective procedures employed were cranial holographic subluxation and first cervical subluxation corrections, and these were found to help children with lateralization problems, memorization, concentration, hyperactivity, motor coordination impairments and fine motor impairments.

Conclusion: This study shows that not only are pain and presenting symptomatology improved with AK evaluation and treatment of children with head injuries, but that a wide range of social, educational, and intellectual impairments were also markedly improved by AK treatment. Larger studies on children with learning problems are definitely warranted. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:25-30)

Key Indexing Terms: *Learning Disorders; Dyslexia; Adolescent Behavior; Brain Injuries;*

Craniocerebral Trauma; Diagnostic Techniques, Neurological; Validation Studies [Publication Type]; Outcome Assessment (Health Care); Treatment; Chiropractic; Kinesiology, Applied

EVALUATING AND TREATING FUNCTIONAL HYPOTHYROIDISM UTILIZING APPLIED KINESIOLOGY

Jeff Farkas, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a review of thyroid gland physiology, the incidence of its abnormality in the population, and to offer a treatment method based on AK nutritional principles.

Clinical Features: A thorough review of thyroid hormone physiology is presented, as well as a review of its epidemiology. A review of 12 of the signs and symptoms of hypothyroidism is given, as well as a review of the diagnostic methods used to determine hypothyroidism in patients. Several not so well known methods of diagnosing hypothyroidism are given, some of which make cases of symptomatic euthyroidism amenable to successful treatment.

Intervention and Outcome: A review of the nutritional factors needed in the treatment of the under active thyroid are presented, as well as the use of diagnostic techniques described in AK literature are reviewed.

Conclusion: The most effective therapy for a particular patient must be customized for that patient individually, and this process is facilitated by incorporating AK into the diagnostic and treatment regimen of patients with this condition. Further research into the problem of hypothyroidism and functional medicine are warranted. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:41-52)

Key Indexing Terms: *Thyroid Gland; Hypothyroidism; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

AYURVEDIC BODY/MIND TYPING USING APPLIED KINESIOLOGY TESTING AND STANDARD QUESTIONNAIRES

James D.W. Hogg, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a method of pulse analysis using MMT as well as a patient questionnaire in order to classify individuals by the 10 Ayurvedic constitutional types.

Clinical Features: A discussion of the fundamental tenets of Ayurvedic medicine is presented. In Ayurveda, the five elements – space, air, earth, fire and water – make up the universe, including the human body. These elements come together to create three different constitutional types, or doshas: Vata (airy), Pitta (fiery), and Kapha (earthy). Constitutional typing is a key component to Ayurvedic care. Descriptions of the three types, their physical, mental, behavioral, and athletic profiles are described.

Intervention and Outcome: Pulse analysis is a major Ayurvedic analytical tool and like Traditional Chinese Medicine's pulse analysis, it can take considerable time to develop the accuracy needed to be reliable in the clinical setting. The author describes a method of therapy localization to the pulse points and the findings that may occur.

Conclusion: Ayurveda is a 5,000-year-old system of health care from India that is gaining recognition in the west for its effectiveness. The translation of the Ayurvedic pulse analysis procedures into MMT format allows the doctor who is proficient in AK quick and accurate access to the Ayurvedic method of constitutional typing and treatment. The author argues that once a patient's dosha is understood, the doctor can make more informed recommendations with regard to diet, lifestyle changes, and types of exercise to promote health. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:93-102)

Key Indexing Terms: *Medicine, Ayurvedic; History; Evaluation Studies; Diagnosis; Kinesiology, Applied*

A NEW APPROACH FOR THE RETICULAR FORMATION

Datis Kharrazian, D.C.

ABSTRACT

Objective: To describe two treatment protocols to normalize aspects of the ascending and the descending reticular formation.

Clinical Features: The author recommends that doctors correct the ascending and descending reticular formation pathways first before they use other AK challenges. A general function of the reticular formation is to regulate the level of consciousness and arousal that come from somatosensory, auditory, visual and visceral systems. A discussion of the neurological pathways and functions of the reticular system is presented, and its relationship to MMT. If the reticular system is not functioning at an optimal level the sensory challenges used in AK may not be reaching higher levels of the nervous system adequately. These two techniques are for patients who have minimal facilitation with TL, gustatory motor responses, and other afferent pathway stimulations.

Intervention and Outcome: An approach to evaluate and treat the reticular system is discussed. It requires the doctor to begin with a facilitated indicator muscle. The doctor then claps next to the patient's ears to stimulate the reticular activating system. If the ascending reticular system is not properly functioning the patient will then demonstrate a supra-segmental injury recall pattern (I.R.T. is discussed elsewhere in the Collected Papers). The correction is made with clapping and then performing I.R.T. The descending reticular system is challenged by the doctor giving one clap next to the patients ears (no

muscle weakness is present in this case, if it is the previous protocol is used), and having the patient TL each of the Beginning and Ending points to see if a weakness is induced. The doctor then claps and taps the indicated B and E point for 10 seconds and then performs IRT to make the correction.

Conclusion: Because the reticular formation connects higher brain centers to the anterior horn of the spinal cord, it is important to test the function of the reticular system first before testing the motor system. Investigations of this treatment hierarchy are warranted. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:103-108)

Key Indexing Terms: *Reticular Formation; Predictive Value of Tests; Diagnostic Techniques, Neurological; Treatment; Treatment; Acupuncture Therapy; Chiropractic; Kinesiology, Applied*

STATIC AND KINETIC VISUAL ANALYSIS OF THE FOOT AND ANKLE

David W. Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To provide examination methods for evaluation of the foot and ankle.

Clinical Features: Inspection of the patient's feet is one of the key ingredients in helping decide where examination of the patient begins. The visual analysis of the foot and ankle has three parts: static examination of the foot weight bearing and non-weight bearing; examination of the foot while the patient is rising onto his toes; and finally examination of the feet and ankle during walking or running. Shoes and socks should be removed.

Intervention and Outcome: Static examination will reveal areas of excess friction of the skin, blisters and calluses; discolorations of the skin, nails and signs of circulatory problems; alignment of the metatarsals and tarsals and the condition of the first metatarsophalangeal joint. While standing, observe the alignment of the Achilles tendon; the condition of the longitudinal and transverse arches; excessive dropping of the navicular; the lateral expansion of the foot; lateral displacement of the cuboid; the amount of toeing in or out the foot makes from the midline; the amount of internal or external rotation of the femur compared to the feet. When the patient rises to their toes note the ability to maintain balance; does the great toe suddenly lift into the air. The final phase involves observation of the patient's feet, ankle and lower leg while walking. These postural clues will help determine which muscles, joints, and ligaments need specific AK testing.

Conclusion: With practice the doctor can quickly evaluate the mechanics of motion and shorten the diagnostic time needed to find problems in the patient's feet. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:109-112)

Key Indexing Terms: *Foot; Diagnostic Techniques and Procedures; Chiropractic; Kinesiology, Applied*

CHANGES IN CRANIOMANDIBULAR NEUROMUSCULAR FUNCTION AND BIOMECHANICS FOLLOWING APPLIED KINESIOLOGY DIAGNOSTIC PROCEDURES AND MANUAL MANIPULATIVE THERAPY

Eric Kees Peet, D.C., and Karen Clister, D.D.S.

ABSTRACT

Objective: To present a case report using the Myotronics K6-I bioelectronic measuring devise showing improved electromyographic activity and range of movement within the craniomandibular muscles in a patient with jaw pain who had co-management between functional dentistry and AK.

Clinical Features: Bioelectronic analysis of TMJ function as a diagnostic aide has been used in the field of functional dentistry for many years and is well established. Its use for documenting changes from AK therapy is new. An 11-year-old male had been experiencing symptoms of jaw pain and headaches for 6 weeks following an automobile accident. After AK treatment, a staff technician of the dental office performed the Myotronic K6-I computer assessments on the boy after treatment in a separate room and was blinded from the AK testing and treatment procedures.

Intervention and Outcome: AK examination showed a pyramidal distribution of weakness of his left extensor muscles, which correlated with enlargement of the left physiological blind spot. Articular dysfunction was found in the right SI joint, right lower lumbars, right lower cervicals, and mid-thoracic fixations. Both ankles were subluxated. His cranium had a torque pattern involving both temporal bones, with suture restriction in a left internal frontal bone cranial fault pattern. AK oral nutrient testing was performed and dietary and nutritional counseling given. Graphs presented from the Myotronics instrument showed, post-manipulation, that the boy demonstrated improvement in virtually every measured variable. Subsequent office visits revealed both subjective and objective improvement in his condition.

Conclusion: This study demonstrates that AK procedures produced remarkable improvements in TMJ function. Further research using this kind of instrumentation on larger patient cohorts is warranted.
(Collected Papers International College of Applied Kinesiology, 1999-2000;1:125-131)

Key Indexing Terms: *Temporomandibular Joint Disorders; Craniomandibular Disorders; Electromyography; Myography; Evaluation Studies; Treatment; Chiropractic; Kinesiology, Applied*

A NEUROLOGICAL BASIS FOR THE EFFECTS OF CRANIAL MANIPULATION

Walter H. Schmitt, D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To present a neurological model for the effects of cranial manipulation.

Clinical Features: The model is based on afferent pathways from dural nociceptors and cranial mechanoreceptors that have their primary synapses in the cervical spinal cord. The secondary effect of

cranial afferents upon motor activity in the cervical spine is documented. The effects of cervical afferents on the cerebellum, in turn, alter efferents from the cerebellum that in turn explains the diverse clinical effects observed after the use of cranial techniques.

Intervention and Outcome: The cerebellum efferents modulate the activities of vision, autonomic function (e.g. when a patient gets dizzy they also get nauseous via these neurologic pathways), somatic and autonomic motor activity of the reticulospinal tracts, vestibulospinal tracts, and feedback into cortical tracts. Summarizing this presentation, it is possible to see how cranial nociception arising from cranial faults are capable of disrupting many neurological pathways, making plausible neurologically how cranial faults produce widespread spinal and other structural changes seen with cranial technique.

Conclusion: Sutherland, DeJarnette, and numerous other clinical pioneers originally proposed the traditional explanation of cranial techniques and their effects. But their explanations are at least 50 years old, based on outdated or never proven physiology. The modern neurological description given in this paper is plausible and based on principles of physiology that are accepted in the textbooks of neurology today. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:133-135)

Key Indexing Terms: *Models, Neurological; Neurology; Cranial Neuropathies; Chiropractic; Kinesiology, Applied*

A NEUROLOGICAL RATIONALE FOR INJURY RECALL TECHNIQUE

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To present a neurological model for understanding the effects of the author's Injury Recall Technique (IRT).

Clinical Features: The three major sensory inputs for postural control are the eyes, the inner ears (the vestibular mechanism), and mechanoreceptors from the ankle joint. Postural adaptation depends on cerebellar integration of all three areas and its efferent supply to brainstem centers for descending pathways to motor neuron pools. The neurology of cerebellar adaptation and habituation to areas of injury and trauma is presented, as well as its hypothesized correction using IRT.

Intervention and Outcome: If an injury to the body is one that requires IRT, the cerebellar adaptations to the injury creates an alteration in posture, part of which is reflected in ankle proprioceptive adaptations to the injury. The positive test for IRT is when a conditionally facilitated (strong) muscle becomes conditionally inhibited (weak) when the area of previous injury is activated by patient touch or doctor stimulation while the talus bone is challenged in a headward direction. Correction of IRT is by micro-manipulation of the talus in a distal direction while the area of injury is activated.

Conclusion: The author suggests that a normalization of the accompanying concomitants to plasticity-altered (adapted) cerebellar and cerebral function explains the far-reaching effects achieved by IRT. This includes in his experience changes in sensory and motor functions, autonomic concomitants, and improved cognitive function. Controlled clinical trials to test these methods are indicated. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:137-139)

Key Indexing Terms: *Models, Neurological; Neurologic Manifestations; Spinal Injuries; Soft Tissue Injuries; Treatment; Chiropractic; Kinesiology, Applied*

TRANSNEURAL DEGENERATION AND LINKS BETWEEN THE NERVOUS SYSTEM AND BODY CHEMISTRY

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To review the principles of transneural degeneration (TND) and present biochemical and nutritional factors that should be corrected in the TND patient.

Clinical Features: TND is the process of neuronal degeneration that ultimately can lead to neuron cell death. It is a process found in Alzheimer's disease, Parkinson's disease, and other neurodegenerative disease processes. It is a process associated with stroke, head trauma, and other neural injury. When there is deafferentation to a neuron or group of neurons (which may be due to lack of normal mechanoreceptor activity due to spinal subluxations, muscle imbalances, immobility following injury, and nutritional and chemical deficiency) the normal function of the deafferentated neurons will be compromised.

Intervention and Outcome: The research of the author has shown that restoration of neuron health will not occur without restoration of membrane receptor activation which is largely dependent upon restoration of normal afferentation, including normal mechanoreceptor activity, throughout the body, as well as correcting the chemical deafferentation that results from nutritional deficiencies. Macronutrients, micronutrients (neurotransmitters, for instance, are amino acids or amino acid derivatives, and each amino acid requires between 3 and 8 vitamins and minerals to be activated), antioxidants and essential fatty acid supplementation for TND are reviewed. The citric acid cycle's role and heavy metal toxicity as contributors to TND is presented also.

Conclusion: This study shows that the chemical problems associated with TND are best addressed by dietary and nutritional supplementation. The author states that giving a multiple vitamin and mineral is no more adequate than is a general chiropractic manipulation for patients with TND, and may even be dangerous due to the cellular apoptosis that may result. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:149-156)

Key Indexing Terms: *Spinocerebellar Degenerations; Neuron Degeneration; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

CO_2 EXCESS CHALLENGE: IMPLICATIONS IN METABOLIC ACIDOSIS

Barton Stark, D.C.

ABSTRACT

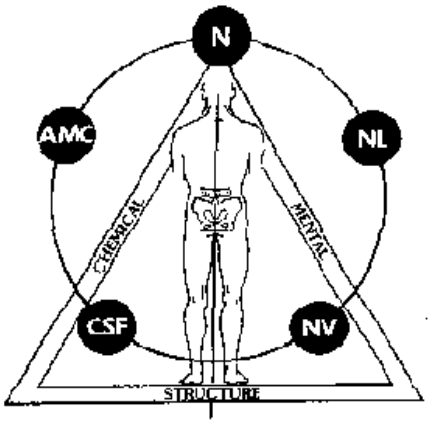
Objective: To present a method of testing patients for excess carbon dioxide as an indicator of metabolic acidosis.

Clinical Features: Acid control is an important issue in the maintenance of homeostasis. Traditionally, AK doctors have used various indicators such as oral and urinary pH, teres major function, and the many signs and symptoms of acid-alkaline imbalance described in the AK literature. A review of the physiological state of acidosis is presented.

Intervention and Outcome: The challenge described in this paper is accomplished by testing a previously strong indicator muscle for weakening following a patient's rebreathing his or her own CO_2. When the challenge is positive, the resultant muscle weakness can be utilized to discover causal relationships and methods of correcting the positive finding. The author suggests that a positive CO_2 excess challenge test suggests an excess of acid in the body, or a diminished ability to handle even a momentary increase in acidity; these patients also frequently have an oral pH of 6.0 or less. AK treatment for patients with acidosis is reviewed and may involve the adrenal glands, kidneys, liver, intestines, protein metabolism, and nutritional support.

Conclusion: The importance of acid control in patients is apparent, and the sometimes-ambiguous constellation of symptoms occurring when the acid-alkaline balance is jeopardized indicates the value of a non-invasive, easy-to-use test for the clinician. Clinical trials of this method of testing with concurrent biochemical studies would be appropriate. (Collected Papers International College of Applied Kinesiology, 1999-2000;1:167-171)

Key Indexing Terms: *Acidosis; Acidosis, Respiratory; Breath Tests; Neurologic Manifestations; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1998-1999

-- Edited by Scott Cuthbert, D.C.

NEUROLOGICAL DISORGANIZATION

Michel Barras, D.C.

ABSTRACT

Objective: To present two studies involving 56 children (age 10 to 11) and 66 females (age 17 to 19), respectively in order to determine the incidence of neurological disorganization (ND).

Clinical Features: In AK, ND is an abnormal condition in which the nervous system signals or interprets signals improperly, causing apparent confusion within the body. This is of particular importance in AK examination because erroneous information may be derived from the various testing procedures used. ND produces an observable modification of muscle and gait coordination, one manifestation of which is homolateral locomotion (the right leg and arm move forward together with the left leg and arm moving backward together, and vice versa).

Intervention and Outcome: Gait testing on all the participants of the study was performed. This involved a MMT of the general forearm flexor muscles with the feet in a neutral position. Then the forearm muscles were tested with the arm forward on the opposite side of the forward leg (contralateral static gait position). The forearm muscles were tested again with the arm forward on the same side as the forward leg (homolateral static gait position). Results: 41 out of 56 children (73.2%) in the first study showed a homolateral gait versus the normal contralateral (this is a sign of ND). In the second group of 66 females, 87.9% of the participants were homolateral. In all cases, a cranial corrective procedure involving the contralateral frontal and occipital bones converted the gait testing from homolateral to contralateral.

Conclusion: The author suggests that homolateral ND is the consequence of head trauma because a cranial correction abolished the ND. This study also shows that over 75% of the population by the age of 11 has ND. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:1-5)

Key Indexing Terms: *Brain Injuries; Epidemiology; Gait Disorders, Neurologic; Neurologic Manifestations; Treatment; Chiropractic; Kinesiology, Applied*

THE CAUSE AND CURE OF PANIC ATTACKS: AN OPINION PAPER

Daniel H. Duffy, Sr., D.C.

ABSTRACT

Objective: This paper suggests that a panic attack (PA) is an intellectualized response (conversion hysteria) to internal sensations generated by a catecholamine response (CR) initially, and later, PA is provoked by a sudden drop in circulating glucose levels.

Clinical Features: The metabolic and psychological effect of the CR is reviewed. The author points out that the physical sensations elicited by fear and anxiety are similar to those elicited by a sudden drop in blood sugar are similar, and suggests that both arise from a sudden release of catecholamines. Physiologically, the sensations arising during a panic attack are caused by a CR to a sudden drop in blood sugar also known as the "fight or flee response." The sudden drop in circulating glucose is more

frequently provoked by insulinogenic foods of high glycemic index rather than psychological or other physical factors. The author argues that operant conditioning subsequently links the internal sensations of the CR with external events, thus creating a PA. Sudden changes in the cellular environment that occur with blood sugar imbalances, involving the cells' fuel source, sets off this alarm system.

Intervention and Outcome: The author's clinical experience has shown that stabilizing blood sugars with proper diet and subluxation correction, along with strong moral support, eliminates the PA syndrome. A treatment protocol to control blood sugar levels (especially the rate of change in blood sugar level) is given. AK treatment to the structural imbalances in the body, small intestine, liver and pancreas treatment, and improvement of the adrenal stress syndrome has been effective for the author in the treatment of PA.

Conclusion: During a PA, the functional relationship between blood sugar levels, insulin release, and CR are often ignored by doctors and patients. It is the opinion of the author that most habitual sufferers of PA are the victims of dietary indiscretions that cause wildly fluctuating blood sugar levels. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:15-20)

Key Indexing Terms: *Panic Disorder; Catecholamines; Insulin; Blood Glucose; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

HOMOCYSTEINE

John W. Brimhall, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present evidence that elevated homocysteine levels are a significant risk factor for vascular and other disease, and to show how AK testing can help identify this risk.

Clinical Features: Research literature is reviewed to show that many conditions may result from elevated homocysteine, including neural tube defects, multiple sclerosis, rheumatoid arthritis, spontaneous abortion, placental abruption, renal failure, type II diabetes, and neuropsychiatric conditions. The author performed a literature search and found 1,000 articles in the literature in the past 5 years on homocysteine. The biochemistry of homocysteine metabolism is presented, as well as the use of folic acid, B12, B6, methionine, magnesium, niacin, betaine, and trimethylglycine that allow the breakdown of homocysteine into nontoxic forms.

Intervention and Outcome: The author shows that an AK oral challenge of homocysteine (using just a tiny amount on the patient's tongue) will cause a previously strong muscle to test weak in the case of elevated homocysteine levels. The administration of the proper nutrient will abolish the weakness.

Conclusion: There is a high percentage of the population that weakens to the oral challenge of homocysteine. The growing awareness of the importance of homocysteine levels in cases of vascular and other diseases makes this suggested method of diagnosis and nutritional treatment worthy of further scientific and clinical investigation. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:31-36)

Key Indexing Terms: *Homocysteine; Methionine; Folic Acid; Vitamin B 12; Vitamin B 6; Betaine; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Treatment; Kinesiology, Applied*

FUNCTIONAL SPINAL CORD NEUROPATHY SECONDARY TO ACCELERATION/DECEELERATION INJURY

John M. Corneal, D.C., D.I.B.A.K.

ABSTRACT

Objective: A retrospective case series involving 200 patients with whiplash related injuries are reviewed.

Clinical Features: Whiplash accidents causing hyperextension/hyperflexion injury of the cervical spine create significant functional impairments and are very prevalent today. These injuries are ineffectively treated frequently by current medical diagnosis and therapy. Consistent physical findings in these 200 cases are presented, including: +3 muscle weakness as listed in the *Guides to the Evaluation of Permanent Impairment*, 4th Edition by the American Medical Association; +3 muscle weakness of all neck flexors; multiple muscle weaknesses of the upper and lower extremities; palpable areas of pain in the muscles; organ sensitivity to palpation; cranial faults; and the elimination of these indicators with patient cervical flexion (a tucking of the chin to the chest). Radiographic findings are reviewed, and the hypothesis of spinal cord injury due to the injuries of whiplash injury is presented.

Intervention and Outcome: Treatment begins with the examination of all muscles involved, including the hyoid muscles. The author states that Golgi tendon organ proprioceptors are most frequently disturbed, followed by spindle cell proprioceptors needing strain-counterstrain and spindle cell toning techniques. Cervical manipulation was necessary in less than 1% of these cases. Most patients reported 75-90% improvement in symptoms after initial treatment. The author states that in post treatment radiographs two days after initial treatment there appeared to be no change in the structures treated, although objective and subjective indicators had changed dramatically. 3-month post treatment radiographs showed a decrease in posterior and anterior displacement of the cervical spine. The author says it may take up to 6 months healing time in severe cases of whiplash injury.

Conclusion: Once normal muscle function is restored the structural malpositions, fixations and subluxations of the whiplash injury complex were resolved. Successful treatment of a potentially devastating condition that is widespread in the population is demonstrated using AK techniques. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:49-52)

Key Indexing Terms: *Whiplash Injuries; Neck Injuries; Spinal Cord Injuries; Case Management; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

ACID/ALKALINE – TERMINOLOGY AND PHYSIOLOGY IN APPLIED KINESIOLOGY

Wolfgang. Gerz, M.D., D.I.B.A.K., David. Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss the physiology and terminology relating to acid/alkaline balance.

Clinical Features: Since the mid-1960s, AK has been investigating acid/alkaline conditions in patients. This paper reviews these findings and presents a common terminology in order to facilitate the integration and use of AK in complementary and alternative medicine (C.A.M.). European physiological writings on this subject are reviewed, and differences between the terminology used there and in AK are described. The physiological facts and measurement systems of acid/alkaline imbalances are presented. The pH of different compartments of the body is quite varied, and these are reviewed. The many factors that may affect the pH of these different body parts are listed.

Intervention and Outcome: The AK approach for determining acid/alkaline imbalances, and the treatment methods employed to improve problems in this area are described.

Conclusion: There is not much difference between AK and mainstream medicine on the subject of acid/alkaline balance once terminology is understood. It is vital to achieve a balanced acid/alkaline status to correct disturbances of intracellular metabolism. The topic of acidosis and alkalosis is far more complex and important to patients' well being than is frequently taught. Further clinical trials using the methods described in this paper are warranted. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:53-61)

Key Indexing Terms: *Acid-Base Imbalance; Acidosis; Alkalosis; Achlorhydria; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Treatment; Kinesiology, Applied*

LIGAMENT STRETCH REACTION AS A PREDISPOSITION TO MITRAL VALVE PROLAPSE

Steven J. Hansen, D.C.

ABSTRACT

Objective: A case series of 5 patients having mitral valve prolapse were found also to demonstrate the ligament stretch reaction.

Clinical Features: 5 patients presented for evaluation of various complaints. The patients described joint pain after stretching and activity and pain following chiropractic and osteopathic manipulation. A review of the condition of mitral valve prolapse is given, as well as hypoadrenia.

Intervention and Outcome: On physical examination, those patients presenting with a medically diagnosed mitral valve prolapse were found to be hypoadrenic, specifically demonstrating the ligament stretch reaction, which is one indication in AK of hypoadrenia. A mineral imbalance due to depressed

adrenal function may cause a weakening of ligaments. The ligament stretch reaction is diagnosed by stretching a ligament that produces a weakening of a strong indicator muscle after the stretch. The patients were treated to stabilize the ligament stretch reaction. This included dietary measures such as eliminating stimulants like coffee, tea, cola and refined sugars. AK oral nutrient testing showed a need for adrenal gland nutritional support.

Conclusion: The correlation in 5 patients of mitral valve prolapse and the ligament stretch reaction (a common finding in patients with hypoadrenia) is presented. Further studies involving larger patient cohorts with mitral valve prolapse are needed. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:63-65)

Key Indexing Terms: *Mitral Valve Prolapse; Adrenal Insufficiency; Biological Markers; Treatment; Chiropractic; Kinesiology, Applied*

THE RELATIONSHIP OF FOOD ALLERGIES AND VERTIGO: A CASE HISTORY

Steven J. Hansen, D.C.

ABSTRACT

Objective: To present a case report of a male whose vertigo resolved after successful AK treatment of food allergies.

Clinical Features: A 14-year-old male presented with dizziness, upset stomach and headaches of 2 weeks duration, with no prior history. He was prescribed meclizine, which gave no relief.

Intervention and Outcome: Initial treatment to the structural faults found (spinal, cranial, muscular) was employed. The patient had frequent recurrences due to injuries at his parents' farm. The cessation of vertigo began when oral testing of food allergens (corn, wheat, histidine) no longer caused muscle inhibition. Dietary restrictions and nutritional support for the digestive system were the treatments used.

Conclusion: Patients presenting with vertigo without frank pathology are often prescribed medications for symptoms without identifying the cause. Medications are prescribed to sedate labyrinthine function (Dramamine), or depress the CNS (perphenazine), or are given an anti-histamine (meclizine). Histamine is related to some forms of vertigo, and allergies are related to histamine production. The author states that AK offers a tool to help patients who have vertigo triggered by a histamine reaction related to allergies. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:67-69)

Key Indexing Terms: *Food Hypersensitivity; Vertigo; Wheat Hypersensitivity; Zea mays; Histamine; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

AYURVEDIC PULSE ANALYSIS: AN APPROACH TO INCORPORATING APPLIED KINESIOLOGY PROTOCOLS

James D.W. Hogg, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present a method of pulse analysis using MMT in order to discover Ayurvedic constitutional (mind-body or "dosha") types.

Clinical Features: A discussion of the fundamental tenets of Ayurvedic medicine is presented. In Ayurveda, the five elements – space, air, earth, fire and water – make up the universe, including the human body. These elements come together to create three different constitutional types, or doshas: Vata (airy), Pitta (fiery), and Kapha (earthy). Descriptions of the three types and their constitutional profiles are described. The subdoshas are areas of bodily function controlled by the doshas and these are delineated.

Intervention and Outcome: Pulse analysis is a major analytical tool in Ayurvedic medicine and reveals the dosha of the patient and imbalances in the subdoshas. A method of therapy localization and MMT is described for revealing the findings of Ayurvedic pulse analysis through MMT. A protocol of pulse point evaluation is offered.

Conclusion: Ayurveda is a 5,000-year-old system of health care from India that is gaining recognition in the west for its effectiveness. The author presents the case that Ayurveda is a natural component in a holistic, functionally oriented practice. This method of analysis can be incorporated into an AK approach to patient evaluation, and is especially useful in the author's experience with chronic or difficult cases. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:71-79)

Key Indexing Terms: *Medicine, Ayurvedic; History; Evaluation Studies; Diagnostic Techniques and Procedures; Kinesiology, Applied*

JOINT COMPLEX DYSFUNCTION AND THE DECONDITION SYNDROME: CONTEMPORARY TERMINOLOGY AND PATHOPHYSIOLOGICAL CONCEPTS FOR THE APPLIED KINESIOLOGY PRACTITIONER

Philip Maffetone, D.C.

ABSTRACT

Objective: To present the view that the term "joint complex dysfunction" (JCD) is more appropriate when used in the applied kinesiology approach than the word "subluxation."

Clinical Features: AK seeks to treat the entire individual, including the structural, biochemical, and emotional factors. The term joint complex dysfunction includes the problems associated with physical inactivity that leads to a deconditioning syndrome, and JCD can exist long before any joint misalignment or tissue injury occurs. In addition to spinal joint injury and degeneration, many people exist in a state of

cardiovascular deconditioning due to sedentary living. Arguments relating cardiovascular and aerobic deconditioning to spinal deconditioning are offered.

Intervention and Outcome: Nutrition and dietary assessment is also an important aspect of patient care that is often avoided by chiropractors, osteopaths and medical doctors. This is a serious concern because treatment procedures often reduce pain and make patients feel better, despite the existence of numerous nutritional deficiencies and the deconditioning syndrome that may be producing their JCD in the first place. To correct the JCD thus involves restoring joint motion, rehabilitating deconditioned tissues, and reducing chemical mediator release. The importance of treating our patients in this type of integrated approach is stressed in AK therapy. Methods of treating the deconditioning syndrome in AK are offered.

Conclusion: At the present time, it is the rare doctor who focuses on addressing the deconditioning syndrome. Many practitioners focus on palliative care, rather than corrective care. It should be understood that the deconditioning syndrome will not resolve unless the patient becomes an active participant in the process. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:83-89)

Key Indexing Terms: *Musculoskeletal Abnormalities; Cardiovascular Deconditioning; Terminology; Chiropractic; Kinesiology, Applied*

THE SCIENTIFIC RATIONALE FOR SELECTED ASSESSMENT AND TREATMENT METHODS USED IN APPLIED KINESIOLOGY PRACTICE

Philip Maffetone, D.C.

ABSTRACT

Objective: To review the science regarding selected assessment and treatment procedures commonly used in AK practice.

Clinical Features: This paper introduces the reader to the substantial research in peer reviewed, indexed journals which support procedures used in AK. 157 references are presented and reviewed that relate to specific tests and treatments in AK, as well as outcome studies showing the validity of these methods. A variety of assessment tools are reviewed, including the use of patient information forms, blood pressure changes, vital capacity, body temperature, nutritional testing, dietary therapy, and muscle testing.

Intervention and Outcome: The goal of AK methodologies is to allow the practitioner to match the needs of the patient with the most appropriate therapies, which include techniques in hands on therapy, manipulation (cranial, extravertebral, and spinal), nutrition, "reflex therapies" (Chapman and Bennett), and meridian therapy (traditional Chinese medicine). Included also are the assessment of and treatment for exercise, diet, stress, and other lifestyle factors.

Conclusion: This in depth presentation of the scientific studies underlying the methods used in AK, combined with the dramatic clinical outcomes that result from AK therapy can help practitioners, students, and patients find support for AK methods. We must not only understand the art and science of our profession, but also be ready to teach others in the same light. The scientific rationale behind the AK

approach to patient care is important to this endeavor. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:91-110)

Key Indexing Terms: *Kinesiology, Applied; Validation Studies [Publication Type]; Reproducibility of Results; Methodology; Systems Analysis; Review [Publication Type]*

THE WALKING TRIAD

Eric Kees Peet, D.C.

ABSTRACT

Objective: To describe a new conceptual model about how the body and the cranium interact.

Clinical Features: Utilizing the technique of triplaner cranial analysis (whose origins come from functional dentistry and were introduced into AK by Dr. Bob Walker) to compliment postural analysis, asymmetrical relationships between the body's geometry and the cranium's geometry can be observed. A certain pattern of cranial fault will correlate with the pyramidal pattern of muscle weakness found in patients. The effect of improper aerobic metabolism upon the pyramidal pattern of muscle weakness is described. The trigeminal nerve's effect upon the cranium is delineated. The neurological disturbances of cranial faults are reviewed, with specific descriptions of the sphenoid, occipital, and temporal bones. Specific findings related to cranial faults are described, helping to better diagnose patients.

Intervention and Outcome: Cranial geometry is variable depending on the muscle tension pattern, and this can be altered with AK techniques and sustained by aerobic metabolism. The treatment for the cranium and the aerobic metabolism is reviewed.

Conclusion: When a patient's metabolism is chronically anaerobic, the pyramidal distribution of weakness influences the cranial structure by a chronic tension imparted from the TMJ musculature. This alters the cranial geometry over time in a predictable pattern. These patterns can be observed using triplaner cranial analysis, and confirmed using neurologic testing and AK techniques. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:133-147)

Key Indexing Terms: *Musculoskeletal Abnormalities; Skull; Biological Markers; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY MANAGEMENT OF ACUTE OTITIS MEDIA AND SEROUS OTITIS MEDIA: THREE CASE HISTORIES

Cecilia A. Duffy, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present two cases of acute otitis media and one of serous otitis media that was successfully managed with AK technique.

Clinical Features: Case 1 was a female age 11 who presented with complaints of right-sided earache, sinus drainage, nausea and shakiness for 2 days. Examination of the ear canal revealed erythema with the tympanic membrane bulging with fluid and loss of tympanic landmarks. Case 2 was a male age 7 with complaints of left sided earache and sore throat for 2 days. Examination of the ear canal revealed an erythematous tympanic membrane with fluid and bubbles noted on the inferior aspect. Case 3 was a male age 6 who presented with hearing loss of 2 months duration. The patient's audiologist stated there was a 30% reduction in hearing in both ears. Examination of the ears was negative for fluid or bubbles behind the tympanic membrane.

Intervention and Outcome: Case 1 was treated once for diaphragm imbalance with reactivity of the left psoas muscle (when the psoas was contracted, the diaphragm test became positive); fascial release of the right pectoralis minor muscle; reduction of subluxations at the right occiput, T4, and fixation of the C7-first rib bilaterally. Nutritional supplementation consisted of thymus extracts, vitamins A and C, calcium and magnesium (Congaplex from Standard Process labs). Dosage was 1 every waking hour. Two days later, the patient's symptoms were much reduced. 1 week later, the patient was asymptomatic. Case 2 was treated twice in a 4-day period. Treatment involved fascial release of the left sternocleidomastoid muscle and reduction of a C1 subluxation. Nutritional supplementation of calcium and magnesium and Congaplex was given. The second visit showed the sore throat as cleared, but the earache remained. Treatment involved fascial release of the right pectoralis minor muscle; neurolymphatic for the right sartorius muscle stimulated; reduction of C2, T7, and category II ilium subluxations. 5 days later examination revealed no fluid in the middle ear and mild erythema to the tympanic membrane, with no symptoms of earache or sore throat. Case 3 was treated 5 times in 4 months. Treatment involved correction of subluxations of the occiput, thoracic spine and pelvis; fascial release of the right and left sternocleidomastoid and right pectoralis minor muscle; nutritional support for the adrenal, thymus, parotid glands and proteolytic enzymes. The mother of the patient reported that within 2 days of the first treatment, the patient's ears started popping and he was beginning to notice improvement in his hearing. Over the next 4 months the patient, his parents and teacher noticed his improvement in hearing. At the end of 4 months his hearing was once again normal.

Conclusion: Conservative measures for treating otitis media, acute or serous, should be considered due to the over prescription of antibiotic and steroid use and the inherent invasiveness of tube placement. Other studies showing the effectiveness of chiropractic adjustment in otitis media should be evaluated also. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:167-169)

Key Indexing Terms: *Earache; Otitis Media with Effusion; Case Management; Treatment; Chiropractic; Kinesiology, Applied*

APPLIED KINESIOLOGY MANAGEMENT OF CHRONIC OSGOOD-SCHLATTER DISEASE: A CASE HISTORY

Cecilia A. Duffy, D.C., D.I.B.A.K.

ABSTRACT

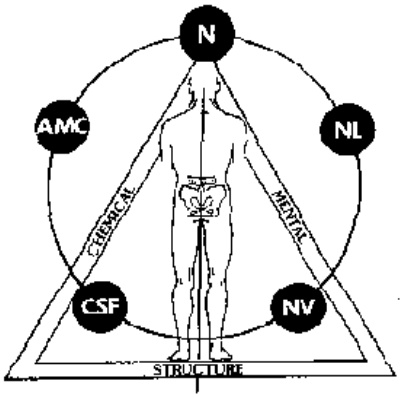
Objective: To present a case history of chronic (20 months) Osgood-Schlatter disease successfully treated with AK technique.

Clinical Features: An 11 year old female presented with left knee pain of 20 months duration. The pain was over the anterior knee with any physical activity and continued when the activity was halted. Prolonged rest periods would provide relief of the pain. A medical orthopedist performed an x-ray exam and diagnosed Osgood-Schlatter disease.

Intervention and Outcome: Examination of the left knee revealed an enlarged tibial tuberosity that was painful to palpation. Range of motion of the knee was normal and painless. There was bilateral pronation of the feet. Structural corrections over a 2 month period included category I pelvic lesion; fixations in the thoracic spine; left medial quadriceps weakness corrected by neurolymphatic reflex and T10 subluxation reduction; left sartorius weakness corrected by NL reflex and category II; left peroneus tertius corrected by reduction of a lateral talus and posterior calcaneus bilaterally; fascial release of the left hamstring; reactivity of the left quadriceps to the left hamstring; and reactivity of the left psoas to the diaphragm. Foot orthotics were prescribed for the bilateral pronation. She was treated 4 times in a 2-month period and was rendered asymptomatic.

Conclusion: A case history of long standing Osgood-Schlatter's disease in an 11-year-old female is successfully managed to an asymptomatic state using AK methods. (Collected Papers International College of Applied Kinesiology, 1998-1999;1:171-172)

Key Indexing Terms: *Knee Joint; Osteochondritis; Case Management; Treatment; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1997-1998

-- Edited by Scott Cuthbert, D.C.

ALUMINUM TOXICITY: A CONSTELLATION OF EFFECTS

William Conder, D.C.

ABSTRACT

Objective: A case series report on treatment of patients with aluminum toxicity is presented.

Clinical Features: Evidence indicating the metabolic toxicity of aluminum is reviewed from the literature and its clinical consequences, signs and symptoms, are reviewed. The effects of aluminum upon the biochemical pathways of the body are given. 5 cases (4 females and one male, ranging in age from the early teens to the mid-80's) are described whose diagnosis and treatment outcomes are reviewed.

Intervention and Outcome: AK evaluation showed several commonalities among the patients in this report. Hypoadrenia was present in all patients (demonstrating a positive Ragland's sign, sartorius muscle weakness, positive adrenal NL reflexes); as well as hiatal hernia, aerobic deficiency, and electromagnetic field sensitivity (positive indicator muscle test upon placing a quartz wrist watch anywhere on the patients body). The author consistently found, using nutrient testing with a homeopathic test kit, the following: excess aluminum, deficient magnesium, B vitamin and calcium disturbances. This case series showed that the positive indication for aluminum toxicity resolves in 4 to 6 weeks under the best of circumstances, although the myalgia and other muscle related symptoms may take considerably longer to abate. The removal of aluminum by malic acid and correction of magnesium deficiency by supplementation corrected the relative imbalance in the other micronutrient deficiencies involved in cases of aluminum toxicity.

Conclusion: Evidence indicating the metabolic toxicity of aluminum is strong. In addition to correcting hiatal hernia, dysbiosis and encouraging the patient not to consume antacids, antibiotics, and use aluminum containing antiperspirants), supplementation with malic acid and magnesium hydroxide and recommending measures for stress reduction was successful in this case series report. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:1-10)

Key Indexing Terms: *Aluminum; Poisoning; Adverse Effects; Diagnosis; Biochemical Phenomena, Metabolism, and Nutrition; Case Management; Treatment; Chiropractic; Kinesiology, Applied*

A MUSCULAR IMBALANCE APPROACH TO CRANIAL FAULTS

David W. Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the concept that cranial faults occur due to imbalances in the major muscles that attach to the cranial bones.

Clinical Features: The forces exerted upon the cranium during normal chewing, movement, and response to gravity by the muscles that attach to the skull is hypothesized to be the motive force for the cranial faults seen in the clinical setting. Failure of inhibition in the upper trapezius during walking, or imbalances in the muscles that turn the head gives an idea of the consequences of chronic hyper or hypotonic muscles upon the cranium. A chronic dropping of the arch of the foot can lead to over contraction of the pterygoid muscles on the same side. Pelvic imbalances can relate to pterygoid hypertonicity also. The body is a closed kinematic chain and so correction of cranial faults requires an evaluation of the total structure to determine the cause of muscular imbalances affecting the cranium.

Intervention and Outcome: The specific muscular and cranial articular relationships found that produce cranial faults are described. The functional integration of cranial bone movement with the muscular system is demonstrated. A basic understanding of the muscular and fascial influences presented in this paper leads to the conclusion that the status of soft tissues that attach directly to the skull, and the rest of the body whose status greatly influences these tissues, can influence cranial function.

Conclusion: This paper attempts to expand insights into the underlying causes of cranial faults. The muscles of the body act upon the cranial bones and the dural membranes via fascial continuity, changing the tension placed upon them and altering their functional motion potentials. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:17-20)

Key Indexing Terms: *Skull; Biomechanics; Musculoskeletal Abnormalities; Muscle, Skeletal; Treatment; Kinesiology, Applied*

APPLIED KINESIOLOGY AND HOMEOPATHY: A MUSCLE/ORGAN/REMEDY CORRELATION

Timothy D. Francis, M.S., D.C., D.I.B.A.K., D.H.M.

ABSTRACT

Objective: To present the correlations between homeopathy and muscles/organs/glands in the body that may be verified by MMT.

Clinical Features: An exhaustive review of the basic concepts of homeopathic thinking, history, diagnosis and treatment is given. Dr. Samuel Hahnemann's work (1755-1843), the originator of homeopathy, is described. Homeopathy is based on the Law of Similars where "like cures like". Diseases are treated by highly diluted substances that cause, in healthy persons, symptoms like those of the disease to be treated. The dilutions are repeated so many times that there is less than one molecule per dose and it is suggested that benefit is from the energetic life force of the original substance. The homeopathic physician seeks to match the symptom-pattern of the patient with that of a medicine. This necessitates a full symptomatic description of the patient's ailment, including everything that can be seen with the eyes or perceived by the other senses. The patient is also questioned about his perceptions and sensations, since he can know information that is not accessible to the physician's own observational powers. For the homeopathic physician, the number of diseases in the world is coextensive with the number of patients.

Intervention and Outcome: The homeopathic indications via MMT are presented. An extensive list of homeopathic remedies is correlated with muscles in the body. Indications from the patient's symptom complex are correlated with the muscles that are inhibited on MMT; muscles that facilitate with the ingestion of the appropriate homeopathic remedy. Because there are over 3,000 homeopathic remedies, this presentation is not all-inclusive. A clinical algorithm is presented so that this complex treatment protocol can be better understood.

Conclusion: This comprehensive paper includes 171 references, and suggests that one of the great systems of health care can be verified and made clinically useful with AK methods. Clinical trials using these two methods of therapy together should be undertaken. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:33-94)

Key Indexing Terms: *Homeopathy; Review [Publication Type]; Historical Article [Publication Type]; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

NEUROLOGICAL RESPONSES OF INFRASONIC QI-GONG

Douglas N. Hibbard, D.C.

ABSTRACT

Objective: 10 subjects were exposed to Infrasonic Qi-Gong to assess its influence on common AK indicators related to the pyramidal distribution of weakness.

Clinical Features: The discipline of Qi-Gong has been used for millennia in China to treat sickness. The technological discovery of Qi-Gong came when an acoustics researcher, Dr. Lu Yan Fang, tested a Qi-Gong master for sonic emissions from his hands. She found him to emit a strong signal 100 times the emission of a normal person. Dr. Lu constructed a device that reproduces this emission in order to test its potential physiological effects. Many positive neurological states have been registered with EEG measurements using the Qi-Gong device.

Intervention and Outcome: 10 volunteers were recruited for this study. Parameters tested were: passive internal thigh rotation range of motion; body length indicators (out stretched arm length); and standard testing of muscles related to the pyramidal distribution of weakness. An infrasonic Qi-Gong therapeutic massage device set on the low position was directed towards the cranium of the volunteer from a distance of 5 inches while the parameters were evaluated. Muscle strength was improved in 67% of the subjects; passive internal thigh rotation became equal in 71%; outstretched arms equalized in 75%.

Conclusion: The infrasonic Qi-Gong massager appeared to have immediate neurological influences upon the subjects tested. Future studies to assess the scope of applications within natural health care for this instrument are necessary. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:95-98)

Key Indexing Terms: *Complementary Therapies; Medicine, Chinese Traditional; Outcome Assessment (Health Care);Kinesiology, Applied; Chiropractic*

GV-21 – A SCREENING POINT FOR CENTERING THE SPINE

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: To present the hypothesis that the acupuncture point GV-21, when it has positive TL, will correlate with the author's centering the spine (CTS) patterns of MMT.

Clinical Features: Acupuncture point GV-21, located at the bregma, is suggested to be the location for a point which will TL or respond to several taps by the doctor when the patient will also respond to one of seven patterns: the 6 CTS patterns, and visually focusing on a point. The 6 CTS patterns are right gait, left gain, spinal extension, spinal flexion, spinal lateral flexion left, spinal lateral flexion right, and focusing the eyes on a point. Each of these CTS patterns has a purportedly specific structural and neurotransmitter significance. The effect of each of the CTS challenges, in the author's experience, is paralleled by a specific neurotransmitter.

Intervention and Outcome: A review of the author's CTS hypothesis is offered, and a review of this structural finding's relationship to the neurotransmitter status of the patient is given. Nutritional precursors for the neurotransmitters are presented. The pattern associated with the GV-21 finding provides the doctor with a guide to treatment procedures that will correct both the CTS challenge and the GV-21 TL.

Conclusion: The application of the concepts of CTS is argued to be of value in identifying structural and chemical patterns that affect patients. Clinical trials with concurrent biochemical testing are now warranted to validate or refute the correlations offered by the author. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:125-130)

Key Indexing Terms: *Neurotransmitter Agents; Acupuncture Points; Diagnosis; Treatment; Muscle Weakness; Chiropractic; Kinesiology, Applied*

IS IT SYMPATHETIC OR PARASYMPATHETIC?

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

Objective: A method of evaluation for the functional status of the autonomic sympathetic and parasympathetic nervous systems is presented.

Clinical Features: When an AK MMT reveals a weak muscle, there must be an inhibited central integrative state (CIS) at the alpha-motoneurons (alpha-MNs) that are the origin of the nerve to that muscle. The afferent inputs to alpha-MNs include collaterals from the intermediolateral (IML) column motoneurons which are the primary autonomic MNs. Autonomic function which originates at the hypothalamus is transmitted to the reticular formation and this information descends to the spinal cord via reticulospinal tracts which affect both IML MNs and alpha-MNs. Therefore, changes in autonomic function will affect, in a predictable, specific fashion, the CIS of alpha-MNs and hence, muscle strength and weakness patterns during MMT. The neurological consequences of sympathetic and parasympathetic nervous system activity are reviewed.

Intervention and Outcome: Since autonomic functions implicate somatic motor pathways, changes in muscle function will accompany changes in autonomic status. To evaluate autonomic functions in the body, the author describes a number of specific sensory receptor challenges. To determine whether an organ has decreased sympathetic or parasympathetic activity, pinching or rubbing over the organ's visceral referred pain area is used as sensory challenges (pinching increases nociception and activates sympathetic activity; whereas rubbing blocks nociception by activating mechanoreceptors). A number of the author's previous papers are reviewed showing how several other autonomic challenges to the nervous system are employed.

Conclusion: Sensory receptor based diagnostic challenges, including nociceptors, mechanoreceptors, visual and gustatory receptors may be used to evaluate the functional status of the autonomic nervous system in patients via the IML and alpha-MN connection. Controlled clinical trials of these procedures are called for. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:131-140)

Key Indexing Terms: *Autonomic Nervous System; Neural Pathways; Nervous System Physiology; Muscle Weakness; Diagnosis; Treatment; Muscle Weakness; Chiropractic; Kinesiology, Applied*

BALANCING INTERNAL ACOUSTICS

Dale Schusterman, D.C., D.I.B.A.K.

ABSTRACT

Objective: To discuss the function of ear dominance and how it impacts the nervous system.

Clinical Features: The work of the French ear surgeon Alfred Tomatis, M.D., provides the basis for this paper. Hearing is the first sense to develop in utero at 6 months and is therefore the first and most important link with the outer environment. Later, with the development of language, a neurological dominance is created in the nervous system as a result of the neural tracts involved. Much of Dr. Tomatis' research involves how language and hearing develop and function through the nervous system. The dominance correlates with left-brain and right ear function. Under this hypothesis, all functions in the human body must be properly aligned under the guidance of the right ear in order for there to be balance. Any pattern not amenable to right ear control is potentially invisible to the physician using AK or any other therapist.

Intervention and Outcome: Right ear dominance is related to the recurrent laryngeal nerve that comes off the vagus nerve and proceeds to the larynx. The pathway of this nerve is shorter on the right side of the body than the left. Tomatis' postulates that the reason most people are right handed is due to the development of the language centers in the left hemisphere of the brain. The right ear connections to the left-brain and the shorter right laryngeal nerve that crosses over into the left hemisphere become the pathway of choice for auditory/vocal development. A sequence of cranial challenges and corrections is described which moves patients who are left ear dominant into a right ear dominant mode.

Conclusion: The need for right ear dominance gives the therapist a place to start in balancing the nervous system. Clinical trials for the hypotheses and methods of treatment presented in this paper are warranted. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:149-161)

Key Indexing Terms: *Dominance, Cerebral; Ear; Recurrent Laryngeal Nerve; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

VERTIGO, MENIERE'S, AND OTHER PROBLEMS OF THE VESTIBULAR SYSTEM: A SIMPLE AND EFFECTIVE CORRECTIVE PROCEDURE

Samuel F. Yanuck, D.C., F.I.A.C.A.

ABSTRACT

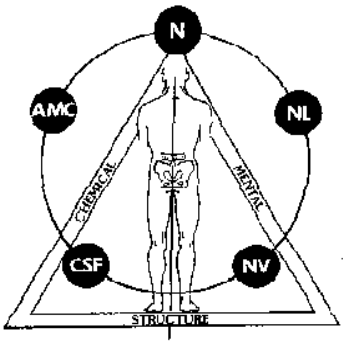
Objective: Two cases successfully treated for vestibular dysfunction are described.

Clinical Features: A variety of problems arising from the vestibular apparatus of the ear produce the symptoms of dizziness or vertigo. Reestablishing normal function of either the vestibular apparatus itself or the brain stem nuclei responsible for the integration of vestibular signals produces favorable clinical outcomes by reducing the symptoms of vestibular problems in the author's experience.

Intervention and Outcome: The patient should be neurologically organized before this method is employed. The patient TLs the right TW-23 acupuncture point (located in the depression at the lateral corner of the eyebrow) while simultaneously touching the right sartorius NL reflex. If only the simultaneous contact creates a weakening effect, correct by tapping over TW-23 while maintaining the TL to the sartorius NL. Add taste receptor stimulation with a source of caffeine. At this point, two-hand TL should have no effect with or without caffeine. While the patient maintains two-handed TL, the patient rotates the head briskly to the right. Immediately test a strong indicator muscle. If weakness is produced, have the patient repeat the maneuver, and perform Injury Recall Technique by tugging lightly on the right foot caudalward. Check for the same finding to the left. Patients with vestibular problems can generally be improved by reducing both adrenal stress and digestive dysfunction. Two patient case histories are given (a 49 year old female with Meniere's disease, and a 60 year old female with vertigo), that were effectively relieved of their symptoms in one treatment.

Conclusion: Functional problems with the vestibular mechanism are reported to be successfully treated using AK methods, and the above procedures provided significant relief for the two patients described. (Collected Papers International College of Applied Kinesiology, 1997-1998;1:183-186)

Key Indexing Terms: *Meniere's Disease; Vertigo; Dizziness; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*



I.C.A.K.-D/ I.A.A.K. Research

The Following is a Compilation of Applied Kinesiology Research Papers from the Medical Journal for Applied Kinesiology, Special Edition 1997

-- Edited by Scott Cuthbert, D.C.

The number of physicians listed in the Yearbook 2005 for the ICAK-D (Germany) and the ICAK Benelux are:

❖ Medical doctors	191
❖ Dentists	250
❖ Alternative Practitioner	102
❖ Physical therapists	227
❖ Osteopaths	55
❖ Chiropractors	5
❖ Other members	12
❖ Total members	842

ORTHOPEDIC PAIN SYNDROMES AND DENTAL FOCUS IN TESTING WITH APPLIED KINESIOLOGY

Werner Klopfer, M.D., D.D.S.

ABSTRACT

Objective: 3 case reports are presented showing a relationship between dental problems and the musculoskeletal system.

Clinical Features: Case 1 involved a 36-year-old male with recurrent pains in the lower back and right foot. Chiropractic and AK treatments to the L5 vertebra and category II pelvic fault and TMJ failed to provide relief. Case 2 involved a 46-year-old patient with recurrent thoracic spine pain and consistently recurring pain in the 5th rib for a period of 3 ½ years. Repeated chiropractic treatment provided no sustained improvement in the rib and thoracic pain. Case 3 involved a 41-year-old female with severe continuous pain through the left side of her neck and shoulder, radiating into the back of the left upper arm.

Intervention and Outcome: In case 1 a positive TL was found to tooth 2/5 with simultaneous contact of L5 and the left sacroiliac joint. Positive TL to teeth 4/7, 2/2, 2/5, 2/6 were found. Upon dental surgery tooth 2/2 had an extensive cyst in the palate; tooth 2/5 the gutta percha point pushed 3 millimeters past apex then was bent over palatally; tooth 4/7 found no complications. After dental surgery there was reduction of symptoms and negative Category II and L5 findings. Cases 2 and 3 showed similar reductions in musculoskeletal pains with therapy to the teeth. Therapy was based on dental findings, though in each case they were confirmed with positive TL to the involved teeth.

Conclusion: Testing for a dental focus even though there is no pain from the teeth is worthwhile in cases of therapy resistant syndromes in the locomotor system. More extensive investigations with larger patient cohorts may clarify the links between the neurological tooth, the dental focus, and musculoskeletal pain. (*Medical Journal for Applied Kinesiology*, May 1997;1:4-5)

Key Indexing Terms: *Dental Caries; Root Caries; Dental Care; Dental Research; Abnormalities, Musculoskeletal; Diagnosis; Treatment; Kinesiology, Applied*

MUSCLE TEST/THERAPY LOCALISATION/CHALLENGE – COMPARABILITY AND REPRODUCIBILITY

Dr. Med. Eugen Burtscher

ABSTRACT

Objective: To evaluate the inter-examiner correlation between AK challenge testing and therapy localization testing.

Clinical Features: 6 medical doctors with at least 60 hours of AK training examined a female patient who had no knowledge about MMT or AK. The examiners tested the following 10 pairs of muscles bilaterally (rectus femoris, piriformis, tensor fascia lata, popliteus, latissimus dorsi, infraspinatus, teres minor, deltoid, pectoralis major (clavicular division), and pectoralis major (sternal division). The examiners only gave an instruction to the patient of "maximum pressure" or "push hard" during MMT. The therapy localization test had the patient touch the area of the thymus gland, the area below the angle of the mandible on both sides, and the area over the TMJ with 2 or 3 finger tips, first on one side then the other. The structural challenge was maximum occlusion (intercuspation) by asking the patient to bite hard while the muscle tests were performed. Any change in muscle strength was counted as a positive challenge.

Intervention and Outcome: 20 muscle tests were performed by each of the 6 doctors separately. A correlation between doctors of 86.6% was found (the doctors agreed on the normotonic, hypertonic, or weak state of the muscle tested). The testing of the TL was positive in 38 of the muscle tests and showed a correlation between doctors of 87%. The challenge test showed a correlation of 100% between doctors.

Conclusion: Altogether this study showed excellent inter-examiner reliability, and showed that these two AK tests (challenge and TL) show the same comparability and reproducibility as is expected of other common examination techniques in manual medicine. (*Medical Journal for Applied Kinesiology*, May 1997;1:7-9)

Key Indexing Terms: *Validation Studies [Publication Type]; Reproducibility of Results; Sensitivity and Specificity; Kinesiology, Applied*

AK DIAGNOSIS AND NOSODE THERAPY

Dr. Ivan Ramsak

ABSTRACT

Objective: To present a case of chronic conjunctivitis that was successfully treated with homeopathic nosodes using AK MMT for the diagnosis.

Clinical Features: A 55-year-old female presented with a case of constant conjunctivitis, with 3 to 4 centimeters of periorbital itching, reddening and desquamating exanthema. She also woke up every night between 2 and 3 am with a temporal headache and lay awake for 1 hour until the pressure in the head eased. A local eye and skin doctor had treated her, and all treatments had been unsuccessful. The patient had previously experienced 2 hepatitides, at ages 12 and 25 years of age. Nosodes are specific types of homeopathic remedies prepared from causal agents or disease products.

Intervention and Outcome: AK examination showed positive TL to the liver/gallbladder, thyroid and pancreas reflexes. The nosode Acidum nitricum comp. was tested and produced inhibition on MMT. The nosode Acidum nitricum contains aniline and formaldehyde, both of which are used in the manufacturing of furniture. The patient remarked that new kitchen furniture was placed in her home 2 months previously, and that increased tear flow and burning eyes resulted. The nosode Chloramphenicol was positive also, and contains tetracycline D8. The patient reported that she had taken a tetracycline preparation for 3

weeks because of a bronchial infection she had suffered from 2 months previously. All the allopathic drugs were discontinued that had shown a weakening reaction on testing, and the patient was urged to ventilate her kitchen thoroughly. 4 days later her periorbital exanthema had declined. 2 weeks later her general condition had stabilized. Numerous nutritional, detoxification, and homeopathic treatments were made for this patient as necessary as determined by AK MMT. This case resolved successfully.

Conclusion: In cases of multiple strains by different nosodes, the first toxicity rule should be followed wherein the most poisonous toxin is removed first, regardless of the time of contact. In this case, the environmental toxins in this patient affected her liver that was already pre-damaged by two hepatitides, and the result was a disturbed liver metabolism that was affecting the eyes. (*Medical Journal for Applied Kinesiology*, May 1997;1:12-14)

Key Indexing Terms: *Conjunctivitis; Homeopathy; Medical Records; Biochemical Phenomena, Metabolism, and Nutrition; Diagnosis; Treatment; Kinesiology, Applied*

FUNCTIONAL NEUROLOGIC DISORGANIZATION – THERAPEUTIC SWITCHING

Wolfgang Gerz, M.D., D.I.B.A.K.

ABSTRACT

Objective: To present a new method of discovery for the problem of neurologic disorganization in patients using AK MMT methods.

Clinical Features: Neurologic disorganization (called "switching" in AK) refers to an abnormal condition in which the nervous system signals or interprets signals improperly, causing confusion in the body and in MMT. The classic AK methods of diagnosing this condition in patients are reviewed. It has been found that there are still patients who have normal muscle function that are in contradiction to laboratory values. Other patients had good muscle testing outcomes guided by AK diagnostic methods, but poor clinical responses.

Intervention and Outcome: The term "therapeutic switching" is introduced. This involves finding a positive challenge to the sensory nervous system (structural or chemical), and then using the classic AK tests for switching. In some cases, a positive finding for switching will then appear. The next step is to find the challenge that negates the switching. 3 case histories are reviewed where the finding of "therapeutic switching" was present and important to a successful outcome in therapy. Therapeutic switching can be defined as a state of functional neurologic disorganization, shown by the classic AK methods, which is found only after challenging the patient with a therapeutic remedy or measure.

Conclusion: Therapeutic switching should be suspected in cases where there is no evidence of switching with the classic AK methods of analysis, yet the patient's MMT is contradictory to laboratory results or obvious clinical findings. (*Medical Journal for Applied Kinesiology*, May 1997;1:19-21)

Key Indexing Terms: *Neurologic Manifestations; Diagnosis; Treatment; Chiropractic; Kinesiology, Applied*

FACILITATION OF TREATMENT WHEN TREATING THE STOMATOGNATHIC SYSTEM USING ATLAS THERAPY ACCORDING TO ARLEN

Dr. Med. Werner Klopfer

ABSTRACT

Objective: To present a case series report showing that a pulse technique on the first cervical vertebra, according to the methods of Arlen, could reduce the number of dental splint corrections needed in treating patients with TMD.

Clinical Features: In 10 patients a multi-layer wax bite plate was prepared based on the model of Dr. Harold Gelb. The bite plates were checked using AK MMT. The splint was then used therapeutically for the patient if, during occlusion, a previously weak muscle became normotonic and if other parameters such as TL to the cervical spine and sacroiliac joints were negative. A description of atlas therapy, according to Lohse-Busch, is reviewed. The importance of the neurology of the upper cervical spine is presented.

Intervention and Outcome: In 5 of the patients the atlas vertebrae was treated, and in the control group the atlas was not treated manually. The changed bites were then checked at a following dental appointment immediately following the atlas therapy or on the next day. In the 5 patients who underwent atlas therapy, the adjustment of the atlas produced between 1.7 to 2.2 millimeter reductions in the height of the splints, with the same improved AK test results with the reduced splint size. In all patients of the control group without atlas therapy, lowering of the bite levels was only minimally possible by 0.1 to 0.3 millimeters or not possible at all. On further lowering an indicator muscle became weak on occlusion.

Conclusion: Influencing the therapeutic bite level by means of atlas therapy shows that there are central nervous system connections between the temporomandibular joint, the cervical receptor field, and overall jaw statics. This study showed that orthodontic measures for stabilizing the TMJ were made easier with atlas therapy because of the smaller number of alterations necessary to the bite position to achieve the ideal intercusping for patients with TMJ problems. (*Medical Journal for Applied Kinesiology*, May 1997;1:28-30)

Key Indexing Terms: *Temporomandibular Joint; Comprehensive Dental Care; Orthodontics; Dental Models; Atlas; Medical Records; Muscle Weakness; Diagnosis; Treatment; Kinesiology, Applied*

USING AK TO TEST DENTAL MATERIALS

Dr. Med. Dent. Rudolf Meierhofer

ABSTRACT

Objective: To report on the use of various dental materials used in practice and their evaluation using AK MMT methods.

Clinical Features: Because dental materials can produce intolerances in patients, the choice of the proper material is important for the dentist. Toxic reactions to the applied materials are more common today, and the dentist must keep a variety of products in stock in order to respond to patients who have adverse reactions to the dental materials used. 250 patients in a retrospective study were evaluated. MMT was evaluated to find if AK testing could provide a simple method to discover dental materials that might cause toxic reactions in patients.

Intervention and Outcome: This study used a normotonic muscle. The dental material was then placed on the tongue for at least 30 seconds. After each material was placed on the tongue, the normotonic muscle was tested for a response. The mouth was rinsed with water and the other dental materials were tested for response. Construction materials tested were Phosphatzement, Dyract + Prime/Adh., Comoglass + Syntacs, Zhanelka, Alba Machzahn-Por, and Transit, and the plastic materials tested were Heliomolar + Syntac, Tetric + Syntac, Tetricceram + Synt., Charisma, and Blend A Med. The reaction to these materials were noted as weak; normotonic; and hypertonic, and tabulated.

Conclusion: These results indicate large differences in how dental materials are tolerated by different patients. Therefore individual testing may be necessary for each patient treated with dental materials. Further clinical trials with a control group who have these materials placed in their teeth and their reaction to these materials monitored will be necessary. (*Medical Journal for Applied Kinesiology*, May 1997;1:33-34)

Key Indexing Terms: *Comprehensive Dental Care; Biomedical and Dental Materials; Dental Amalgam; Evaluation Studies; Medical Records; Kinesiology, Applied*

EXPANDING THE "INJURY RECALL TECHNIQUE": NEUROLOGICAL MEMORY OF INJURY AND TRAUMA

Richard Meldener, D.C., D.I.B.A.K.

ABSTRACT

Objective: To explain the rationale of the Injury Recall Technique (I.R.T.) and to describe its method of diagnosis and treatment.

Clinical Features: This paper is based on the concepts developed by two podiatrists, and integrated into AK by Dr. Walter Schmitt. The I.R.T. concept suggests that most injuries of significance are reflected in the talus bone being drawn up into the ankle mortis. They suggest that this reaction remains long after the original injury heals. This problem in the ankle mortis may continue to interfere with normal neuromuscular activity. The talus reaction to injury is suggested to be part of a larger reaction to trauma: the withdrawal reflex mediated through the flexor reflex afferent pathway in the spinal cord.

Intervention and Outcome: The method of I.R.T. testing and treatment are provided. This involves testing any strong indicator muscle for weakening while gently pushing the talus bone headward while the patient TLs an area of previous trauma. The doctor may pinch the area of previous trauma, or apply cold shock to the area of previous trauma. Treatment involves a gentle pull (not a thrust) of the talus bone inferiorly (in the direction of opening the ankle mortis joint) while simultaneously the patient TLs the area of previous trauma, or the doctor pinches the area of previous trauma.

Conclusion: Persistent post-traumatic talus reflex compaction is part of the "persistent withdrawal reflex" pattern that accompanies injury. This persistent withdrawal reflex concerns mainly the ankle joint, the wrist joint and the occipito-cervical joints. The author has found that the other joints of the upper and lower extremities and cervical spine are also a part of this pattern and may require I.R.T. also. Controlled clinical trials of these methods are required. (*Medical Journal for Applied Kinesiology*, May 1997;1:36-38)

Key Indexing Terms: *Spinal Injuries; Soft Tissue Injuries; Diagnosis; Treatment; Kinesiology, Applied*

AK AND "THE TRIAD OF HEALTH" IN THE TREATMENT OF LEARNING DISABILITIES AND BEHAVIOURAL DIFFICULTIES OF CHILDREN

Karl Kienle, M.D.

ABSTRACT

Objective: To present a case series report of 3 boys with learning and behavioral disabilities who were successfully treated with AK therapy.

Clinical Features: 3 boys, aged 9-11, presented with dyslexia, hyperactivity, aggressiveness and anxiety. A number of the causative factors in cases of hyperactivity and learning disabilities are reviewed.

Intervention and Outcome: In two of the cases, AK food allergy testing was performed, and offending foods were eliminated. *Candida albicans* was present in both of these cases, and this was treated nutritionally and homeopathically. Correction of hemisphere integration using cranial therapy was employed in both cases. At 2 months and 3 months respectively the boys and the parents reported obvious improvement in their behavior and performance. The third case was treated without MMT and from the history only using homeopathic remedies. This patient also was much improved.

Conclusion: These are selected cases in which simple corrections brought about clinical success. However, in our experience, the problems with learning and behavioral disabilities often lie in a combination of intestinal dysbiosis and *candida albicans* infestation. Nutritional deficiencies in zinc and vitamin B6 are also common. (*Medical Journal for Applied Kinesiology*, May 1997;1:41-43)

Key Indexing Terms: *Learning Disorders; Dyslexia; Candidiasis; Food Hypersensitivity; Diagnosis; Treatment; Homeopathy; Kinesiology, Applied*

KNEE AND ALLERGY

Dr. Med. Robert Schmidhofer

ABSTRACT

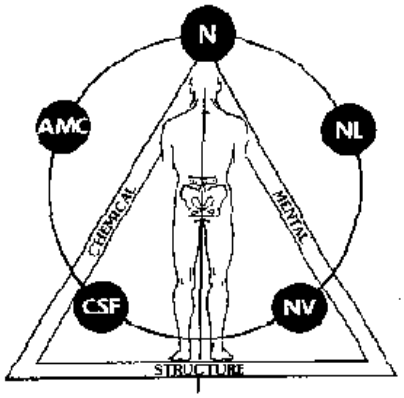
Objective: To present a case series report on the relationship of knee problems with allergic diseases.

Clinical Features: A retrospective study of 40 cases is presented that found 75% of the patients with knee pain showing rectus femoris muscle dysfunction (22 hypertonic, 8 inhibited), with 9 patients showing no reaction, and 12 or 30% of the patients showing generalized hypertonicity. Functional disturbance of the knee muscles has a negative influence on coordination and leads to multi-causal stress syndromes and increases the susceptibility of the knee to injury. The relationship between quadriceps muscle dysfunction and the digestive system is reviewed. The effects of a dysfunctioning digestive system (enteropathy, dysbiosis and allergic reactions) on structural problems are reviewed.

Intervention and Outcome: The addition of an individual causal metabolic therapy including immune modulation and avoidance of allergens to conservative orthopedic therapy showed a remarkable improvement and healing tendency even in difficult cases.

Conclusion: A great number of chronic knee problems may be due to overload syndromes based upon digestive dysfunction. The biologic therapy for these cases that were successfully treated was based on the results of an AK examination. (*Medical Journal for Applied Kinesiology*, May 1997;1:47-50)

Key Indexing Terms: *Knee Injuries; Recurrence; Food Hypersensitivity; Case Reports [Publication Type]; Diagnosis; Treatment; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1996-1997

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGY MANAGEMENT OF ATTENTION DEFICIT DISORDER AND HYPOTONIA

Harry Lefkowitz, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case history of an adolescent male with attention deficit disorder and hypotonia successfully treated using AK methods.

Clinical Features: A 15-year-old male had been on 20 milligrams of Ritalin for 2 years. The boy had been exhibiting symptoms of ADD since he was 8 years old. Hypotonia, a diagnosis that can accompany ADD, is characterized by a loss of upper body muscle tone and poor coordination. The boy would act out in class and not pay attention. His homework would take an excessively long time. At age 13, after many attempts to help the boy succeed in school, his problem was exacerbated: he no longer wanted to attend school. The parents followed the school counselors' advise and gave him 20 mg of Ritalin. The parents stated that the boy had not made much progress in the 2 years he had been on Ritalin. Adverse reactions were exhibited such as difficulty sleeping at night and anxiety, with the boy being more withdrawn than previously. He had been experiencing coccygeal pain for 1 year.

Intervention and Outcome: During the examination the boy said nothing and his eyes were downcast. Neurological disorganization was found in the standing position, i.e. bringing the right leg forward weakened the contralateral arm flexors. Positive K27 testing was present in the standing position. Positive ocular lock testing was corrected by ocular muscle stretching from the Neural Organization Technique. Food testing showed positive findings with citrus, dairy, corn syrup and white flour. Nutrient testing was employed to discover what would negate the positive food tests. Cranial corrections, intestinal reflexes, and homeopathic neurotransmitter tests were performed, and nutritional support for these deficiencies given. 3 months after the initial intervention there was noticeable improvement in the speed with which homework was completed. The patient was able to stop using Ritalin with subsequent disappearance of the adverse reactions of sleeplessness and anxiety. The patient made good improvement in his behavior and academic performance following the above recommendations.

Conclusion: In view of the potentially addictive nature of Ritalin and its side effects, less aggressive forms of treatment for ADD would be invaluable. Larger clinical trials of this method of diagnosis and treatment would be welcome to determine if this single case history is applicable to other children with this disorder. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:7-9)

Key Indexing Terms: *Attention Deficit Disorder with Hyperactivity; Methylphenidate; adverse effects; Case Reports [Publication Type]; Treatment; Chiropractic; Kinesiology, Applied*

COMMON STRUCTURAL FAULTS IN COMPETITIVE SWIMMERS

John K. Moore, D.C., C.C.N., C.C.S.P.

ABSTRACT

Objective: To report the findings of AK testing on a sample group of swimmers competing in the U.S. Olympic Trials.

Clinical Features: AK testing was done on 15 swimmers competing in the 1996 U.S. Olympic Trials. 5 different musculoskeletal areas were randomly chosen for evaluation. Each of these tests was performed on each swimmer during the week long swimming event. Results were converted into percentages for presentation.

Intervention and Outcome: Incidences of structural faults among these elite athletes follow. Cervical subluxation: 93%. Latissimus Dorsi muscle weakness: 47%. Positive coccyx challenge: 40%. Supraspinatus muscle weakness: 27%. Temporal bulge cranial fault present: 13%.

Conclusion: It is evident that in this small sampling of elite athletes many hidden structural problems exist. One can wonder how many athletic injuries are due to an accumulation of these asymptomatic structural faults that over time allow overt injuries to occur. This study may show the importance for doctors who work with athletes and teams to check as many of the athletes they see as possible and not just those suffering with symptomatic injuries. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:11)

Key Indexing Terms: *Sports Medicine; Athletic Injuries; Epidemiology; Diagnosis; Chiropractic; Kinesiology, Applied*

THORACOLUMBAR FIXATIONS DURING PREGNANCY CONTRIBUTING TO LOWER BACK PAIN – A CHIROPRACTIC STUDY OF 25 CASES

Victoria C. Arcadi, B.A., D.C.

ABSTRACT

Objective: To present a case series report on 25 women with gestation between 25 to 40 weeks who were successfully treated for thoracolumbar fixations and pain as their primary complaint, and lower back pain as a secondary complaint.

Clinical Features: Thoracolumbar pain is a common discomfort during pregnancy especially during the second and third trimesters. A review of the anatomical literature relating to the thoracolumbar spine (muscular, spinal, and fascial connections) is provided.

Intervention and Outcome: All 25 women were evaluated for thoracolumbar pain that was severe. Most of the women could not sleep, and their pain was constant. Concomitant with the thoracolumbar pain was lower back pain that was present in all cases as a secondary symptom. AK examination in these cases showed bilateral weakness of the lower trapezius (indicative of thoracolumbar fixation in AK methodology). Treatment consisted of chiropractic adjustments to the T12-L1 area of fixation, using Diversified technique to free the fixation. All other muscle weaknesses were treated using neurolymphatic reflex stimulation. The 25 women in this study were treated 1 or 2 times per week for 2 weeks and then once a week for the following 3 weeks. All pain associated with the thoracolumbar spine had been

eliminated and lower back pain was between 75-80% relieved in each case in the study. In all cases the thoracolumbar pain was 90-100% relieved after the first correction of the fixation.

Conclusion: This study demonstrated a relationship between the thoracolumbar area and the lower back. With chiropractic treatment and adjustments, the thoracolumbar pain as well as the lower back pain was relieved. Chiropractic care has been shown a safe and effective treatment choice for pregnant women. The treatment regime offered here for women who suffer from musculoskeletal pains during pregnancy is conservative and cost effective. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:21-23)

Key Indexing Terms: *Pregnancy; Back Pain; Treatment; Case Reports [Publication Type]; Chiropractic; Kinesiology, Applied*

SURROGATE TESTING: ITS HISTORY, CONTROVERSY AND RECOMMENDED USES

Hans W. Boenke, D.C., D.I.B.A.K.

ABSTRACT

Objective: To review the current literature on surrogate testing and draw conclusions on its utility for practitioners of AK.

Clinical Features: Dr. George Goodheart introduced surrogate testing into AK in 1974. He indicated that the use of therapy localization could be done with infants and small children using their mothers as well as with older individuals, such as those comatose or following a stroke, using another individual of the same sex. Surrogate testing is a procedure that utilizes MMT to help in the diagnosis of some disorder in a patient. The difference in this testing method is that the patient being examined is passive with regard to the actual test but is in physical contact with a second person, the surrogate. The surrogate or the patient touches the problem area and a previously intact indicator muscle in the surrogate is tested for a change in function. A review of the AK literature is given relating to surrogate testing. The reliability, the confidence level in the procedure, and the controversy of this procedure are described.

Intervention and Outcome: The following recommendations on the use of surrogate testing are made, partly based on conversations in 1996 with Dr. Goodheart. 1) Surrogate testing is an overused procedure. 2) Dr. Goodheart has found occasion to use it once in 3 years. 3) It should only be used on individuals that cannot be tested in any other way, such as comatose individuals or infants. 4) It should be done only after obtaining informed consent in writing after explaining it to the patient. (An informed consent form for surrogate testing is offered). 5) It is an experimental procedure.

Conclusion: The use of surrogate testing in general clinical practice is discouraged with the exceptions of specific patient populations. It is recommended that doctors follow the guidelines given by the Board of Standards of the I.C.A.K. so that any doctor involved in litigation, practicing responsibly, would have the support of the I.C.A.K. for the use established AK procedures. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:27-34)

Key Indexing Terms: *Investigative Techniques; Muscle Weakness; Diagnosis; Kinesiology, Applied*

CASE HISTORY: CORRECTION OF INGUINAL HERNIA BY APPLIED KINESIOLOGY MANAGEMENT

Stephen J. Kaufman, D.C.

ABSTRACT

Objective: 2 cases of inguinal hernia successfully corrected by standard methods of AK are described.

Clinical Features: A 9-month-old male and a 45-year-old male presented with right inguinal hernias. The child's pediatrician and 2 pediatric surgeons confirmed the child's hernia. His testicles and surrounding area were bluish. There was a slight bulge over Poupart's ligament. The 45-year-old male had his hernia for 1 year. The patient was 50 lbs. overweight.

Intervention and Outcome: Because of the child's age, it was not possible to muscle test him directly. Postural assessment and clinical signs were assumed to be presumptive evidence of muscle imbalance, and treatment was directed to the origin-insertion, Golgi tendon organs, spindle cells, and neurolymphatic reflexes for the right psoas, adductor, sartorius, gracilis, abdominal, and rectus femoris muscles. Category II correction and treatment to the inguinal and ileofemoral neurovascular reflexes (Bennett's reflexes) were made. Vitamin E (Cataplex E) was given. Within several days, after being treated every other day, the patient's genitalia returned to normal color and the inguinal bulge returned to normal. A total of 8 treatments were given. The 45 year old had treatment to the sartorius, adductor, psoas, quadriceps, piriformis, gluteus medius, abdominal, tensor fascia lata, gluteus maximus and hamstring muscles by the usual AK approaches. Correction of an ileocecal valve syndrome, category II pelvic lesion, upper cervical fixation, and lateral occiput were also made. Cataplex E, E(2), F, and Calcium Lactate were given nutritionally. This patient had complete symptomatic relief of all signs of a hernia within 6 visits. This was obtained with no loss of weight.

Conclusion: These 2 cases show the successful management of inguinal hernias in a short period of time. Both of these cases were considering surgery at the time of chiropractic treatment. This approach to treatment for this problem is more cost effective than surgery, so larger clinical trials are warranted. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:57-58)

Key Indexing Terms: *Hernia, Inguinal; Muscle Weakness; Treatment; Case Reports [Publication Type]; Chiropractic; Kinesiology, Applied*

INFERTILITY: SUCCESSFUL MANAGEMENT BY APPLIED KINESIOLOGY AFTER FAILURE OF MEDICAL TREATMENT

Stephen J. Kaufman, D.C.

ABSTRACT

Objective: To present a case series report on patients with primary infertility that were treated with AK methods that resulted in full term pregnancies.

Clinical Features: Infertility is distinct from sterility, implying potential, and therefore raises questions as to what insult or interference influences this sluggish outcome. 4 case histories are presented. All 4 subjects are female, ages 30-35.

Intervention and Outcome: AK chiropractic care and outcome are discussed for each patient. AK care is described over a period of 1 to 3 months; at the end of that time frame each of the 4 women had become pregnant.

Conclusion: The application of AK chiropractic care and subsequent successful outcomes on reproductive integrity, regardless of factors including age, history and medical intervention, are described. Future studies that may evaluate more formally and on a larger scale, the effectiveness, safety and cost benefits of AK chiropractic care on both well-being and physiological function are suggested. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:59-60)

Key Indexing Terms: *Infertility; Case Reports [Publication Type]; Treatment; Chiropractic; Kinesiology, Applied*

XENOESTROGENS: WHAT THEY ARE, WHAT THEY MAY DO, WHAT CAN BE DONE

James C. Kreger, D.C.

ABSTRACT

Objective: To present a case series report on the treatment and outcomes of patients with suspected estrogen excess.

Clinical Features: Xenoestrogens are chemicals that have seemingly unrelated structures but have in common the ability to exert an estrogen-like influence on human tissues. Chemicals such as phthalates (a component of plastics), pesticides such as DDT, PCBs (polychlorinated biphenyls), APEs (surfactants from detergents), dioxins, BHA and other preservatives can link up with estrogen receptors on cells. A review of the biomedical literature regarding the effects of estrogen excess is provided.

Intervention and Outcome: MMT was used under the following premise. If tissue cell receptors are already fully loaded or abnormally stimulated by estrogen or xenoestrogens, then the addition of more estrogen into the body may produce muscular dysfunction and inhibition on MMT. A Premarin tablet was used in testing. 2 females (38 and 55 years of age) and 1 male (53 years of age) were found to have muscle weakness following exposure to the Premarin. To counteract this weakening, various supplements for estrogen elimination were tested to negate the weakness produced. The one that had the most consistent estrogen neutralizing muscle test response was the herb Dong Quai. The severe and varied symptoms in these patients improved rapidly after the use of Dong Quai.

Conclusion: A method that may detect an excess of estrogens and xenoestrogens is described. AK MMT provided a noninvasive testing procedure that gave positive clinical results. Further clinical trials on a selected population of patients with excess estrogen are warranted. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:67-70)

Key Indexing Terms: *Estrogens; Receptors, Estrogen; Selective Estrogen Receptor Modulators; Estrogen Antagonists; Drugs, Chinese Herbal; dong quai; Case Reports [Publication Type]; Treatment; Chiropractic; Kinesiology, Applied*

A NEUROLOGICAL MODEL FOR THE THREE TYPES OF MUSCLE TESTING

Walter H. Schmitt, Jr., D.C., D.I.B.A.K., D.A.B.C.N.

ABSTRACT

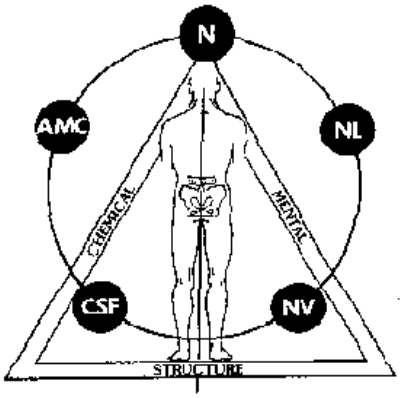
Objective: A neurological model for 3 variations of manual muscle testing is proposed.

Clinical Features: 3 types of muscle testing are reviewed, called G1, G2, and G2 submax. These three differences in testing refer to "patient-initiated" or "doctor-initiated" muscle tests. G1 testing is done by the doctor asking the patient to resist as he increases his testing pressure to take the patient's muscle into eccentric contraction; this is doctor-induced muscle testing. The neurology involved in and the hypothesized meaning of MMT outcomes of these different types of muscle tests are reviewed.

Intervention and Outcome: The G1 test is the type of muscle testing most commonly used, and most AK therapies have been designed to correct this type of weakness. The G2 test indicates suprasegmental problems. These include chemical imbalances and nutritional needs that affect the hypothalamus and autonomic system, as well as stomatognathic system problems. The G2 submax. test relates to withdrawal reflexes following an injury, allergy and hypersensitivity type reactions, systemic functional endocrine imbalances, and visual motor problems.

Conclusion: The application of a neurological model for AK muscle testing procedures serves 3 purposes. First it forms the basis of hypotheses for research into the mechanisms of the discipline. Secondly, it provides a framework for the most appropriate application of the various clinical techniques that comprise AK. Thirdly, it provides a basis for further development of new and improved techniques for improved patient care. (Collected Papers International College of Applied Kinesiology, 1996-1997;1:79-81)

Key Indexing Terms: *Muscles; Diagnostic Techniques, Neurological; Evaluation Studies; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1995-1996

-- Edited by Scott Cuthbert, D.C.

A COMPARISON OF NUTRIENT BLOOD TESTS WITH ORAL NUTRIENT MUSCLE TESTING

John K. Moore, D.C., C.C.N.

ABSTRACT

Objective: To present a case series report on the differences between 2 nutritional blood tests with oral nutrient manual muscle testing.

Clinical Features: Two blood tests were run on a sampling of 6 patients. These two tests are called the essential metabolic analysis (EMA) and the SPECTROX (antioxidant function) test that evaluate nutritional influences on the function of lymphocytes. The SPECTROX test was cross-checked with the Clorox sniff test in AK, wherein a strong indicator muscle weakens upon sniffing Clorox.

Intervention and Outcome: In both of these tests the blood draws were done within 24 hours of the nutrient manual muscle test. All nutrients were taken from a box and tested without the examiner or patient being aware of the nutrient tested. The EMA laboratory reported a total of 11 nutritional deficiencies on the 6 patients. MMT revealed 24 nutrients that strengthened an inhibited muscle. The correlation of the 2 tests was poor. Of the potential 35 deficiencies reported (11 by the SPECTROX laboratory and 24 by AK testing), only 3 of them were found by both tests to correlate. Of the 6 patients tested with the SPECTROX test 2 were reported by the laboratory to be deficient in antioxidant function. 3 of these patients showed weakness on the Clorox sniff test, however these 2 tests only matched once.

Conclusion: The discrepancy in positive findings between these 2 tests shows that this form of nutritional blood work will likely not be the proving ground for AK oral nutrient testing. Possibly a larger sampling of patients or clearing other factors in the patients' symptom complex before testing may show a better correlation. Further investigation by other AK physicians is encouraged. (Collected Papers International College of Applied Kinesiology, 1995-1996;1:11-12)

Key Indexing Terms: *Blood Chemical Analysis; Biochemical Phenomena, Metabolism, and Nutrition; Nutritional Status; Diagnosis; Statistics, Nonparametric; Chiropractic; Kinesiology, Applied*

AUTOGENIC INHIBITION: A LOOK AT THE IMPORTANCE OF THE GOLGI TENDON ORGAN

Richard Belli, D.C.

Objective: A tool using AK MMT to demonstrate the interaction between autogenic inhibition (AI) and facilitation (necessary for the negative feedback required for smooth movement) is presented.

Clinical Features: Golgi tendon organs (GTOs) are the receptor organs for the autogenic inhibition reflex. AI is the result of firing of the GTO and resultant inhibition of the involved muscle. One function of high velocity manipulation is fast stretch of the GTO of the involved hypertonic muscle that depolarizes the GTO and induces AI of the previously hypertonic muscles. A discussion of the

neuroanatomy of the GTO is provided. If AI does not function correctly, inappropriate responses may be demonstrated with MMT.

Intervention and Outcome: Due to the inherent design of the GTO mechanism, it can be manually challenged and depolarized. The GTOs are pressure receptors that are depolarized by the squeeze of the tendon fibers within them. To test GTOs, the doctor applies 2-3 pounds of pressure to the musculotendinous junction of a strong indicator muscle, then immediately performs a MMT of the muscle. The muscle should demonstrate inhibition for 1 contraction only. If the muscle does not show AI, then correct spinal fixations of any segments that will TL using an intact indicator muscle, then retest.

Conclusion: Because AI is important for smooth movement, fine motor control, and protection of the musculoskeletal system, the examination and treatment of AI may be an important tool in the AK treatment protocol. Further studies on the value of this method in patient care are warranted. (Collected Papers International College of Applied Kinesiology, 1995-1996;1:15-18)

Key Indexing Terms: *Mechanoreceptors; Receptors, Sensory; Diagnosis; Methods; Chiropractic; Kinesiology, Applied*

PYRAMIDAL DISTRIBUTION OF WEAKNESS

Michael D. Allen, D.C., N.M.D., D.A.A.P.M., D.A.B.C.N., D.I.B.A.K., Chiropractic Neurologist

ABSTRACT

Objective: To present the physiological effects of a pyramidal distribution of muscle weakness and to show how to evaluate it with AK MMT methods.

Clinical Features: The pyramidal tract has to do with fine voluntary motor function. The tract travels caudally to the pyramids of the medulla oblongata where 80-90% of the fibers decussate to the contralateral side and become known as the lateral corticospinal tract. The other 10-20% of the fibers remain ipsilateral and descend as the anterior corticospinal tract. They terminate by synapsing with motoneurons in the anterior horn of the spinal cord. The neurological importance of the pyramidal tract is described in detail.

Intervention and Outcome: Examples of the diagnostic tests for a pyramidal distribution of muscle weakness include MMT for weakness of the extensor and abductor muscles of the fingers, as well as the dorsiflexors of the great toes. If these muscles are unable to resist the MMT, it is probable that a pyramidal distribution of weakness on the same side exists. Other tests for the pyramidal distribution of impairments include physiologic blind spot evaluation, Rhomberg's test, finger-to-nose testing, and the evaluation of the patient's ability to perform alternating movements in rapid, smooth and rhythmic succession such as quickly flipping the hands back and forth and piano-type movements. The chiropractic manipulative methods to help restore pyramidal function are reviewed, and exercises that assist in this process are given.

Conclusion: The pyramidal distribution of weakness can be responsible for many common symptoms ranging from mild autonomic dysfunction to bizarre cases of structural compromise that respond slowly to treatment. Successful treatment will result in a strengthening of the finger extensors and abductors and the dorsiflexors of the great toe, an improvement in the physiologic blind spot balance, an improvement in cerebellar testing and function, as well as the elimination of the autonomic concomitants and pain.
(Collected Papers International College of Applied Kinesiology, 1995-1996;1:33-45)

Key Indexing Terms: *Pyramidal Tracts; Muscle Weakness; Diagnosis; Methods; Chiropractic; Kinesiology, Applied*

LOWER BACK PAIN IN PREGNANCY: CHIROPRACTIC TREATMENT AND RESULTS OF 50 CASES

Victoria C. Arcadi, D.C.

ABSTRACT

Objective: To present a case series report on the successful treatment of 50 pregnant women with severe low back pain.

Clinical Features: In these 50 patients sitting was difficult as well as sleeping; sciatic neuralgia was present in some; and the back pain was unilateral or bilateral.

Intervention and Outcome: Pain on palpation to the gluteus medius and piriformis muscles and sacroiliac ligaments was present either unilaterally or bilaterally in all cases. MMT showed inhibition in 1 or more of the following muscles: hamstrings, piriformis, and gluteus maximus muscles, unilaterally or bilaterally. In all 50 cases there was inhibition of the gluteus medius muscle either unilaterally or bilaterally. The inhibited muscles were strengthened using AK neurolymphatic reflex procedures and muscle spindle or Golgi tendon organ or fascial techniques. The sacrum in all cases was adjusted in the side posture or prone positions. In all cases the sacrum was found in the following positions: left inferior and posterior sacral segment 4, adjusted in an anterior superior vector; and right posterior sacral segment 2, adjusted straight posterior. When multiple muscle weaknesses or bilateral gluteus medius muscle weakness were found, a vitamin E supplement was given. In all cases treated the back pain was totally eliminated. In all cases, after the first adjustment of the sacrum, the patients had an improvement of at least 75% to 100% relief from pain. If close to term, the women would then be seen once per week until delivery.

Conclusion: Pregnant women all over the world suffer the real discomforts of low back pain during pregnancy. The medical approach to these problems involves medication or benign neglect, and radiographs, drugs and surgery are poor options. Chiropractic diagnosis and treatment has proven to be a cost effective, low-risk, and successful treatment method for pregnant women with low back pain. In the public interest long term controlled studies should be performed in hospital and obstetrical settings to properly gauge the benefits of this type of therapy for this population of patients.
(Collected Papers International College of Applied Kinesiology, 1995-1996;1:55-57)

Key Indexing Terms: *Pregnancy; Low Back Pain; Maternal Health Services; Maternal Welfare; Case Reports [Publication Type]; Muscle Weakness; Diagnosis; Methods; Chiropractic; Kinesiology, Applied*

LOOKING FOR THE TRIGGER

Michael Lebowitz, D.C.

ABSTRACT

Objective: To present 2 case reports of patients whose biochemical and environmental triggers were the reason for the persistence and recurrence of their symptoms.

Clinical Features: 2 patients with neck pain and headache have food sensitivities that produce their ongoing symptoms. Diagnosis and treatment methods for these triggers are presented.

Intervention and Outcome: A 30-year-old female had recurrent neck pain and subluxations that dozens of trips to a chiropractor did not correct. After her 3rd visit with the author, food sensitivity testing was performed and garlic was found to weaken the upper trapezius muscle when it was in her mouth. The patient's neck problem was improved for a week, when she mistakenly ate a dish with garlic as an ingredient. The patient was corrected again using normal AK protocols while the garlic was in her mouth, and she had long lasting improvement in her neck pain. A 40-year-old male had recurrent headaches, sensitivity to odors, as well as dermatitis. Treatment of his dysbiosis helped him with his chronic fatigue and "brain fog," but not the headaches and dermatitis. On every visit the adrenal and/or liver neurolymphatic reflexes test positive. Nutritional treatments did not prevent recurrence. Food sensitivity testing was employed and found that dairy, onion, cauliflower, pepper, a multivitamin, B vitamins, essential fatty acids, wheat, corn, and buckwheat brought back the positive findings. One by one the patient was instructed to taste the foods while treatment to the set points for the appropriate organs was employed. He was told to avoid the triggers for 3 days and then on reintroduction of the particular food, the patient treated the set points on himself. Since then he showed a dramatic lessening of symptoms. Nutritional support for his condition was now successful.

Conclusion: Recurrent physical findings and problems in these patients were found and corrected with the procedures outlined in this paper. Clinical trials with larger patient cohorts are needed. (Collected Papers International College of Applied Kinesiology, 1995-1996;1:59-60)

Key Indexing Terms: *Food Hypersensitivity; Dermatitis, Atopic; Headache; Neck Pain; Case Reports [Publication Type]; Muscle Weakness; Diagnosis; Methods; Chiropractic; Kinesiology, Applied*

SHEARING VS. COMPACTION TYPE INJURIES

David W. Leaf, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present 3 separate case series reports demonstrating the differences between shearing and compaction type injuries in joints.

Clinical Features: Traumatic injuries to joints tend to be of 2 types. The first is a shearing injury and is the most common. They occur when the joints and related structures are strained and twisted causing injury to muscles, ligaments, skin and the proprioceptors in the joints. Examples of this are a strained ankle, a whiplash injury to the cervical spine or the person who bends over to pick up an object and feels a snapping in their back. The compaction type of injury involves the person who breaks his fall with the arm, holds the steering wheel with straight arms at impact, or jumps down and lands with locked knees. In these cases there is little tearing of tissues and swelling, if present, is limited to the joint capsule. 50 patients with pain over the lateral epicondyle associated with weakness of the pronator teres muscle, and 25 patients with pain over the peroneus tertius tendon from eversions sprains were tested for a decrease in pain following chewing of a nutritional support for the adrenal glands.

Intervention and Outcome: In both groups 90% of the patients had more than a 60% reduction in palpable pain. To insure palpation findings the Metrecom instrument was used to measure the palpation pressure employed. In another review of 100 cases of shearing type injuries, 68% needed to be treated for proprioceptive imbalances in the skin. In cases with the shearing type injury, 3 findings were consistently found: a weak muscle, a synergistic muscle that exhibits tenderness to palpation and the need for strain counterstrain treatment and an antagonist to the weak muscle that needs the Travell fascial flush treatment. In cases with the compaction type injury, the findings are marked weakness of most of the muscles surrounding the joint, with 1 or 2 muscles that will test strong but will weaken with repeated muscle activation testing. Treatment is then directed to the origin and insertion of this muscle, and a traction manipulation is given in the direction opposite to the original compaction injury.

Conclusion: A clinical algorithm is given for the treatment of compaction and shearing types of injury that are commonly seen in clinical practice. The use of this procedure in the case series reports presented here showed good success and larger clinical trials of these methods are warranted. (Collected Papers International College of Applied Kinesiology, 1995-1996;1:73-76)

Key Indexing Terms: *Joints; Sprains and Strains; Soft Tissue Injuries; Case Reports [Publication Type]; Muscle Weakness; Diagnosis; Methods; Chiropractic; Kinesiology, Applied*

QUALITY MUSCLE TESTING

Wolfgang Gerz, M.D., D.I.B.A.K.

ABSTRACT

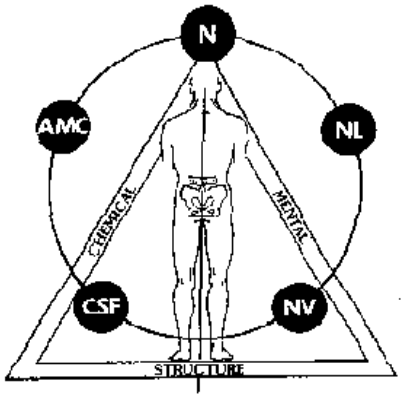
Objective: To review the content validity of MMT and to critique the differences currently existing in the AK literature about MMT.

Clinical Features: The single most important diagnostic factor in AK, and the key to whether or not the patient's muscle system is examined in a sensible way, is a good muscle test. However a number of different professional groups in the field of MMT (chiropractors, applied kinesiologists, physical therapists, Touch For Health therapists, and a number of technique systems within chiropractic that are distinguishable from AK but who use MMT and AK as one of their bases) describe their manual muscle testing methods in different ways. The importance of clarifying and standardizing this method of testing is discussed.

Intervention and Outcome: The methods of testing from the literature (Kendall & Kendall, Goodheart, Walther, Schmitt, and others in AK) are presented. When a muscle is tested in voluntary isometric contraction, EMG testing reveals that additional muscle fibers contract at low forces; when the force increases, the rate of firing becomes the predominant mechanism to increase strength. Tension, velocity, and electrical activity are interdependent and indicate the importance of proper neurologic control for the muscle to meet the changing pressure demands of the MMT. This requires effective function of the gamma system adjusting the neuromuscular spindle cell, and proper interpretation of its afferent supply by the central nervous system. Thus it is the patient or more precisely the patient's neuromuscular adaptive capacity that is being examined during a proper MMT.

Conclusion: The skills of the examiner conducting tests and interpreting the derived information will affect the usefulness of muscle performance data. The examiner is obliged to follow a standardized protocol that specifies patient position, verbal instructions or demonstration to the patient, alignment of the muscle and direction of examiner resistance to insure precise, repeatable, and reliable MMT results. (Collected Papers International College of Applied Kinesiology, 1995-1996;1:77-83)

Key Indexing Terms: *Reference Standards; Terminology; Diagnostic Techniques and Procedures; Diagnostic Errors; Practice Guidelines; Muscle Weakness; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1994-1995

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGY MANAGEMENT OF REFLUX ESOPHAGITIS

Cecelia A. Duffy, D.C.

ABSTRACT

Objective: To present the case of a male with "heartburn" and "food regurgitation" successfully managed with AK techniques.

Clinical Features: A 41-year-old patient had heartburn that for 10 years produced a burning behind the sternum shortly after eating. Milk and antacid tablets would help with this problem. 3 years previously he began to regurgitate food into the mouth at least one meal a day. He experienced heartburn even without the regurgitation. Dietary excesses included consumption on a daily basis of whole milk, refined carbohydrates/sugars, 2-3 cans of soda, and 4-8 cups of coffee with cream. He had never sought help for this problem prior to his presentation.

Intervention and Outcome: Physical and AK examination showed positive TL to the diaphragm with inspiration and general indicator muscle weakening with lead placed over CV24 and GV 27, a common AK finding with diaphragm muscle dysfunction. There was also diminished right thoracic cage expansion on inspiration. A reactive muscle pattern was found between the right psoas muscle and the diaphragm, with a fixation of the thoracolumbar junction and the left C7 and first rib, and a subluxation at T4. These findings were treated with chiropractic manipulative therapy, and the patient was placed on Gastrex, one capsule 15 minutes prior to each meal. He was instructed to lose weight with diet modification. One month after initial treatment the patient reported only 2 episodes of heartburn and 3-5 episodes of regurgitation. 1 month later he had 3 episodes of regurgitation, and then reported no heartburn or regurgitation for 8 months. The following 6-month period he reported 6 episodes of regurgitation, and he noted that all followed overindulgence in fatty or refined foods.

Conclusion: Successful management of a severe case of reflux esophagitis is presented. AK therapy directed towards the diaphragm, prescription of Gastrex, and partial compliance in diet modification provided significant relief. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:3-5)

Key Indexing Terms: *Heartburn; Gastroesophageal Reflux; Diagnosis; Methods; Chiropractic; Kinesiology, Applied*

CASE HISTORY: APPLIED KINESIOLOGY MANAGEMENT OF PEDIATRIC SEIZURE DISORDER AND STRABISMUS

John M. Heidrich, D.C.

ABSTRACT

Objective: To present the case of a female with complex partial seizure disorder and exotropic strabismus that responds rapidly to AK techniques.

Clinical Features: A 6-year-old female initially presented with a 3-month history of intermittent nausea, stomach pain, anorexia, and left frontal headache. 10 months later the patient presented with a diagnosis of complex seizure disorder after consulting a neurologist. In addition to her original findings she also suffered left earache, visual auras, and auditory hallucinations that made her frequently ask family members if they could hear sounds like "windshield wipers" and "buzzing". MRI examination was negative. A tentative diagnosis of migraine cephalgia was then given. Ophthalmologic exam showed a large exophoria during left gaze measuring 18 diopters, making it difficult for the child to read. An EEG found abnormal sharp waves in the left brain suggesting seizure disorder. Felbatol, an anti-epileptic, was suggested but not used. The patient now experienced increasingly severe daily episodes of vertigo, nausea and vomiting, headache, vivid hallucinations, lethargy, depression, and frustration.

Intervention and Outcome: Chiropractic manipulation to the C1 vertebra, and treatment of NL and NV reflexes for the upper trapezius and correction of an open ileocecal valve were given. One week later, episodes had decreased 50% and she went a full day without a seizure. Later treatment included cranial and spinal manipulation, food allergy testing and treatment. Resolution of the episodes occurred within 1 month with no recidivism. The ophthalmologist on re-examination reported a return of convergence on testing. The patient's mood, as reported by the child and her mother, was now excellent.

Conclusion: Because of the hepatotoxicity of anti-epileptic medication and the growing emphasis on cost-effectiveness, this case offers reason for a larger controlled clinical trial of AK techniques in cases of suspected epilepsy complaints. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:7-10)

Key Indexing Terms: *Epilepsy; Seizures; Exotropia; Therapeutics; Chiropractic; Kinesiology, Applied*

CASE HISTORY: DUPUYTREN'S CONTRACTURE AND CERVICAL DISC

John M Heidrich, D.C.

ABSTRACT

Objective: To present a case of dupuytren's contracture that responds to AK management of a lower cervical disc derangement.

Clinical Features: A 46-year-old male presents with bilateral palmar contractures of 10 years duration, with pain in the flexor tendons at the 4^{th} and 5^{th} proximal phalangeal joints bilaterally, with flexion deformity of 25 degrees right and 30 degrees left. Shaking hands was difficult for him as a minister, the flexor tendons were tender to touch, and he could not bring his 4^{th} and 5^{th} digits into extension without pain in the hand and forearm. No past history of trauma to the head, neck or hands were present. Intermittent neck pain and acute left hip pain were present.

Intervention and Outcome: AK testing revealed bilateral weakness of the wrist extensors, with cervical orthopedic testing negative. The C5 vertebra challenged for anteriority and a lateral radiograph suggested a mild anterolisthesis at that level. This level was adjusted for anteriority en masse, and there was immediate return of bilateral muscle strength in the wrist extensors. 2 subsequent visits showed recidivism of this finding and were corrected, with treatment also to an open ileocecal valve. A correction

was also made of an anterior L1, category II posterior ischium, and dietary recommendations to eliminate popcorn, with nutritional support (including superoxide dismutase, a nutrient found helpful in AK for cervical disc derangements). 1 month after the 3rd treatment the patient noted intense itching in the flexor nodules of the hands, and he noted marked improvement in pain and hand range of motion with the ability to fully place his palm on a flat surface without contracture pain or restriction. This has remained for 18 months, with no change in the palmar thickening.

Conclusion: This treatment program resulted in apparent resolution of a chronic Dupuytren's contracture. It is suggested that further research with larger patient cohorts investigate whether this multimodal chiropractic method might alleviate the impairments associated with this condition. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:11-13)

Key Indexing Terms: *Dupuytren's Contracture; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied*

USE OF POLYUNSATURATED OILS AS A SCREEN FOR HYPOTHYROID CONDITIONS

Kathleen M. Power, D.C.

ABSTRACT

Objective: To present a case series report on the use of polyunsaturated fatty acids (PUFAs) for cases with suspected hypothyroidism.

Clinical Features: A 47-year-old male with resistant high cholesterol and triglycerides and a family history of heart problems presents for treatment for back and extremity problems. During the course of treatment, the patient was tested for flax oil, which weakened his teres minor muscle dramatically. In AK, the teres minor muscle is associated with the thyroid gland. A second 47-year-old male with anxiety, difficulty sleeping, fatigue and other systemic complaints also weakened with flax oil. A third 49-year-old woman with a family history of hypothyroidism, a consistently low body temperature, high blood fats and severe depression also weakened on flax oil and flax seed meal.

Intervention and Outcomes: The first 47-year-old had his teres minor weakness neutralized by insalivation of iodine, with his energy and sleeping improved. The second 47-year-old showed only substances that supported the liver neutralized his weakness. He is sleeping better. The 49-year-old woman had her weakness neutralized by a tyrosine product. Her depression was said to be improving.

Conclusion: This case series report suggests that patients with hypothyroid symptoms respond well to PUFAs. In pure iodine deficiencies, PUFAs may be needed to help carry the iodine to the tissues. When PUFAs weaken the teres minor muscle, that weakness was used to determine which other factors are needed by the patient (which strengthen the teres minor weakness). Larger clinical trials are necessary. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:31-35)

Key Indexing Terms: *Hypothyroidism; Fatty Acids, Unsaturated; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied*

ZINC, SODIUM, MANGANESE AND ADRENAL "BURN-OUT"

Kathleen M. Power, D.C.

ABSTRACT

Objective: To present 2 case reports and to discuss the methods in AK of mineral and specifically zinc analysis.

Clinical Features: The zinc taste test or tally is a recognized method of zinc analysis for patients. 2 patients are presented (one with diabetes, the other with chronic foot pain). The diabetic's sartorius muscle weakened with insalivation of the zinc tally (a saturated zinc solution). The foot pain patient's posterior tibialis muscle weakened also with insalivation of the zinc tally. Both patients had been taking supplemental zinc.

Intervention and Outcome: Both patients' muscles strengthened with insalivation of manganese-B12 and manganese respectively. Since adding manganese to her treatment, the diabetic is rapidly recovering from a difficult problem with her shoulder joints. The patient with chronic foot pain is also recovering. In AK, the sartorius and the posterior tibialis muscles are associated with the adrenal gland (muscle-organ-gland relationship). The hypothesis is presented that patients whose adrenal glands are exhausted, or who have depleted sodium for any reason, may not tolerate supplemental zinc. The hypothesis that supplementing with manganese has the effect of raising sodium levels and helps in adrenal stress recovery is discussed.

Conclusion: Mineral balancing in the body can be complicated. It is important to recognize that raising one mineral may lower others; stimulating one organ may depress others; and what is measured as deficient in the body may be so out of physiological needs. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:37-41)

Key Indexing Terms: *Zinc; Manganese; Trace Elements; Biochemical Phenomena, Metabolism, and Nutrition; Nutritional Status; Diagnosis; Chiropractic; Kinesiology, Applied*

ZINC TASTE TEST AND A.K. ORAL NUTRIENT TESTING

Kathleen M. Conable, D.C.

ABSTRACT

Objective: To present a sequential sample of 76 patients in a chiropractic office who were given the zinc taste test (ZTT) or zinc tally, and to compare these findings to changes in MMT outcomes after oral-nutrient testing of zinc.

Clinical Features: A review of the literature regarding the ZTT is provided. A review of the findings regarding the ZTT in the Collected Papers of the ICAK is offered.

Intervention and Outcome: In the cohort, the two muscles tested were the pectoralis sternal and the rectus femoris. All patients were assessed for their ZTT response at 10, and again at 30 seconds. 31 of the 76 subjects had at least one muscle graded weak. Of these, 22 had at least one muscle that became strong on tasting the zinc supplement. Of the 73 patients who were classified as "zinc deficient" on the ZTT (Grades 1 and 2) at 10 seconds, there were 51 who did not respond to oral zinc and 22 who did respond. Of the zinc sufficient group (Grades 3 and 4) at 10 seconds, there were 2 whose muscles did not respond to oral zinc and one who did. At 30 seconds assessment, the difference between groups was closer but did not reach statistical significance. In this study, of the 23 subjects with change in MMT on respiration, 18 responded to zinc. The correlation of respiratory challenge to the craniosacral system and the possible need for zinc has been reported in AK for over 20 years.

Conclusion: This study did not show a positive correlation between ZTT and MMT response to tasting zinc. However, in AK clinical practice the ICAK USA has established guidelines stating that oral-nutrient test findings should always be correlated with clinical history, other examination findings, and laboratory tests. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:63-75)

Key Indexing Terms: *Zinc; Biochemical Phenomena, Metabolism, and Nutrition; Nutritional Status; Diagnosis; Chiropractic; Kinesiology, Applied*

THE EFFICACY OF APPLIED KINESIOLOGY PROTOCOLS IN CORRECTING PERIPHERAL NERVE ENTRAPMENT ASSOCIATED WITH CARPAL TUNNEL SYNDROME: AN INTER-EXAMINER STUDY

James D.W. Hogg, D.C.

ABSTRACT

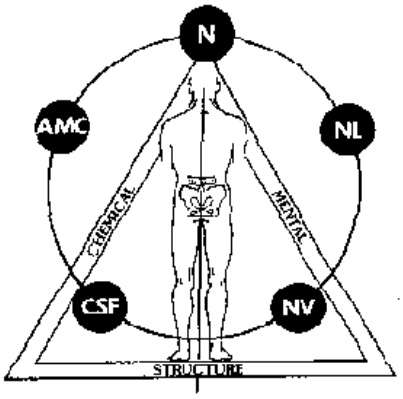
Objective: The purpose of this study was to determine the clinical efficacy of AK for relieving the signs and symptoms of carpal tunnel syndrome (CTS) by compiling clinical records from two doctors who used AK methods in the treatment of 65 patients with CTS.

Clinical Features: Patients selected for the study exhibited one of the following signs or symptoms: measurable loss of grip strength, pain in the wrist and median nerve sensory area of the hand, numbness and/or tingling in the median nerve sensory area, dermatitis with a "glove" distribution, atrophy of the thenar eminence, or sleep disturbance caused by hand pain. All subjects selected demonstrated weakness of the opponens policis muscle on MMT.

Intervention and Outcome: Therapy for all patients involved manipulation of involved osseous components as indicated by AK challenge methods, spindle cell or Golgi tendon organ technique for pronator quadratus involvement, and spinal manipulation to indicated cervical and thoracic vertebrae. If a distal radius/ulna separation was present, a non-elastic brace was used after manipulation to prevent re-separation. Treatment to the shoulder and nutritional support (usually vitamin B6) were given if indicated. Both doctors showed an average of approximately 6.7 visits to eliminate CTS symptoms, with an average cost of approximately $165.00. The overall success rate (patients who remained symptom free for at least 6 months) was 84%.

Conclusion: This informal inter-examiner efficacy study suggests that AK protocols were effective in reducing nerve entrapment in CTS. A consistent finding of this report was that multiple levels of nerve entrapment producing the CTS symptom were common. Considering the effectiveness and low cost of this form of therapy, the AK approach to CTS might be offered as an alternative to standard medical approaches. (Collected Papers International College of Applied Kinesiology, 1994-1995;1:169-173)

Key Indexing Terms: *Carpal Tunnel Syndrome; Nerve Compression Syndromes; Median Neuropathy; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1993-1994

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGY MANAGEMENT OF DYSPHONIA

Cecelia A. Duffy, D.C.

ABSTRACT

Objective: To present a case history of a female with dysphonia successfully treated with AK methods.

Clinical Features: A 55-year-old female lost her ability to sing soprano and to increase her decibel volume (yell, talk or sing loudly). She first lost her singing voice in the soprano range during choir practice after an unusually stressful day at work. She retained her ability to speak in normal tones and to sing baritone. She was referred to an otorhinolaryngologist to rule out laryngeal pathology; exam was unremarkable. Physical examination showed orthostatic hypotension; urinary sodium elevation; paradoxical pupillary reaction; three right superior molars missing; the uvula deviated left on elevation of the soft palate; and stiffness with cervical rotation.

Intervention and Outcome: AK cranial therapy corrected a universal interosseous, right internal frontal, and left sphenobasilar expiration assist cranial faults. Jugular decompression corrected the uvular deviation. Hyoid muscle imbalances (surrounding the voice box) were treated with neuromuscular spindle techniques. A neurological tooth involvement to the unopposed right lower molar teeth was corrected. Vertebral subluxations and fixations were corrected in the cervical and thoracic spine and pelvis. After her 4^{th} visit there had been no change in her voice, though her neck pain was improved. Between the 4^{th} and 5^{th} visit she noted a gradual but complete recovery in her ability to sing soprano and to raise her voice. A dental referral for a partial plate was made after her 5^{th} chiropractic visit to replace the absent right upper molars, and this completed her correction. Chemical corrections included nutritional support for the adrenal glands and dietary improvement.

Conclusion: This case of dysphonia involved structural, chemical, and emotional factors that appeared to cause a functional rather than pathological problem in her vocal apparatus that was diagnosed and responsive to AK therapies. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:21-23)

Key Indexing Terms: *Voice Disorders; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied*

CHIROPRACTIC COST EFFECTIVENESS IN CARPAL TUNNEL SYNDROME

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present a case-series review of 12 patients with carpal tunnel syndrome.

Clinical Features: The 12 patients in this case series complain of forearm and wrist pain but reports no trauma or overuse. All 12 suffered pain on MMT of the wrist extensors that was immediately decreased by performing the MMT during therapy localization of the ileocecal valve, and 7 of the 12 showed a reduction or complete absence of pain during MMT. All 12 also showed an increase in MMT strength. 2 of these case reports are reviewed in depth.

Intervention and Outcome: The thorough AK evaluation of the CTS condition is presented, and a number of overlooked factors in cases of CTS reviewed. These include: teres minor stretch weakness; ileocecal valve flaccidity; sartorius muscle weakness (hypothesized to indicate the major visceral corrections necessary); major pelvic imbalances affecting the dorsal and cervical spine; rib dysfunctions; joint dysfunctions involving the ulna, radius, capitate and pisiform bones of the forearm and wrist; cranial faults affecting the muscles of the neck; and anteriority of the 5th cervical. The AK treatment method for each of these factors found in cases of CTS is presented.

Conclusion: In the author's experience the chronicity in CTS symptomatology is multifactorial, and requires whole body testing for treatment to prevent recurrence. Long term controlled studies should be performed under hospital or university settings to properly gauge the cost effectiveness of chiropractic care in this frequent and high cost surgery. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:24-33)

Key Indexing Terms: *Carpal Tunnel Syndrome; Nerve Compression Syndromes; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

CHIROPRACTIC COST EFFECTIVENESS IN GLAUCOMA

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present the case of a male complaining of right eye and facial pain.

Clinical Features: A dentist, family doctor and ENT specialist had treated an adult male with right eye and facial pain without relief. Examination revealed evidence of glaucoma and loss of vision in the right half of the visual field of the right eye, right TMJ dysfunction, internal rotation of the right frontal bone, and right posteriority of the 2nd cervical vertebra. A torque lesion of the pelvis, subluxation of the 4th and 7th dorsal vertebra, fixation of the 7th cervical and first rib head on the left, and grade 4/5 weakness of the right upper trapezius and the left SCM were found.

Intervention and Outcome: These findings were corrected using AK protocols. The 2nd and 3rd measurements of the visual field (shown in Figure 1) were made during the 2nd office visit just before and after treatment. A 5.5-centimeter increase in the visual field was noted and the eye symptoms were relieved. The patient is an itinerant worker and was not seen again. Long term benefit of chiropractic care in this case of glaucoma is unknown.

Conclusion: This case demonstrated that visual acuity, visual field, and ocular pressure pain could be beneficially influenced by a single chiropractic adjustment. Long-term controlled studies are necessary to properly gauge effects of chiropractic care in this area.
(Collected Papers International College of Applied Kinesiology, 1993-1994;1:34-38)

Key Indexing Terms: *Glaucoma; Ocular Physiologic Phenomena; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

CHIROPRACTIC COST EFFECTIVENESS IN GRAVES' DISEASE

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present the case of a female with Graves disease.

Clinical Features: The parents of a 15-year-old female medically diagnosed with Graves disease refused orthodox medical treatment for the condition and elected AK chiropractic care.

Intervention and Outcome: Post-treatment blood chemistry results showed favorable changes in: Thyroxine, Thyronine uptake, Free Thyronine Index, and TSH values. The patient's pulse rate, Achilles reflex time, patient behavior and subjective symptoms were all improved. The goiter was estimated by palpation to be 80% improved in size and consistency.

Conclusion: This case showed that early chiropractic treatment of Graves disease might help reduce the need for potentially harmful, invasive medical techniques if applied before irreversible pathology develops. Long-term studies are necessary to gauge the effects of chiropractic care in this potentially life threatening condition. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:39-40)

Key Indexing Terms: *Graves Disease; Goiter; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

CHIROPRACTIC COST EFFECTIVENSS IN THE TREATMENT OF BLADDER SYMPTOMS

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present 2 cases of adult females with similar bladder symptoms but different structural causes that responds to AK technique.

Clinical Features: A 39-year-old female complained of bladder fullness, urgency, incontinence and burning and had been given antibiotic therapy 2 or 3 times a year for the past 12 years without improvement. A 72-year-old female complained of frequency, fullness, urgency and incontinence on slight straining, coughing or sneezing. She had undergone 2 bladder suspensions and numerous rounds of antibiotics without improvement.

Intervention and Outcome: After the first visit the 39-year-old had an immediate reduction in the sense of fullness. Treatment involved chiropractic therapy to the spine, pelvis, and muscles, as well as dietary counseling. Ileocecal valve and bladder meridian treatment were employed also. 5 years later she remained symptom free. The 72-year-old would remain symptom free for 2 weeks after AK therapy (involving the cervical spine, sagittal suture, and perianal muscles). After 6 treatments over 6 months, heavy origin-insertion technique was applied to the levator scapulae muscle that leveled the head and eliminated the bladder symptoms permanently. Cervical spinal stenosis was previously diagnosed (MRI) and treatment to the right levator scapulae was thought to improve the cervical cord pressure. The patient remained symptom free 2 years later.

Conclusion: Larger clinical trials to evaluate the effectiveness of AK therapy in cases of bladder dysfunction are required, and may be found to eliminate the need of potentially harmful and expensive surgical and medical procedures for some patients with bladder dysfunction. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:41-44)

Key Indexing Terms: *Urination Disorders; Urinary Incontinence; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

CHIROPRACTIC COST EFFECTIVENESS IN THE TREATMENT OF INFERTILITY: A CASE STUDY

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present a case of infertility that responds to AK protocols.

Clinical Features: A 25-year-old female was unable to conceive after a year of effort. She had minor complaints of "stinging" pain in her right arm and hemorrhoids.

Intervention and Outcome: AK examination revealed stretch weakness of the left teres minor muscle, corrected by fascial flush technique; open ileocecal valve; and a category one pelvic lesion; a fixation of C7-first rib; 4th dorsal vertebrae; and pituitary drive cranial correction. The patient's basal axillary temperature began to rise during her menstrual period after her third treatment, at which time the patient conceived. Wheat germ oil was prescribed after her 2nd visit following a repeat finding of an upper cervical fixation. The author describes his experience with infertility and states that it is frequently associated with thyroid dysfunction and pelvic and lumbar imbalances.

Conclusion: Other authors in the *Collected Papers International College of Applied Kinesiology* have also reported on the effectiveness of AK in the treatment of infertility. Considering the expense and potentially harmful side effects of the medical treatment for infertility, larger controlled clinical trials of this multimodal method of treatment should be undertaken. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:45-48)

Key Indexing Terms: *Infertility; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

CHIROPRACTIC COST EFFECTIVENESS IN SIALADENITIS

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present the case of an adult female with sialadenitis successfully treated with one treatment using AK therapy.

Clinical Features: An adult female complaining of intermittent swelling of the jaw area brought about by chewing, eating and the production of saliva which after 2 weeks had resulted in permanent swelling and pain over the entire side of her head, ear, face and jaw. The medical diagnosis of sialadenitis (inflammation of the salivary glands) was given.

Intervention and Outcome: The following subluxation factors were treated. Lymphatic involvement of the right upper trapezius, treated by NL reflex; subluxation of the occiput, atlas and 2nd cervical vertebrae; stretch weakness of the SCM muscle; overactivity of the stomach meridian; overactivity of the right external pterygoid secondary to grade 4/5 weakness of the left external pterygoid; overactivity of the masseter, buccinator, and temporalis muscles on the left; sacroiliac subluxation on the same side as parotid gland involvement; 7th and 4th dorsal subluxation; a temporal bone cranial fault on the right. Following correction of these factors, the patient gargled with Phosfood (Standard Process Labs) and sucked on a betaine hydrochloride (Standard Process Labs) tablet to produce salivation. The parotid area was then manually drained to force out the solidifications and the patient experienced immediate relief of all symptoms.

Conclusion: This case responded immediately to AK chiropractic technique. Larger clinical trials should be conducted to determine the full potential of chiropractic care for this problem. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:49-51)

Key Indexing Terms: *Sialadenitis; Salivary Glands; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

NAUSEA OF PREGNANCY RESPONDS TO CHIROPRACTIC CARE

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present the case of a pregnant female who was relieved of seven weeks of nausea and vomiting following AK therapy.

Clinical Features: A 30-year-old female presented with nausea and vomiting for 7 weeks during her pregnancy resulting in steady weight loss and physical and emotional debilitation.

Intervention and Outcome: AK findings included: open ileocecal valve; subluxation of the occiput; NL reflex treatment for the right upper trapezius and left SCM; spinal manipulations to the dorsal spine; pelvic subluxations affecting the right piriformis; NL reflexes for the sartorius muscle as well as nutritional treatment for the related adrenal glands. Following correction of the ileocecal valve and the adjustment of the occiput the patient remarked that her nausea was gone. The patient continued to do well until a normal delivery. The patient noted that towards the end of the month she would feel a slight return of the symptoms that would abate with each monthly chiropractic treatment session.

Conclusion: While many women suffer the nausea of pregnancy, few seek chiropractic care for relief. Due to the prevalence of nausea during pregnancy, larger clinical trials of this cost effective and inexpensive method of treatment for this problem are in order. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:52-53)

Key Indexing Terms: *Pregnant Women; Morning Sickness; Nausea; Vomiting; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

FROM SUPERCHALLENGE TO MODERN ALLERGY, FOCUS AND MEDICINE TESTING, or weak – normotonic – hypertonic: 3 WAYS IN WHICH A MUSCLE MAY TEST

Wolfgang Gerz, M.D., Jeff Farkas, D.C.

ABSTRACT

Objective: To present the concept of hypertonic or "frozen muscle" MMT findings in AK, with 6 illustrative cases demonstrating this phenomenon.

Clinical Features: In 1986 Deal presented the concept of the "frozen muscle". This concept has been elaborated upon by others in AK, and consists of a muscle that does not weaken when a dysfunction affecting it is challenged. It is also found in patients who have hypertonic muscles throughout the body. AK research has shown that this condition is frequently related to the Triple Heater meridian. In cases of severe hypertonicity, the hypothesis is presented that a "superchallenge" exists in the patient which, when employed, will produce the normal muscle weakness expected during AK challenges in a symptomatic patient.

Intervention and Outcome: The "superchallenge" refers to a challenge that has the capacity to break the hypertonic state in a patient. Commonly this occurs with the following challenges: histidine, PCCK, candida antigen, TL to the thymus or adrenals or pectoralis minor, eyes up testing, NV stress points, emotional challenge, foci such as teeth, scars, tonsils, or challenges that indicate switching. 6 patients

demonstrating the hypertonic muscle phenomenon who responded to the methods described in this paper are presented.

Conclusion: Three states of MMT findings are described (normotonus, hypertonus, and general weakness) that are suggested by the authors to correlate with varying levels of adaptation to stress disorders as described by Hans Selye. Clinical trials with simultaneous laboratory analysis are warranted. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:147-153)

Key Indexing Terms: *Muscle Hypertonia; Terminology; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

EFFECTS OF APPLIED KINESIOLOGICAL CRANIAL/SACRAL CORRECTION ON STATIC PARASPINAL EMG

Brian T. Garrett, D.C., C.C.C.P.

ABSTRACT

Objective: To present 3 case reports of patients who received AK cranial corrections and were tested with paraspinal electromyography before and after treatment.

Clinical Features: Three patients (symptoms were not described) were evaluated for AK cranial faults. Static scans using the Insight 5000 EMG **(TM)** were performed on the patients in the seated position pre-treatment, and 15-minutes post-treatment. All the cranial faults remained corrected after patient ambulation.

Intervention and Outcome: Patient 1 was treated for a sphenobasilar inspiration assist and "left universal" cranial fault. Specific EMG changes in patient 1 (EMG charts for all 3 patients are provided) showed better symmetry of paraspinal muscle activity post-correction. Deviations from normative data increased in number, but lowered in amplitude. Patient 2 was treated for a sacral wobble inspiration assist and left occipital/atlantal counter-torque fault. EMG symmetry was not improved post-treatment, and the number of deviations from normative data increased. Patient 3 was treated for a left sphenobasilar inspiration assist, a left temporal bulge, a right parietal descent, a left external frontal, a left lambdoidal sutural, and sacral inspiration assist faults. EMG symmetry was not improved post-treatment.

Conclusion: In this case series improvements in paraspinal EMG after AK cranial treatment were not consistent. Further investigation will be necessary to determine whether EMG analysis can objectively document the efficacy of AK treatment procedures. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:154-171)

Key Indexing Terms: *Electromyography; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

THE EFFECTS OF CORRECTION OF APPLIED KINESIOLOGY FIXATION PROTOCOL ON STATIC PARASPINAL ELECTROMYOGRAPHY

Brian T. Garrett, D.C., C.C.S.P.

ABSTRACT

Objective: To present 3 case reports of patients who received chiropractic manipulations to correct spinal fixations that were also tested with paraspinal electromyography before and after treatment.

Clinical Features: Three patients (symptoms were not described) were analyzed with AK MMT to determine bilateral muscle weaknesses that are associated in AK with spinal fixation patterns. Static scans using the Insight 5000 EMG (TM) were performed on the patients in the seated position pre-treatment, and 15-minutes after treatment.

Intervention and Outcome: Patient 1 showed bilateral muscle weakness of the psoas, popliteus, lower trapezius, and neck extensors. Correction of the associated occipital, middle cervical, thoraco-lumbar, and sacral fixation complexes were made. Specific EMG changes for patient 1 (the charts for all 3 patients are provided) showed greater symmetry of paraspinal muscle activity post-correction. Patient 2 showed bilateral muscle weakness of the psoas, lower trapezius, and neck extensors. Spinal fixations were corrected, and greater EMG asymmetry was found post-treatment, although more regions returned to within normal limits. Patient 3 showed bilateral muscle weakness of the lower trapezius and neck extensors. Associated spinal fixations were corrected and there was little change in symmetry of EMG readings, although regions within normal more than doubled.

Conclusion: The results of this case series report demonstrated that AK fixation correction protocol produced significant effects to paraspinal muscle tone, although not symmetry at least in the short term. Larger controlled clinical trials for EMG documentation of the effectiveness of AK corrections upon muscular function are necessary. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:172-189)

Key Indexing Terms: *Electromyography; Treatment Outcome; Therapeutics; Manipulation, Chiropractic; Chiropractic; Kinesiology, Applied.*

LIFESTYLE FACTORS TO CONSIDER IN OVERACTIVE CIRCULATION-SEX MERIDIAN AND THE NEED FOR THIAMINE PYROPHOSPHATE

John N. Kane, D.C.

ABSTRACT

Objective: To present 17 cases where MMT was used to evaluate the need for thiamine pyrophosphate (the active form of vitamin B1) in cases showing over-activity of the circulation sex meridian.

Clinical Features: In AK it has been found that patients who require rebalancing of the circulation sex meridian may require thiamine pyrophosphate. Twenty patients were examined (14 female, 6 male), ages 21 to 64 years. Possible causes of thiamine pyrophosphate deficiency are reviewed, including dietary anti-thiamine items like coffee, tea, and alcohol, as well as conditions like hyperthyroidism, pregnancy, lactation, exogenous thyroid hormones, stress and exercise.

Intervention and Outcome: Twenty patients were tested for overactivity of the circulation sex meridian by tapping the sedation point and then testing an intact associated muscle with that meridian (in this case series the piriformis muscle). If the muscle remained strong (it should momentarily weaken after tapping the sedation point), thiamine pyrophosphate or magnesium citrate was orally administered to the patient. Of the 20 patients tested, 17 showed an inappropriate response to tapping of the circulation sex sedation point. All 17 showed proper weakening of the piriformis muscle after tapping of the sedation point for the circulation sex meridian when a source of thiamine pyrophosphate was orally administered to the patient, and 3 also responded to magnesium citrate.

Conclusion: This case series report showed that AK testing of the circulation sex meridian could be improved with the use of thiamine pyrophosphate or magnesium citrate. Larger clinical trials would be helpful to determine the effect of this therapy on patient populations with diverse symptomatology. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:198-200)

Key Indexing Terms: *Acupuncture; Meridians; Biochemical Phenomena, Metabolism, and Nutrition; Treatment Outcome; Chiropractic; Kinesiology, Applied*

PEYRONIE'S DISEASE

George N. Koffeman, D.C.

ABSTRACT

Objective: To present a case of Peyronie's disease successfully treated over a three-year period.

Clinical Features: A 70-year-old male presented with Peyronie's disease that had grown progressively worse over a 6-year period. He had disc surgery 10 years previous to onset of the Peyronie's disease. Urologists were treating him with pain medications and Valium. Despite this he reported 4 to 6 spontaneous erections per night with severe pains. He slept no more than 2 hours per night total.

Intervention and Outcome: Over a 3-year period of chiropractic treatment a diagnostic pattern emerged. Whenever the patient presented with an exacerbation of his condition, he also showed imbalances with the circulation sex meridian, and the 4^{th} or 7^{th} spinal vertebrae required correction. Gluteus medius weakness responded to TL to the circulation sex alarm point, and its NL and NV points. Sacral fixations were also

corrected. 3 years following initiation of therapy, all signs of Peyronie's disease were gone. Medical urological exam confirmed that plaque in the penis was gone.

Conclusion: Although this was a protracted case, the author suggests that because medical methods of treatment for this problem show poor results, further study of AK therapy in cases of Peyronie's disease is warranted. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:201-202)

Key Indexing Terms: *Male Urogenital Diseases; Penile Induration; Treatment Outcome; Therapeutics; Manipulation, Chiropractic; Chiropractic; Kinesiology, Applied.*

BILATERAL LOWER TRAPEZIUS INHIBITION RELATED TO DORSO LUMBAR FIXATIONS AND INCREASED POSTURAL KYPHOSIS CORRECTED BY A FIXATION RELEASE

Hans W. Boehnke, D.C.

ABSTRACT

Objective: To present a case series report on measurable postural changes that followed correction of a thoraco-lumbar fixation and bilateral lower trapezius muscle weakness.

Clinical Features: 23 patients were measured pre- and post-treatment with a tape measure from T1 to T12. A red mark was placed at the spinous process tip of both vertebrae in each patient. Each patient showed bilateral lower trapezius muscle weakness, and each patient was treated to spinal manipulative therapy to the thoraco-lumbar spine.

Intervention and Outcome: In the 23 patients the examiner found an average shortening of the thoracic spine by 1.48 millimeters after treatment. The measurement showed lengthening in 2 cases and no change in 7 cases. In this case series the correction of thoraco-lumbar fixations resulted in a shortening of the distance between T1 and T12 in 60.87% of the cases. This is consistent with the hypothesis that correction of the thoraco-lumbar fixation, producing facilitation of the lower trapezius muscles, would shorten the thoracic spine.

Conclusion: In patients with weakness of the lower trapezius muscles, an increased thoracic kyphosis may be present. Measurable changes in posture as a result of AK therapy are important, and further studies measuring these changes are needed. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:205-210)

Key Indexing Terms: *Musculoskeletal Physiologic Phenomena; Muscle Weakness; Treatment Outcome; Therapeutics; Manipulation, Chiropractic; Chiropractic; Kinesiology, Applied.*

CASE REPORT OF APPLIED KINESIOLOGY TREATMENT AND ALLERGIC CUTANEOUS VASCULITIS

David B. Dauphine, D.C.

ABSTRACT

Objective: To present the case of a female with cutaneous vasculitis successfully treated with AK therapy.

Clinical Features: A 57-year-old female presented with obvious skin rash and red blotches upon her extremely white skin. The erythematous, segmental lesions were upon her feet, stomach, chest, neck, and forearms. There were raised and palpable nodules as well as flat macules and patches. She had been treated by a number of allergists and dermatologists, but the causal allergen was not identified. She had severe acne as a teenager. She was on numerous medications and creams, several of which produced a contact dermatitis in her.

Intervention and Outcome: AK MMT examination showed weakness of the psoas, piriformis, and subscapularis muscles that strengthened with TL to the C5 vertebrae, as well as oral challenge with niacinamide. Oral food challenge with milk and cocoa reweakened these same muscles and she was told to strictly eliminate them from her diet. She was given niacinamide and an "adrenal type diet." One month later on her second visit, bilateral weakness of the subclavius, teres minor and pectoralis major (sternal division) was corrected by manipulation of the L4 vertebra. Her elimination diet was continued. One week after her second visit the patient reported that all of the dermatitis had disappeared. She had one recurrence when she ate milk proteins in a lasagna dish, and treatment as described above resolved the problem without recurrence.

Conclusion: In this case the identification of food allergies with AK methods and chiropractic treatment as well as an elimination diet resolved a case of severe cutaneous vasculitis. The clinical utility of AK methods in the identification of food allergies should be explored in larger clinical trials. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:217-221)

Key Indexing Terms: *Vasculitis, Hypersensitivity; Food Hypersensitivity; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*

CASE REPORT OF APPLIED KINESIOLOGY TREATMENT AND INFANT HYDROCEPHALUS

David B. Dauphine, D.C.

ABSTRACT

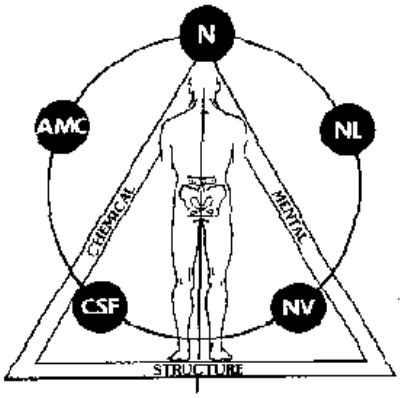
Objective: To present the case of an infant with hydrocephalus who showed skull circumference reduction, personality and behavior change following AK treatment.

Clinical Features: A 10-month-old male infant was born 5 weeks premature by C-section, at 6 pounds 5 ounces. He experienced recurrent ear infections during his first 10 months. During his 10th month he began to constantly scream, and was taken to the emergency room with a 104-degree temperature. The following month his pediatrician and a neuroradiologist diagnosed hydrocephalus. 2 months later, the head had enlarged 2 centimeters in this time frame, and the diagnosis was progressive hydrocephalus. Periodic surgical shunt surgeries were then recommended. The child began to repeatedly slap his hand to his forehead, and the child's behavior became aggressive, and he woke up agitated and fearful.

Intervention and Outcome: The patient began AK treatment at 13 months. Cranial fault corrections to the occiput and frontal bones, a fixated sacrum, and the T5 vertebrae were made. Tapping at triple warmer 23, and adjustment to the right fibula were also given. These adjustments produced an immediate calming effect, and the hand-head banging and the infant's fear and tension ceased. Several days later the overseeing pediatric neurosurgeon remeasured the skull at 51.25 centimeters, down from 52 centimeters 3 weeks previous. At 28 months, the skull measurement remained at 52 centimeters which is in the 95th percentile of head sizes. The child's head size had been in a significantly higher percentile at the beginning of chiropractic care. The child is now performing well.

Conclusion: This case report demonstrated that a non-invasive and cost effective therapy for hydrocephalus and its complications was effective. Larger clinical trials using these methods for this very significant problem are warranted. (Collected Papers International College of Applied Kinesiology, 1993-1994;1:222-228)

Key Indexing Terms: *Hydrocephalus; Treatment Outcome; Diagnosis; Therapeutics; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1992-1993

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGICAL MANAGEMENT OF HUMERAL HEAD ASEPTIC NECROSIS: A CASE HISTORY

Cecilia A. Duffy, D.C.

ABSTRACT

Objective: To present the case of a woman with aseptic necrosis of the humeral head successfully managed with AK therapy.

Clinical Features: A 62-year-old female presented with left shoulder and left upper arm pain with loss of motion. Five months previously she reported that while placing her left arm into her coat she felt a "snap" in the left shoulder, and there was progressive pain and loss of motion in the following months. Restricted flexion to 110 degrees and abduction to 70 degrees was measured, with internal and external rotation of the shoulder producing pain. Radiographic examination showed the typical changes of aseptic necrosis of the left glenoid fossa and humeral head. Laboratory arthritis and general blood profiles were unremarkable. The cause of the necrosis was unknown in this case.

Intervention and Outcome: A thorough AK examination and treatment is reported, with specific findings for the left shoulder being left pectoralis minor and pectoralis major clavicular division muscle weakness. Both muscles strengthened with Cataplex A and betaine hydrochloride supplementation (SPL). Three other nutrients were given for specific findings in this case: Drenamin, Biost and Calcium Lactate (SPL). The patient was treated every 2 to 3 weeks for 16 months. During this period she was instructed to perform shoulder exercises by walking her fingers up a wall into shoulder flexion and abduction to increase her limited shoulder range of motion. She had gradual return to full range of motion in the left shoulder with only slight pain intermittently and a return to normal activities of daily living. 40 months later and the shoulder still showed only intermittent pain that subsides within hours. Radiographic examination at this time showed no change in the humeral head and glenoid fossa, but with no further degeneration in the joint or bony surfaces.

Conclusion: Successful treatment of humeral head aseptic necrosis is described in this case report, and prevented the need for surgical intervention. (Collected Papers International College of Applied Kinesiology, 1992-1993;1:14-16)

Key Indexing Terms: *Femur Head Necrosis; Osteonecrosis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

ATYPICAL FIBULAR SUBLUXATION IN A CASE OF LOWER LEG NEURITIS

John M. Heidrich, D.C.

ABSTRACT

Objective: To present the case of a male with radicular leg pain who also demonstrated anterior displacement of the fibular head that was successfully managed with AK therapy.

Clinical Features: A 50-year-old physically active male presented with left leg neuralgia of 3 months duration. It began as a burning sensation that extended from the lateral knee to the dorsum of the foot. The pain became severe 6 weeks prior to presentation. Onset followed a vigorous golf swing on the driving range. Analgesics, anti-inflammatory, physical therapy, and orthopedic treatments provided little relief. He was on Percocet to control pain. Lumbar MRI was negative for discopathy. EMG and nerve conduction velocity tests were positive for left deep peroneal radiculopathy. One week prior to chiropractic treatment he complained also of acute left sacro-iliac pain.

Intervention and Outcome: Orthopedic testing of the knee was unremarkable, with a left genu valgus present. Palpatory pain was elicited at the anterosuperior border of the fibular head. MMT showed weakness of the left sartorius, tensor fascia lata, popliteus, anterior tibialis, and peroneus tertius muscles. Direct posterior to anterior challenge of the fibular head produced indicator muscle weakness, indicating an anterior displacement. This displacement was manipulated into correct position. Category II pelvic lesion on the left and correction of a talus subluxation were also made. The patient complained of severe pain in the knee for the next 2 days, and was seen 5 days later and fascial release was performed on the tensor fascia lata muscle. Within 9 days there was 90% subjective improvement in pain with mild residual burning in the dorsum of the ankle.

Conclusion: It is proposed that the genu varus position on the end phase of the golf swing produced the anterior displacement of the fibular head. This may have forced the tibia to traction the peroneal nerve. Further study of the AK approach for lateral knee and leg problems are warranted. (Collected Papers International College of Applied Kinesiology, 1992-1993;1:73-74)

Key Indexing Terms: *Knee Joint; Radiculopathy; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

CONSERVATIVE APPROACH TO HERPES ZOSTER OPHTHALMICUS

H. Louis Obersteadt, D.C.

ABSTRACT

Objective: To present the case of a male with herpes zoster ophthalmicus of the right eye producing loss of vision that was corrected with AK therapy.

Clinical Features: A 53-year-old male presented with loss of vision in the right eye resulting from a herpes zoster infection 8 years previously. This resulted in 2 corneal transplants. The virus started in the middle of the right scapula and moved up the trunk, across the neck and face and into the right eye. The symptoms had been continuous in the right eye for 8 years with increases and decreases in severity for no apparent cause. There was a constant itchy irritation in the right eye, like “something was in the eye.” At

the time of the first visit, the right eyelid was closed with sutures to the midline in order to decrease the inflammation and irritation in the eye.

Intervention and Outcome: AK examination showed weakness of the upper trapezius, bilateral latissimus dorsi, right tricep, bilateral medial neck flexors, bilateral gracilis, bilateral psoas, right sartorius and posterior tibialis. Treatment involved spinal and cranial manipulative therapy, reflex and acupuncture treatment. Calcium lactate, Cataplex F, and betaine hydrochloride (SPL) also improved muscle strength. The 2nd visit showed a 50% improvement in his vision, and the 3rd visit was a 50% improvement over the 2nd. The patient's ophthalmologist confirmed this and the sutures were removed after the 3rd visit at the request of the patient.

Conclusion: This case of vision loss responded to conservative chiropractic care, but does not suggest that this would be a standard form of treatment for Herpes Zoster Ophthalmicus. (Collected Papers International College of Applied Kinesiology, 1992-1993;1:85-88)

Key Indexing Terms: *Herpes Zoster Ophthalmicus; Corneal Transplantation; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

PSOAS IMBALANCE CAUSING SEVERE HEADACHE

Robert A. Ozello, D.C.

ABSTRACT

Objective: To present a case of severe headache that responded to a strain-counterstrain treatment to the psoas muscle.

Clinical Features: A 17-yeaer-old female presented with severe right temporal and frontal headaches for several months. She woke up with a slight headache that as the day progressed steadily worsened. By 11 AM she would have to leave school and go home to sleep. This cycle was repeated every day. X-rays, MRI and CAT scan, EEG and neurological examination and treatment were unsuccessful, and all blood tests were negative. The patient reported slipping but catching herself shortly before the headaches started.

Intervention and Outcome: AK examination revealed occipital, upper cervical, lumbo-dorsal and sacral fixations that were treated. After the first treatment the headache was completely gone. However the headache returned the next morning in its usual fashion and severity. Over the next several visits other problems including cranial, TMJ, cervical and recurring fixations were corrected. However, the headaches recurred the next day. The headaches disappeared permanently when a left psoas strain-counterstrain problem was corrected. The headaches have not returned in 2 years.

Conclusion: Whole body examination and treatment were necessary in this case to correct severe headaches in a young female. (Collected Papers International College of Applied Kinesiology, 1992-1993;1:91-92)

Key Indexing Terms: *Headache; Manipulation, Chiropractic; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

A CORRELATION OF APPLIED KINESIOLOGICAL PROCEDURES WITH ZINC TASTE TEST

Daniel W. Hestdalen, D.C.

ABSTRACT

Objective: To present an observational cohort study on 35 patients who showed AK indications of a need for zinc and to statistically correlate that finding with the zinc taste test.

Clinical Features: Thirty-five patients were examined who had a positive TL to the NL reflex for the pancreas and/or a right thoracic duct positive challenge that was cancelled by oral insalivation of zinc. In these patients, the zinc taste test was then performed. A saturated zinc solution was held in the patient's mouth for 10 seconds, and the patient was to give a hand signal as soon as they could detect a dry, mineral, or sweet taste.

Intervention and Outcome: Only 2 out of the 35 patients tested (6%) had adequate zinc taste response, yet demonstrated the need for zinc by the AK tests performed. 31 out of 35 patients tested (89%) demonstrated low zinc taste test response and also tested positive to both AK indicators for the need for zinc supplementation.

Conclusion: The results of this study support the hypothesis in AK that zinc supplementation may be needed for patients who test positive for the right thoracic duct challenge or TL to the pancreas NL reflex. Larger clinical trials with simultaneous laboratory analysis are in order. (Collected Papers International College of Applied Kinesiology, 1992-1993;1:150-152)

Key Indexing Terms: *Zinc; Biochemical Phenomena, Metabolism, and Nutrition; Nutritional Status; Diagnosis; Chiropractic; Kinesiology, Applied*

A FOLLOW-UP STUDY OF APPLIED KINESIOLOGY IN THE TREATMENT OF LEARNING DISABILITIES

Harry Lefkowitz, D.C., and Jacob Lefkowitz, M.A.Ed.

ABSTRACT

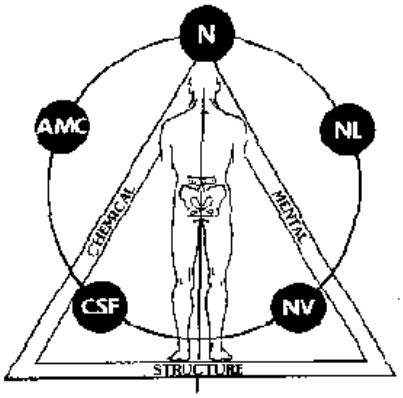
Objective: To present a follow-up report on a previous paper to report on the status of 21 patients who were treated for dyslexia.

Clinical Features: Twenty of the 21 original patients in the clinical trial conducted 4 years previously were contacted. In this follow up all information was gathered through an interview with the patient or the patient's parent. A questionnaire was developed so that an assessment could be conducted over the phone. The interview determined the present academic status or employment status of the patient. The patient or parent was asked if the original problem had improved, stayed the same or declined. Information about current grade level, coordination, sports activity and extracurricular activities was elicited. Home behavior of the children in the study was asked for from the parent. All patients and parents were asked to what they attributed the change in their performance since the original treatment given in the original study.

Intervention and Outcome: Out of the 20 patients who were contacted, 16 reported improvement. Two patients who scored significantly higher on the original study's post-test felt that they were not making improvement over the years. Both of these patients were over 50 years of age. Three other patients who showed no significant improvement in the original study were significantly improved at this time.

Conclusion: Sixteen out of the 20 patients who were evaluated 4 years after the original research study showed improvement (80%). This study suggests that AK therapy for the treatment of dyslexia produced long-term benefits for these patients. More studies will be required to determine the applicability of this method for large patient populations with dyslexia. (Collected Papers International College of Applied Kinesiology, 1992-1993;1:179-184)

Key Indexing Terms: *Learning Disability; Dyslexia; ADHD; Diagnostic Techniques and Procedures; Biochemical Phenomena, Metabolism, and Nutrition; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1991-1992

-- Edited by Scott Cuthbert, D.C.

A.K. IN THE TREATMENT OF SEASICKNESS

Katherine M. Conable, D.C.

ABSTRACT

Objective: To present the case of a female treated for seasickness with AK methods.

Clinical Features: A woman in her mid-30s experienced severe seasickness. Even with calm sailing she experienced vomiting. She refused to take Dramamine or other drugs for her problem. This patient complained of a C1 subluxation (she was a long-time chiropractic patient), and she had severe burns over much of her body when she was much younger. The patient underwent chiropractic care while at sea.

Intervention and Outcome: Initial examination showed no muscles weak, no respiratory cranial faults, TMJ negative in all positions, acupuncture pulse points negative to TL, and gait testing negative. The following showed positive TL or challenge and were treated: K-27, and the C2, C6, T4, T11, L3 and L4 vertebrae. Dural release was given to eliminate tenderness in the cervical area, sacrum, and the rest of the spine. The patient immediately noticed an improvement in her perception and her sense of space. Three further treatment sessions were given over the course of 9 days aboard ship. A number of proprioceptive reflex disturbances were found with variations of posture and with eyes open or closed during AK testing. Her recovery was dramatic – from a state of vomiting all night and having to eat very carefully after any sea voyage, to only slight discomfort on longer and rougher sailing trips.

Conclusion: The tonic labyrinthine reflexes, pitch-roll-yaw-tilt technique, and acupressure methods along with spinal adjustments made a lasting improvement in her condition aboard ship. Further studies into chiropractic manipulative treatments for sensory conflict and proprioceptive dysfunctions associated with the problem of motion sickness are indicated. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:5-8)

Key Indexing Terms: *Motion Sickness; Sensation Disorders; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

A STUDY OF THE INCIDENCE OF LIMBIC FIXATION WITH CATEGORY I

Cecelia A. Duffy, D.C.

ABSTRACT

Objective: To present an observational cohort study on 200 patients with a category I pelvic lesion and to determine its correlation with a limbic fixation.

Clinical Features: 200 consecutive patients that showed a positive category I pelvic lesion were examined for the simultaneous presence of a limbic fixation. In AK, the "limbic fixation" is indicated when there is bilateral weakness of the peroneus tertius, tibialis anterior, peroneus longus and brevis, or tibialis posterior muscles and/or positive TL of the C7-1st rib area with head rotation. A positive challenge for this problem is a separation movement of the C7 vertebra from the 1st rib.

Intervention and Outcome: Of the 200 positive category I patients, 49 of 200 were positive for limbic fixation as determined by the bilateral leg muscle weakness and positive TL. 122 of 200 were positive for limbic fixation as determined by positive TL only and showing no bilateral leg muscle weakness. A total of 171 of 200 category I lesions were therefore positive for a simultaneous limbic fixation (85.5% of the patient cohort), and 29 of 200 category I lesions were negative for limbic fixations (14.5%).

Conclusion: The results of this observational cohort study suggest that in any positive category I condition, a limbic fixation should be examined for also. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:9-10)

Key Indexing Terms: *Sacroiliac Joint; Cervical Vertebrae; Muscle Weakness; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*

CORRELATION BETWEEN TWO TYPES OF CATEGORY I THERAPY LOCALIZATION

Cecelia A. Duffy, D.C.

ABSTRACT

Objective: To present an observation cohort study on 200 patients with category I pelvic lesions and the correlation of 2 different positive therapy localization methods.

Clinical Features: 200 patients with positive TL findings for a category I pelvic lesion are analyzed. Standard TL of a category I is bilateral placement of the palms down upon each of the sacroiliac joints. A change in strength to a strong indicator muscle indicates the presence of the category I lesion. If this TL is positive, the left hand remains on the left sacroiliac with the right hand placed over the left; then the right hand is placed on the right sacroiliac with the left hand then placed over the right. The side of positive two-handed TL indicates the lesion side in AK. Goodheart has presented a second version of category I TL, where the left hand is placed palm down on the left sacroiliac and the right hand is placed palm up on the right sacroiliac; this is then reversed. The side of palm up positive TL determines the side of lesion.

Intervention and Outcome: Of the 200 positive category I findings determined with the second version of TL, 167 were also positive via standard TL, with the lesion sides correlating. The remaining 33 were not positive via standard TL until either EID (Eyes Into Distortion) or BID (Body Into Distortion) was utilized, again with the lesion sides correlating. EID and BID are two of the high gain AK techniques that bring out positive TL.

Conclusion: A 100% correlation was found in these cases between the lesioned side of the category I using the standard and the new TL methods. According to these statistics, if a category I diagnosis using the standard AK TL techniques were employed, there would be 16.5% of patients having the category I finding but being undiagnosed without the use of high gain TL techniques. However, use of the new TL method detected those 16.5% without the need for high gain techniques. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:11-12)

Key Indexing Terms: *Sacroiliac Joint; Muscle Weakness; Diagnosis; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*

ADDISON'S DISEASE – A CASE STUDY OF THE EFFECTS OF CHIROPRACTIC TREATMENT

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present the case of a female who recovered from an Addisonian Crisis (AC) with AK methods.

Clinical Features: A 29-year-old female with a history of chronic fatigue, weakness, anorexia, indigestion, headache, abdominal cramping and diarrhea had interrupted her gradual improvement under AK care for a course of Ayurvedic treatment in India resulting in an AC requiring emergency hospitalization.

Intervention and Outcome: The patient returned to chiropractic care in the USA. AK structural, chemical, and mental findings and described and were corrected. Medical hormonal therapy was replaced by adrenocortical extract that was then gradually withdrawn and replaced by desiccated adrenal, adrenal protomorphogen, and Drenamin (Standard Process Laboratories). The use of other supplements as determined with AK methods included various glandulars for the adrenal, spleen, pituitary, thyroid, thymus, parathyroid, and hypothalamus. The patient made a slow but steady progress to full recovery.

Conclusion: This case showed that a patient who had experienced an AC could achieve recovery under chiropractic care. Further studies with larger patient populations are necessary to determine if this method of treatment might be of benefit to others with this condition. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:13-15)

Key Indexing Terms: *Adrenal Gland Diseases; Addison Disease; Anorexia; Adrenal Glands; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

CHOROIDITIS INDUCED VISUAL LOSS RESPONDS TO CHIROPRACTIC CARE

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present the case of a patient with visual loss of sudden onset that responded immediately to AK chiropractic treatment.

Clinical Features: A 29-year-old female experienced an estimated 30% visual loss in the upper left eye field upon awakening, with an intermittent flashing of light in the affected eye. Symptom onset closely followed dental extraction of 3 molars and orthodontic wiring of the upper teeth. The blind spot in the upper left eye field was above the horizontal and appeared to extend equally to the left and right. Ophthalmologic treatment produced no change in her vision. Three weeks had elapsed since onset of symptoms and the results reported.

Intervention and Outcome: A complete AK examination is described. Severe head tilt was treated with spinal and cranial manipulative therapy; TMJ dysfunction and a pronounced click were treated with cranial therapy and manual therapy to the muscles of the TMJ. Several painful trigger points on the skull indicated widespread imbalance in the cranial dura. Lower cervical vertebrae were anterior, a category pelvic fault and ileocecal valve flaccidity were all corrected. Immediately following these corrections the patient noticed elimination of the intermittent flashing of light in the affected eye and subjective increase in her visual field. No objective change was noted in the vertical eye field as measured by a wall chart immediately before and after each treatment (figure provided). Nutritional support for hypoadrenia and calcium deficiency was given. Following the second treatment, there was an increase in the visual field of 4 centimeters measured in the midline vertically, obtained specifically after a glabellar cranial fault correction.

Conclusion: Dental extractions have been suggested to produce cranial dysfunction. This case suggests that when patients have teeth extracted, simultaneous AK chiropractic therapy may be advisable.
(Collected Papers International College of Applied Kinesiology, 1991-1992;1:16-20)

Key Indexing Terms: *Eye Diseases; Choroiditis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

CROHN'S DISEASE AND ULCERATIVE COLITIS RESPOND TO CHIROPRACTIC CARE

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present a case series report on 2 patients with Crohn's disease and 1 patient with ulcerative colitis.

Clinical Features: An 8-year-old male and a 40-year-old female with Crohn's disease, and an 18-year-old female with ulcerative colitis present for chiropractic care. The 8-year-old male also had abscesses and fistuli in the bowel. The 18-year-old female had intestinal pain, cramping, diarrhea, and 15 evacuations of the bowel per day. She was prescribed steroids and counseled on the future need for a colostomy. The 40-year-old female's problem began after she started to consume milk.

Intervention and Outcome: Consistent findings in all 3 cases were spinal dysfunction in the upper lumbar region, ileocecal valve flaccidity, and dietary faults and nutritional supports were diagnosed using AK MMT methods. Nutritional supplements and dietary restrictions were used. The 8-year-old was symptom free immediately; the 18-year-old recovered in 2 treatments over a 2-week period; the 40-year-old recovered fully within 3 months.

Conclusion: These 3 cases suggest that AK chiropractic technique was valuable in the successful treatment of Crohn's disease and ulcerative colitis. The elimination of dietary offenders like seeds, nuts, grains and dairy was followed in each case. These 2 conditions are very severe for the patient and medical treatment of this problem expensive and uncertain. Larger clinical trials are necessary to determine the value of this therapy to other patients with these conditions. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:21-21-26)

Key Indexing Terms: *Crohn Disease; Colitis, Ulcerative; Diarrhea; Gastrointestinal Tract; Diagnosis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

DIABETES INSIPIDUS RESPONDS TO CHIROPRACTIC CARE

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present a case series report on 2 patients who showed elimination of their diabetes insipidus symptoms after AK therapy.

Clinical Features: A 17-year-old male and a 50-year-old male present with complaints of polydipsia and polyuria. Both were consuming several gallons of water a day in order to deal with their polydipsia. The 17-year-old had fractured his temporal bone in an auto accident and was also experiencing acute neck pain and severe headache. The 50-year-old's symptoms were of gradual onset over a two-year period.

Intervention and Outcome: The 17-year-old received cranial manipulation diagnosed via AK technique, as well as NL treatment to the SCM muscle on the side of the temporal bone fracture and spinal manipulation. His headache and neck ROM were relieved. Daily measurements of fluid intake over the next week showed his water consumption immediately decreased and returned to normal within 1 week. The 50-year-old received cranial, TMJ, and spinal treatment. This patient returned to normal fluid intake within 4 chiropractic treatments over a period of 2 months.

Conclusion: One case of traumatic and one of non-traumatic diabetes insipidus was shown to respond to AK therapy. Larger clinical trials on this patient population are warranted. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:27-29)

Key Indexing Terms: *Diabetes Insipidus, Neurogenic; Diagnosis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

GRAVES' DISEASE RESPONDS TO CHIROPRACTIC CARE

Daniel H. Duffy, D.C., and Cecelia A. Duffy, D.C.

ABSTRACT

Objective: To present a case series report on 4 female patients with Graves disease whose symptoms noticeably improved after AK therapy.

Clinical Features: 4 females (46 to 15 years of age) who were medically diagnosed with Graves disease and refused medical treatment or who were unsuccessfully treated medically presented for chiropractic care. All patients presented with severe symptoms of Graves disease, including palpitations, accelerated pulse rate, nervous symptoms (restlessness, fine muscle tremors, irritability), and increased metabolic rate.

Intervention and Outcome: Complete AK examinations on each of the patients are presented. In each case, subluxations involving the cranial, spinal and pelvic bones were corrected. Muscle weaknesses were found and treated in each patient demonstrating the muscle-organ-gland relationship in AK affecting the thyroid, gonads, and liver. The teres minor was found to be of particular importance in these cases, as well as the specific acupuncture points TW5 and CS6. Nutritional deficiencies were also found in each case and extensive supplementation (due to the hypermetabolic state found in these patients) was part of the multifactorial treatment given. Each case reported a definite improvement in their well-being and a dramatic reduction in their symptoms relating to Graves disease.

Conclusion: In this report it was found that these patients with Graves disease responded acceptably well to chiropractic care. Larger clinical trials will be necessary to determine the benefits of this therapy for large populations of patients with this condition. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:30-38)

Key Indexing Terms: *Graves Disease; Graves Ophthalmopathy; Thyroid Gland; Diagnosis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

FEMALE INFERTILITY: CASE HISTORIES OF APPLIED KINESIOLOGY RESPONSE

John M. Heidrich, D.C.

ABSTRACT

Objective: To present 4 cases of female infertility successfully treated with AK therapy.

Clinical Features: A 41-year-old female had a successful pregnancy at age 20. At age 30, she was diagnosed via laparoscopy as infertile with unknown cause. At age 35 she underwent an unsuccessful 2-year trial of Clomid to induce ovulation. Microcytic anemia was also present. A 37-year-old female presented with uninterrupted menses, and who had consistent intercourse with the same partner for the past 11 years without pregnancy. She was on numerous fertility medications, and had a benign thyroid tumor producing Graves disease. A 30-year-old female presented with infertility, with a previous laparoscopy at age 26 being unremarkable. Consistent intercourse without contraception for the past 5 years with the same partner was without pregnancy. A 20-year-old female presented with a history of bilateral loss of patency on exploratory laparoscopy. A partial oopherectomy for multiple ovarian cysts occurred at age 15. Since age 15 she had been having consistent intercourse without contraception with the same partner. Her menstrual history since the surgery was unremarkable.

Intervention and Outcome: Within one year of AK treatment with chiropractic manipulative therapy and nutritional support, the 41-year-old became pregnant. At the time of her conception, her hematocrit had improved to 42. Adrenal, essential fatty acid, and iron nutritional supports were given. The 37-year-old was also pregnant within one year after treatment of cranial, spinal, pelvic, acupuncture and nutritional dysfunctions. She has also gone off all of her medication. The 30-year-old became pregnant after 4 months of AK therapy, and has since borne two other children. The 20-year-old became pregnant after 10 months of chiropractic therapy primarily aimed at improving her low back pain after an industrial injury. Once her low back symptoms fully resolved, she became pregnant. She was given no nutritional supplementation during her care.

Conclusion: This case series report demonstrated that infertility might result from multiple etiologies, each of which may be necessary to correct in order for a female with infertility to become pregnant. As many as 20% of female infertility is from unknown causes, and the suggestion is made that AK therapy may offer help in a percentage of these cases. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:47-49)

Key Indexing Terms: *Infertility; Diagnosis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

MAGNETIC FIELDS IN THE MOUTH

David W. Leaf, D.C.

ABSTRACT

Objective: To present a case with intractable facial pain caused by amalgam fillings that became magnetized and how this case was resolved successfully with AK therapy.

Clinical Features: A female patient with intractable facial pain had undergone neurological treatments, as well as dental corrections with a splint, without success. The patient had large amalgam fillings covering the surfaces of the 2nd and 3rd molars on the side of the facial pain.

Intervention and Outcome: AK examination showed cranial faults (cruciate suture jamming, sphenobasilar faults), and increased tone of the muscles of mastication. Upper cervical tenderness was found on the side of facial pain. Using standard AK corrective procedures, the pain was relieved but returned in 5 days. This pattern occurred again with the following treatment. On the next visit, the fillings were measured with a galvanometer and were found to have a substantial charge. The fillings were then treated with a cassette head demagnetizer (from Radio Shack), to demagnetize the fillings. The upper cervical and cranial corrections were performed again. This time, the symptoms did not return for 4 weeks. On the next visit, the fillings were found to have regained 75% of their charge. Salivary pH was 5.2, and the patient was instructed on her diet in order to raise her salivary pH. Demagnetization of the fillings and chiropractic corrections were made again, and the patient instructed to purchase water at a pH of at least 7.0 She has progressed with no return of symptoms.

Conclusion: A case of intractable facial pain due to abnormal physiological consequences of low salivary pH, magnetized fillings, and TMJ imbalances was successfully managed with AK therapy. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:68-70)

Key Indexing Terms: *Facial Pain; Facial Neuralgia; Temporomandibular Joint Dysfunction Syndrome; Mercury Poisoning, Nervous System; Dental Restoration, Permanent; Saliva; Diagnosis; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

FOOD COMBINING

Michael Lebowitz, D.C.

ABSTRACT

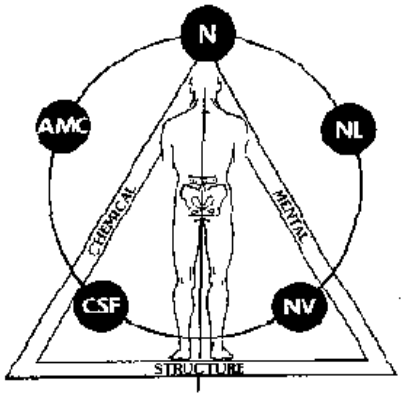
Objective: To present an observational cohort study on 100 subjects to evaluate whether oral nutrient testing of protein and starch together in the food sensitive group and in the non-food sensitive group produced differing findings on MMT.

Clinical Features: 50 subjects in this study were negative on AK food sensitivity screening (as outlined in the author's book), and 50 were positive or sensitive to at least one or more foods.

Intervention and Outcome: In the subjects with no history of food sensitivities, a protein and starch combination produced weakening in 1 of the 50 subjects. In the subjects with a present or past history of food sensitivities, the protein and starch combination produced weakening in 46 of the 50 subjects. 98% of the non-allergic group were unaffected by the protein and starch combination, whereas only 8% of the sensitive group were unaffected.

Conclusion: This observational cohort study suggests that for allergic or food sensitive patients, it may be advisable for them not to combine concentrated starches and proteins at the same meal. (Collected Papers International College of Applied Kinesiology, 1991-1992;1:111)

Key Indexing Terms: *Food Hypersensitivity; Muscle Weakness; Diagnosis; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1989-1990, Volume I & II

-- Edited by Scott Cuthbert, D.C.

THE FREQUENCY OF COMMON AK FINDINGS

Edward Burstein, D.C.

ABSTRACT

Objective: To present an observational cohort study on new chiropractic patients not previously treated by a chiropractor, and to describe the percentage of patients with common AK findings.

Clinical Features: The following conditions were diagnosed using AK methods: the category I and category II pelvic fault, the retrograde lymphatic, ileocecal valve, hiatal hernia, diaphragm, and TMJ dysfunctions.

Intervention and Outcome: The frequency of findings of the above problems indicates the category II pelvic fault to be the most common finding (92 out of 96 new patients, or 96%). The ileocecal valve finding was present in 52 out of 92 new patients (56.5%); diaphragm dysfunction in 46 out of 91 new patients (50.5%); TMJ dysfunction in 36 out of 78 new patients (46.1%); positive retrograde lymphatic challenge in 35 out of 87 new patients (40.2%); hiatal hernia dysfunction in 32 out of 92 new patients (34.7%); and the category I pelvic fault was present in 12 out of 92 new patients (13%).

Conclusion: The results of this observational cohort study suggest that in new chiropractic patients, many of the standard AK findings will be present, with the category II pelvic fault the primary problem.
(Collected Papers International College of Applied Kinesiology, 1989-1990;1:13-15)

Key Indexing Terms: *Sacroiliac Joint; Muscle Weakness; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*

RAYNAUD'S PHENOMENON SECONDARY TO SCLERODERMA: A CASE STUDY

Edward M. Burstein, D.C.

ABSTRACT

Objective: To present a case history of a patient with Raynaud's phenomenon secondary to scleroderma who responded to AK therapy.

Clinical Features: A 42-year-old female presented with 2 years of symptoms involving pain, numbness and cold in the 2nd, 3rd, and 4th fingers of the left hand along with extreme tightness of the skin around her mouth and cheeks. Examination of the fingers showed them to be blue, cold to the touch, with tightness of the skin on the fingers and face to palpation. An additional finding on examination showed that the patient

could bear approximately 90 millimeters of pressure on her left calf and 160 mm of pressure on the right calf using a manometer, suggesting venous circulation abnormality.

Intervention and Outcome: A dorso-lumbar fixation correction strengthened bilateral lower trapezius muscle weakness, as well as positive TL to spleen 3 and the spleen pulse point. Reexamination of the calf pressure test showed the patient could bear 130 mm of pressure on her left calf and 170 mm on her right. The patient said she felt less pain in her left fingers as well as tightness in her face, with improvement in the temperature and color in her fingers. Pre-cordial tap technique abolished the right-brain fault as diagnosed in AK. After this correction the patient could now withstand pressure of 170 mm on the left and 190 mm on the right, and the patient stated "great" improvement in finger pain and less tightness in her face with more improvement in the temperature and color of her fingers.

Conclusion: A patient exhibiting the signs of Raynaud's phenomenon and scleroderma found relief after AK technique. Larger clinical trials of patients with this condition are needed. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:17-19)

Key Indexing Terms: *Raynaud Disease; Scleroderma, Localized; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

THE EFFECTIVENESS OF VERTEBRAL CHALLENGE VERSUS THERAPY LOCALIZATION

Alex P. Karpowicz, Jr., D.I.B.A.K.

ABSTRACT

Objective: To present an observational cohort study comparing the AK diagnostic method of TL to vertebral challenge.

Clinical Features: Thirty patients were involved in this study involving TL to the 5^{th} lumbar vertebra, as well as vertebral challenge to the 5^{th} lumbar vertebra. The 5^{th} lumbar vertebra was suspected as a problem from each patient's symptomatic pictures.

Intervention and Outcome: Twenty-one of the 30 patients showed positive TL to the 5^{th} lumbar vertebra, and 26 patients showed a positive challenge to the 5^{th} lumbar vertebra. Four patients showed no change in muscle strength with either method.

Conclusion: In this cohort study, vertebral challenge showed more positive findings than vertebral TL. Comparative studies of these methods of diagnosis with other tradition chiropractic methods of evaluation are in order. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:59)

Key Indexing Terms: *Lumbar Vertebrae; Diagnostic Techniques and Procedures; Muscle Weakness; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*

AN OBSERVATION OF A KNEE

Allan N. Zatkin, D.C.

ABSTRACT

Objective: To present the case of a woman with marked knee pain who responded to AK therapy.

Clinical Features: One week prior to her examination she had undergone her 5th knee surgery involving arthroscopic resections of the knee joint and soft tissues. Extensive physical therapy and pain medications were needed. The patient had difficulty bearing weight on the knee, had a marked and painful limp, and was unable to fully flex her knee past 140 degrees, extend her left knee, nor touch her heel to her buttock. A tympanogram measurement showed imbalance between the right and left sides.

Intervention and Outcome: A thorough AK examination is described. The quadriceps muscle on the left was weak and strengthened with NL and strain-counterstrain treatment. AK treatment to the other supportive muscles of the knee was successful, and the patient was able to touch her heel to her buttock. The leg would still not straighten. Positive TMJ findings were corrected using AK methods, and after this therapy the patient's leg was resting on the table in full extension. The patient was able to bear weight and assume a semi-squatting position. Nine days later the patient was free of knee pain

Conclusion: In this case, a whole body evaluation and treatment (including cranial and TMJ therapy) were required in order to resolve this patient's severe knee problem. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:83-86)

Key Indexing Terms: *Knee; Diagnostic Techniques and Procedures; Treatment Outcome; Therapeutics; Muscle Weakness; Chiropractic; Kinesiology, Applied.*

ORAL CHALLENGE TO CANDIDA ALBICANS ANTIGEN AND SYMPTOMS OF CANDIDA ALBICANS SYNDROME ABOLISHED IN ONE TREATMENT AND THREE WEEKS OF COMPLIANCE – A NEW PROTOCOL

Michael Lebowitz, D.C.

ABSTRACT

Objective: To present a case series report of 50 patients with recurring chemical hypersensitivities who also suffered from *candida albicans* infestation who were successfully treated with AK therapies.

Clinical Features: The author has reported in previous papers that food and chemical hypersensitivities have correlating spinal and hypothalamic set point patterns which only show up when using MMT if the patient is exposed to the allergens causing their problems. The patients in this case series report with recurring hypersensitivities also had *candida albicans* syndrome (based on their history, symptoms, neuromuscular hypersensitivity testing, and/or diagnosis by another physician).

Intervention and Outcome: MMT diagnosis of this problem involves placing a small amount of *candida albicans* powder on the end of a toothpick and placing it on the patient's tongue. In this report, all patients with a previous diagnosis of *candida albicans* syndrome had universal muscle weakness produced by this challenge. The therapy involves caprylic acid that will negate this universal muscle weakness in most cases; when it did not, homeopathic *candida* was employed. Correcting the underlying faults with the *candida* antigen on the tongue are described (faults that did not show up on testing without the oral *candida* challenge), plus proper supplementation and treatment of food allergies and chemical hypersensitivities, and avoidance of concentrated sweets for 3 weeks brought an 88% success rate in cessation of the *candida* symptoms with no recidivism as long as the patients remain off antibiotics.

Conclusion: From the results of this case series report, candida albicans syndrome can be diagnosed and treated successfully for many patients with AK MMT methods. Larger, more controlled clinical trials are required to confirm this. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:187-196)

Key Indexing Terms: *Candidiasis; Diagnostic Techniques and Procedures; Biochemical Phenomena, Metabolism, and Nutrition; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

A STUDY OF APPLIED KINESIOLOGY IN TREATMENT OF LEARNING DISABILITIES AND DYSLEXIA

Harry Lefkowitz, D.C., and Jacob Lefkowitz, M.A.Ed.

ABSTRACT

Objective: To present a case series report on 29 patients who had moderate to severe symptoms of learning disability and dyslexia who were treated with AK techniques.

Clinical Features: This patient group was between the ages of 6 to 56, with 14 males and 7 females. Each patient was evaluated with the Woodcock Reading Mastery Test, the Peabody Individual Achievement Test, and the Slingerland Achievement Test. These tests are widely used in the field of special education and psychology.

Intervention and Outcome: A complete AK examination and treatment are described for these cases. Post-treatment testing showed improvement in 18 of the 21 patients treated, an 85.7% success rate

(statistical changes on the Woodcock Reading Mastery Test are tabulated). An improvement was determined by an increase of at least one grade level function from the pre- to the post-tests. Of the 21 patients, 13 were followed up for at least one year and all retained their improvement in schoolwork and grades. The most significant change was noted in letter identification where changes of up to 6 grade levels were noted.

Conclusion: For this patient cohort, these results suggest that AK principles are an effective modality for treatment of dyslexia, the component of learning disabilities that relates to reading. Larger and more controlled clinical trials are necessary to determine if AK therapy can help large populations of children with this difficult and costly problem. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:207-220)

Key Indexing Terms: *Learning Disability; Dyslexia; ADHD; Diagnostic Techniques and Procedures; Biochemical Phenomena, Metabolism, and Nutrition; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

REFLEX SYMPATHETIC DYSTROPHY AND LUMBAR DISC INVOLVEMENT

Thomas A. Rogowskey, D.C.

ABSTRACT

Objective: To present the case report of a patient with diagnosed reflex sympathetic dystrophy of the right foot that was successfully treated with AK therapy.

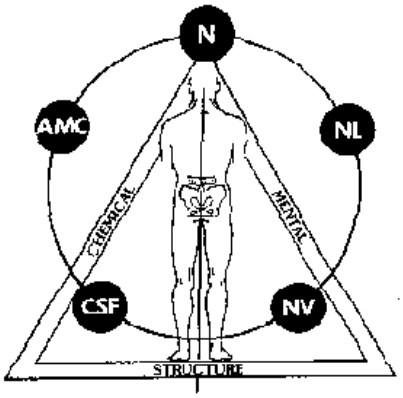
Clinical Features: A 40-year-old male presented with a right ankle that was edematous and painful under the lateral malleolus and Achilles tendon area. Six months previously he had begun running and felt pain similar to shin splints. He needed crutches to walk because of the severity of pain initially. X-ray, blood work, CAT scan and bone scans were negative. Acupuncture and cortisone therapy was not successful. A diagnosis of reflex sympathetic dystrophy was given. He had a history of a herniated disc at age 18, but was not experiencing back pain at presentation but he was using a cane to walk.

Intervention and Outcome: AK diagnosis revealed a lateral talus subluxation of the foot, as well as spinal dysfunction at the L5-S1 level. Therapy was given to strengthen weak ankle stabilizer muscles, and nutritional supports were given. The patient was treated twice a week, and in the second week his ankle was pain free in the mornings for the first time since he injured it. Swelling in the ankle was removed after 4 weeks, at which time a superior talus adjustment was accomplished. He was able to walk without his cane after 7 weeks. After 4 months the treatment of this condition was terminated when the patient was able to hike mountains and take aerobic classes without discomfort.

Conclusion: This case showed that AK methods allowed the physician to sort through the varied symptomatology and deliver a multimodal therapy that was successful in treating this case of reflex

sympathetic dystrophy and its associated symptoms. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:221-227)

Key Indexing Terms: *Reflex Sympathetic Dystrophy; Ankle; Diagnostic Techniques and Procedures; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1989-1990, Volume II

-- Edited by Scott Cuthbert, D.C.

PNEUMOTHORAX

John M. Heidrich, D.C.

ABSTRACT

Objective: To present a case of spontaneous pneumothorax that achieved effective recovery with AK therapy.

Clinical Features: A 26-year-old female complained of sudden onset of left chest and left shoulder pain that occurred several hours after she was shoveling in her garden. She was treated 4 days earlier at a hospital emergency room where Maalox and a muscle relaxer were prescribed. Her pain had increased since onset becoming severe with deep inspiration, and she had become increasingly short of breath and noticed a clicking sound while lying supine. Chest x-ray revealed loss of interstitial markings in the left upper lung field with the apex visceral pleura line located at the level of the 4th rib with lung deflation of 30%. These findings were consistent with a lung bleb rupture with release of air into the interpleural space causing lung collapse. Left rib expansion was very limited on deep inspiration.

Intervention and Outcome: AK examination and treatment to the diaphragm muscle (lumbo-dorsal fixation correction, prolonged NL reflex treatment, left psoas muscle reactivity to the diaphragm, and 3rd cervical vertebra spinal correction) were successful. Post-treatment examination showed the patient breathing easier and more deeply with decreased pain as well as noticeable change in rib cage expansion. One week follow up showed the patient approximately 75% improved symptomatically with occasional pain and clicking during inspiration. Treatment for the diaphragm muscle was given a second time. Two week follow up showed return of the pleural line to the first-second rib interspace with approximately 10% lung deflation. The patient was now asymptomatic. Three week follow up x-ray revealed full visualization of interstitial markings and visceral pleura could not be discerned. A three-month follow up found the patient asymptomatic.

Conclusion: This case demonstrates good resolution of uncomplicated spontaneous pneumothorax using AK methodologies and offers possible treatment options for other doctors encountering similar cases. (Collected Papers International College of Applied Kinesiology, 1989-1990;2:3)

Key Indexing Terms: *Pneumothorax; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

APPLIED KINESIOLOGY EVALUATION OF LATERAL DOMINANCE TRAITS IN HOMOZYGOTIC TWINS

John M. Heidrich, D.C.

ABSTRACT

Objective: To present an observational study of two female homozygotic twins, showing left and right "mirroring" in certain objective physical findings.

Clinical Features: Two female 10-year-old homozygotic twins presented for routine physical examination. "D" complained of low back pain and frequent urinary tract infections while "S" was asymptomatic. The lateral incisor position of the teeth was different, with D showing a counterclockwise rotation of the left lateral incisor with a sagittal positioning of the tooth. S showed a right clockwise rotation of the right lateral incisor with identical sagittal positioning. Plantar warts appeared on the left foot of D and the right foot of S in similar locations, and D was always smaller than S. D showed left hand and right ear dominance, and D showed capillary fragility on the petechiometer test.

Intervention and Outcome: Opposite postural patterns and spinal subluxations included plumb line deviation, leg length difference, dural torque, category I pelvis, and split brain activity with corresponding nutritional needs were shown during AK examination. A summary table of these differences in the twins is given.

Conclusion: AK procedures were utilized to evaluate homozygotic twins, and it is suggested that right and left brain lateral dominance in these cases will show itself in postural, chemical, and mental patterns that can be diagnosed using AK methods.
(Collected Papers International College of Applied Kinesiology, 1989-1990;2:4-5)

Key Indexing Terms: *Twins, Monozygotic; Human Characteristics; Kinesiology, Applied.*

THE USE OF GLUTAMINE IN SMALL INTESTINE DYSFUNCTION: A CLINICAL OBSERVATION

Philip Maffetone, D.C.

ABSTRACT

Objective: To present a case series report of eight patients with recurrent small intestine dysfunction who were given therapeutic doses of L-glutamine.

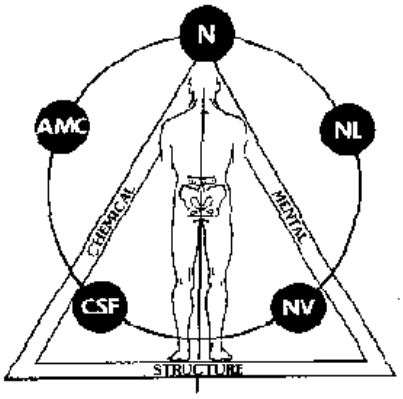
Clinical Features: A review of the biochemistry of the amino acid glutamine is offered showing its importance to small intestine function. Eight patients had been treated with standard AK methods for small intestine dysfunction at least twice previous to L-glutamine supplementation, with the quadriceps/small intestine problem recurring.

Intervention and Outcome: Eight patients who had recurrent AK indicators of small intestine dysfunction (quadriceps muscle inhibition) were given therapeutic doses of L-glutamine. Each patient showed bilateral quadriceps weakness with muscle facilitation upon standard AK oral testing of

glutamine. Five of these eight patients had an “excellent” response symptomatically, with one of the eight having a “good” response.

Conclusion: The small intestine utilizes glutamine at a relatively high rate. Under systemic stress, the requirement for this amino acid is increased further. Preliminary findings, using standard AK methods, show that the use of L-glutamine in patients with persistent small intestine problems can be of benefit. (Collected Papers International College of Applied Kinesiology, 1989-1990;1:75-79)

Key Indexing Terms: *Intestine, Small; Glutamine; Diagnostic Techniques and Procedures; Biochemical Phenomena, Metabolism, and Nutrition; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1988

-- Edited by Scott Cuthbert, D.C.

A SIMPLE ASSESSMENT FOR MUSCLE IMBALANCE

Louis C. Boven, D.C.

ABSTRACT

Objective: To present the case of a middle distance runner who was successfully treated for shin splints.

Clinical Features: A middle distance runner complained of shin splints.

Intervention and Outcome: All related muscles of the leg were tested and then treated with the patient showing approximately 75% improvement. The remaining discomfort was located along the anterolateral tibia and the belly of the gastrocnemius muscle. Palpation of the origin and insertion of the anterior tibial muscle showed tenderness. A "limbic fixation" was then diagnosed and corrected. The limbic fixation is a lower cervical vertebral fixation with the 1st rib. All palpatory pain was removed after the lower cervical and 1st rib fixation correction, and the patient experienced complete resolution of the problem.

Conclusion: This case demonstrates what has been hypothesized to be the case in AK, namely that the limbic fixation correction improves leg muscle function. Larger clinical trials are warranted. (Collected Papers International College of Applied Kinesiology, 1988:1-3)

Key Indexing Terms: *Leg Injuries; Athletic Injuries; Sports Medicine; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

THE USE OF A SURROGATE IN MANUAL MUSCLE TESTING

John M. Corneal, D.C.

ABSTRACT

Objective: To present an observational cohort study to assess "surrogate muscle testing" as used in AK and to present the reliability percentages found.

Clinical Features: A sample of 22 patients who were given 55 muscle testing trials were evaluated. This study used 3 surrogates and 2 doctors. Surrogate testing involves the use of a third party while employing AK MMT. The surrogate holds contact with the patient, or specific contacts for the patient, and the examiner then employs MMT with the surrogate. This technique is thought to be most useful when conditions preclude the direct testing of the patient (i.e. infancy, dementia, or coma). Two doctors performed the testing at 2 different office locations using 2 female and 1 male surrogate. The surrogates

were long-standing chiropractic patients and were treated prior to the testing. The 22 patients were between the ages of 10 and 50. The 22 patients were examined for positive temporosphenoidal (T.S.) line indicators. One or more T.S. line indicators were therapy localized by the patient to verify the positive finding. The five-factors of the involved indicator were then TL'd and positives noted.

Intervention and Outcome: The surrogate was tested in the clear using the right supraspinatus muscle. The surrogates left hand was used to TL the previously positive TS line indicators and five-factor points on the patient while the doctor tested the right supraspinatus. Non-positive contacts were randomly inserted in the testing as a control. Doctor "A", with surrogate one, tested 8 patients and 22 MMT trials. Of the 22 MMT trials, surrogate testing confirmed 22 of the findings, yielding 100% accuracy. Doctor "A", with surrogate two, involved 5 patients and 14 MMT trials. Surrogate testing confirmed 11 of the findings, yielding 64% accuracy. Doctor "B", with surrogate 3, involved 9 patients and 19 MMT trials. Surrogate testing confirmed 11 of the findings yielding 58% accuracy. These findings show only a fair to poor reliability of surrogate testing. However one surrogate was 100% accurate, indicating that certain individuals are reliable surrogates but the reason for this is unclear.

Conclusion: Future study may reveal the factors that distinguish a reliable surrogate. Until such factors are known, surrogate testing should be reserved for those cases where it is impossible to test directly and where corroborative findings are present. (Collected Papers International College of Applied Kinesiology, 1988:67-70)

Key Indexing Terms: *Diagnostic Errors; Muscle Weakness; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*

RAYNAUD'S PHENOMENON: A CASE HISTORY

Cecilia A. Duffy, D.C.

ABSTRACT

Objective: To present a case of Raynaud's phenomenon which responded immediately to AK meridian therapy and spinal manipulative therapy.

Clinical Features: A 61-year-old male presented with injuries to the cervical and upper thoracic spine, with pain in those areas and the upper arms. While receiving chiropractic treatment for these problems, he presented with his left middle finger and right ring finger completely white. He had noticed it turning white while waiting in the treatment room. The fingers were numb and cold to the touch. There was no history of previous occurrence or medication. The outside temperature was in the teens.

Intervention and Outcome: Examination of the pulse points using AK methods revealed triple heater/circulation sex meridians to have positive TL. There was a left teres minor weakness that strengthened on TL to the triple heater alarm point. The right triple heater tonification point (TH3) showed positive TL. Tapping of the right TH3 point produced immediate color return to the right ring

finger. Spinal examination showed a left posterior subluxation of the T5 vertebrae (which is the circulation sex meridian's associated point). Adjustment of T5 had no effect on the left middle finger color, however, after tapping of the T6 level (the Dvorak and Dvorak spondylogenic reflex), the left middle finger regained full color. There was now no hyperemia nor pain upon the return of color to the effected fingers.

Conclusion: This patient's Raynaud's phenomenon was immediately relieved by AK therapy. These observations would appear to support the hypothesis that Raynaud's phenomenon can be caused by spinal subluxations and meridian imbalances. Larger clinical trials are in order. (Collected Papers International College of Applied Kinesiology, 1988:101-102)

Key Indexing Terms: *Raynaud Disease; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

SUBSTANCE ABUSE AND ACUTE LOW BACK PAIN

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present a case of acute low back pain that resolved with AK therapy and the elimination of chemical self-abuse.

Clinical Features: A patient with low back pain and sciatica was rendered asymptomatic by AK therapy. The symptoms would return however within a week and the patient would again be seen with acute low back pain and antalgia. This scenario repeated itself several times. The patient was advised to stop all marijuana, alcohol, and refined food and to limit cigarettes to 6 a day or forfeit his right to treatment. The alternative would be referral to a surgeon.

Intervention and Outcome: The patient agreed to follow the doctor's instructions, and was treated again by AK therapy and placed on an hourly dose of Drenamin (Standard Process Labs). The patient continued this dose every waking hour for 4 days and then was gradually reduced to 2 tablets at mealtime. Upon recovery this patient voluntarily switched to a brand of cigarettes he disliked to help in eliminating his smoking habit, once he recognized the magnitude of chemical effects upon him. The patient's low back pain resolved after AK treatment and the elimination of his chemical self-abuse.

Conclusion: Patients who are ingesting large doses of drugs or other injurious chemicals often must restrict these to recover. (Collected Papers International College of Applied Kinesiology, 1988:105)

Key Indexing Terms: *Low Back Pain; Substance-Related Disorders; Treatment Outcome; Therapeutics; Chiropractic; Kinesiology, Applied.*

CLINICAL CORRELATIONS OF THE ADRENAL GLANDS

Lawrence V. Hambrick, D.C.

ABSTRACT

Objective: To present an observational cohort study to determine the causes of suspected adrenal dysfunction in patients.

Clinical Features: Twenty-five patients who had positive AK TL to the adrenal glands were chosen for this study. Once the positive TL was located, the patients were checked for cranial problems by testing a strong indicator muscle on all phases of respiration. To determine whether the patients were either hypo- or hyper-adrenic, the examiner traced the triple warmer meridian with the hand so as to increase the direction of energy flow in the meridian. If this cancelled the adrenal TL, the patient was suspected to be hypo-adrenic. If no change occurred, then the triple warmer meridian was traced in the direction opposite the energy flow so as to decrease the direction of energy flow. If this cancelled the positive adrenal TL, the patient was suspected to be hyper-adrenic. Once a determination was made about whether the patient was hypo- or hyper-adrenic, the examiner attempted to find another underlying cause. While the doctor maintained TL to the adrenals, the patient TL'd to 5 other areas: 1) the emotional neurovascular reflex, 2) the thymus gland, 3) the pancreas neurolymphatic reflex, 4) the liver, or 5) the ileocecal valve.

Intervention and Outcome: Of the 25 patients included in this study, 80% were suspected to be hypoadrenic and 20% hyperadrenic. The emotional NV was positive in 60% of the patients. The thymus was positive on 40% of the patients, the pancreas on 48%, the liver on 28%, and the ileocecal valve on 32% of the cases. Inspiration cancelled the adrenal TL in 64% of the cases. 84% of the patients had more than one reflex contributing to the adrenal dysfunction.

Conclusion: This clinical trial suggests that numerous factors underlie adrenal stress disorder and these may require successful treatment in order to resolve the adrenal dysfunction found in patients. (Collected Papers International College of Applied Kinesiology, 1988:141-141-144)

Key Indexing Terms: *Adrenal Insufficiency; Adrenocortical Hyperfunction; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*

THYMUS AND VITAMIN C LINGUAL TESTS

Alex P. Karpowicz, D.C.

ABSTRACT

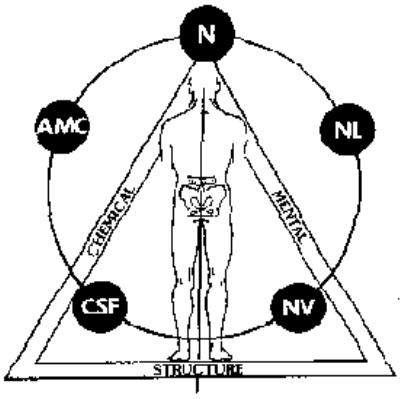
Objective: To present an observational cohort study to determine the relationship between a positive Lingual Ascorbic Acid test and AK diagnosed thymus gland dysfunction.

Clinical Features: Forty-eight patients were assessed in this study. Forty patients tested normal to the Lingual Ascorbic Acid test and 8 were abnormal.

Intervention and Outcome: To test the thymus gland a strong infraspinatus muscle (associated in AK with the thymus gland) was tested against TL to the thymus gland. This caused weakening in the 8 patients who had an abnormal disappearance time on the Lingual Ascorbic Acid test. In these 8 patients, the introduction of a 300-milligram chewable wafer of vitamin C on the tongue caused the infraspinatus muscle to strengthen with TL to the thymus gland.

Conclusion: This study indicates that there is a relationship between an abnormal or deficient amount of vitamin C and a positive AK thymus gland test, indicating a need for vitamin C. Larger clinical trials with simultaneous laboratory testing will be required. (Collected Papers International College of Applied Kinesiology, 1988:157-158)

Key Indexing Terms: *Ascorbic Acid Deficiency; Nutrition Disorders; Thymus Gland; Immune System; Data Interpretation, Statistical; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1987 (Summer)

-- Edited by Scott Cuthbert, D.C.

ROCK MUSIC – AN ENVIRONMENTAL STRESSOR

Bryan Baughman, D.C.

ABSTRACT

Objective: To present a pilot-study on the effects of rock-n-roll music upon the MMT.

Clinical Features: Nineteen patients were selected who tested negative to the following AK examination factors: MMT of the bilateral pectoralis major clavicular division muscle; the emotional neurovascular test; the GV-27 and CV-24 test for switching; the ocular lock test; and right and left brain dysfunction test developed in AK.

Intervention and Outcome: In a treatment room 7 patients were exposed to the sounds of a babbling brook, and 12 were exposed to a piece of rock-n-roll music called "Sweet Leaf" by the group Black Sabbath. The doctor went to another room and could not hear the two types of music were being played for the patients at the same volume for 2 minutes. The control group exposed to the sound of a babbling brook maintained their negative findings for the 5 tests. In the group exposed to the song by Black Sabbath, 10 of the 12 patients showed a weakening response to two or more of the tested factors.

Conclusion: In this selected group of patients, physical tests of muscle weakness and neurological disorganization appeared after exposure to rock-n-roll music. (Collected Papers International College of Applied Kinesiology, Summer, 1987:51-57)

Key Indexing Terms: *Acoustic Stimulation; Diagnostic Techniques and Procedures; Muscle Weakness; Chiropractic; Kinesiology, Applied.*

CATEGORY ONE AND LEG LENGTH CORRELATION

Daniel H. Duffy, D.C.

ABSTRACT

Objective: To present an observational cohort study on 500 subjects who showed AK indications of the category I pelvic problem.

Clinical Features: 500 patients were analyzed as having the category I pelvic problem according to AK diagnostic methods, including challenge and TL to the pelvis.

Intervention and Outcome: Sixty-eight of the 500 patients analyzed showed AK challenge for the category I pelvis to be contrary to the leg length findings. In those patients who reflected this finding, special care was undertaken to rule out operator error and neurological switching. Examination of the patients after category I correction involved first rib-head pain and symptom abatement. Checking the leg

length in the prone position and using the pelvic blocks for the correction of the category I problem according to the observed leg length imbalance was in error approximately 14% of the time.

Conclusion: In terms of symptom response, in this study the use of the AK challenge method for determining treatment of the category I pelvis was found to be superior (instead of the traditional method of treating the problem according to leg length inequality). Further comparative studies of these two types of diagnosis of the common category I problem will be required. (Collected Papers International College of Applied Kinesiology, Summer, 1987:142)

Key Indexing Terms: *Pelvis; Muscle Weakness; Diagnosis; Cohort Studies; Manipulation, Chiropractic; Kinesiology, Applied*

UNIVERSAL MUSCLE STRENGTH AND COPPER DEFICIENCY

Michael Lebowitz, D.C.

ABSTRACT

Objective: To present three case reports of patients in whom all muscles were hypertonic on MMT and whose muscles could not be sedated by any method, yet who responded to copper supplementation.

Clinical Features: Patient 1 was a 40-year-old male who suffered from extreme stiffness for 10 years, who had decreased ranges of motion in every direction tested. Patient 2 was a 36-year-old male who had been in constant pain for 13 months, with low back and left-sided sciatica. Patient 3 was a 69-year-old male who presented with an inability to rise from a seated position without locking of his hip and he would be unable to begin walking for 30-120 seconds.

Intervention and Outcome: On AK examination all patients showed universal muscle strength unresponsive to sedation techniques. In all 3 patients, putting a copper supplement in the mouth (Coppomin, Nutridyne) allowed muscles to sedate using spindle cell technique. All three patients, after a few days of copper supplementation, made a good recovery.

Conclusion: In this small patient sample, patients who showed all muscles hypertonic on MMT were responsive to copper supplementation who then showed positive MMT findings that led to the treatment that were corrected their conditions. Further research into these observations is necessary. (Collected Papers International College of Applied Kinesiology, Summer, 1987:211-213)

Key Indexing Terms: *Copper; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Case Reports; Chiropractic; Kinesiology, Applied.*

A PILOT STUDY INTO THE EFFECTS OF HOMOLATERAL AND CROSS CRAWL EXERCISES ON MUSCLE STRENGTH

K.H. Maitland, B.App.Sc. (Chiro)

ABSTRACT

Objective: To present an observational cohort study of the effect of homolateral and cross crawl movements on MMT outcomes.

Clinical Features: At the School of Chiropractic -- Phillip Institute of Technology, in Melbourne, Australia, 18 subjects were recruited. Three chiropractors evaluated 6 subjects each after normal and abnormal gait movements (cross crawl or homolateral crawl).

Intervention and Outcome: After the subjects had performed 10 repetitions of the gait exercises the chiropractors began their testing. Eighty-nine percent (89%) of the subjects weakened after homolateral crawl movements. One hundred percent (100%) of the subjects (including the 89% who weakened after homolateral movements) strengthened after cross crawl movements. Eight different types of either cross crawl or homolateral crawl movements were tested, and showed an average of 45% of the subjects weakening after homolateral crawl, and an average of 69% of the subjects strengthening after cross crawl.

Conclusion: This pilot study shows that homolateral and cross crawl patterning have no statistically significant effect other than random effect. The authors offer suggestions on changes in the study design for reevaluation of this hypothesis. (Collected Papers International College of Applied Kinesiology, Summer, 1987:235-246)

Key Indexing Terms: *Gait; Muscle Weakness; Muscle Strength; Diagnosis; Cohort Studies; Therapeutics; Chiropractic; Kinesiology, Applied.*

INTER-PRACTITIONER RELIABILITY STUDY: AGREEMENT BETWEEN EXAMINERS ON MUSCLE STRENGTH AND WEAKNESS

K.H. Maitland, B.App.Sc. (Chiro), Miss M. Davids, Miss L. Ruggiero

ABSTRACT

Objective: To test the inter-examiner reliability of the MMT.

Clinical Features: At the School of Chiropractic -- Phillip Institute of Technology, in Melbourne, Australia, forty subjects with limited knowledge of AK were tested by 5 chiropractors with between 1 and 8 years experience with MMT and AK.

Intervention and Outcome: Each subject was placed in separate rooms and each examiner tested 5 specified muscles on the right side of the subject. The muscles tested were the tensor fascia lata, pectoralis major sternal division, tibialis anterior, middle deltoid, and gluteus maximus. The examiners were blinded

to the results of previous testing. The following agreement levels among all 5 examiners for each of the different muscles were reached: 78% agreement for the tensor fascia lata; 77% agreement for the pectoralis major sternal division; 85% agreement for the tibialis anterior; 75% agreement for the middle deltoid; and 80.5% agreement for the gluteus maximus muscle. The overall average inter-examiner reliability of the MMT for these muscles was 79.2%.

Conclusion: This was a follow-up study to the study conducted by Drs. Mario Sabella, Krawchuck and Decker (presented in this year's *ICAK Collected Papers* also) and showed a comparable level of inter-practitioner reliability. This study demonstrates that a high level of reliability for the MMT exists even among doctors with less than 20 years of experience. (Collected Papers International College of Applied Kinesiology, Summer, 1987:247-255)

Key Indexing Terms: *Reproducibility of Results; Muscle Weakness; Muscle Strength; Diagnosis; Cohort Studies; Chiropractic; Kinesiology, Applied.*

HEAL HELPER UPDATE

William Maykel, D.C., John B. Manning, D.C.

ABSTRACT

Objective: To present an observational cohort study to determine the maximum permissible heel elevation before ensuing muscle weakness occurs.

Clinical Features: In an attempt to discover when massive muscle weakness occurs after lifting the heel with a wedge, a random sampling of 83 patients with various physical problems ranging in age from 11 to 65 were tested with a Heal Helper wedge that elevated the calcaneus bone.

Intervention and Outcome: Regardless of age, sex, or health problem, a definite range of heel elevation was found that created muscle weakness on MMT. That range was found to be between 1.5 inches to 3.25 inches, with a mean average of 2.42 inches.

Conclusion: This measurement may be useful for patient management (especially in the prescription of orthotic devices) because it provides a reference range to work with. (Collected Papers International College of Applied Kinesiology, Summer, 1987:257-260)

Key Indexing Terms: *Orthotic Devices; Heel; Muscle Weakness; Diagnosis; Cohort Studies; Chiropractic; Kinesiology, Applied.*

STUDY OF THE OPPONENS-CERVICAL RELATIONSHIP

Donald A. McDowall, D.C.

ABSTRACT

Objective: To present an observational cohort study on 100 patients who presented to a chiropractic clinic over 1-week who had weakness of the opponens muscle, and to determine the vertebral level involvement with this finding.

Clinical Features: A group of 100 patients were selected who showed a bilateral weakness of the opponens muscles of the hands. Only one case of carpal tunnel syndrome was present in this patient sample.

Intervention and Outcome: Each of these patients had strengthening of these muscles bilaterally with TL to the C2 segment. Therapy localization was also applied to the wrist, elbow, sacrum, and cervical C1-C2 area with movement. After challenge of the C2 vertebra it was found that 44 of the patients had a posterior C2 vertebral dysfunction, 42 of the patients had a spinous process left vertebral dysfunction, and 14 of the patients had a spinous process right vertebral dysfunction.

Conclusion: This study suggests that the C2 vertebra is critical for the opponens muscle function and that involvement of other neuropathies is negligible. (Collected Papers International College of Applied Kinesiology, Summer, 1987:275-276)

Key Indexing Terms: *Carpal Tunnel Syndrome; Spinal Injuries; Muscle Weakness; Diagnosis; Cohort Studies; Therapeutics; Chiropractic; Kinesiology, Applied.*

AN INTER-EXAMINER RELIABILITY STUDY OF MANUAL MUSCLE TESTING

Mario A. Sabella, D.C., Barry Decker, B. App. Sc, Terry Krawchuk, B. App. Sc., Dean Lines, D.C.

ABSTRACT

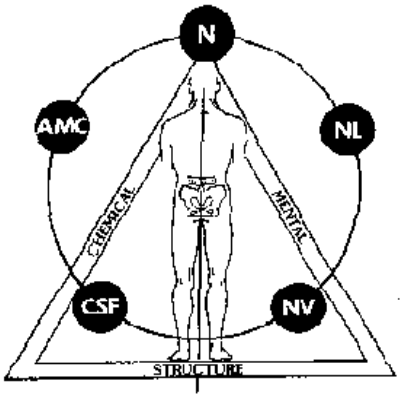
Objective: To present a blinded study to assess the inter-examiner reliability of the MMT.

Clinical Features: Five examiners (3 experienced and 2 less experienced in MMT) tested 5 muscles in 27 (17 male, 10 female) students at the Phillip Institute of Technology Chiropractic and Physical Education schools. The students had minimal or no exposure to MMT, and their ages ranged from 17 to 50 years. The muscles tested were the tensor fascia lata, pectoralis major sternal division, tibialis anterior, middle deltoid, and gluteus maximus.

Intervention and Outcome: The results of the MMT in this sample, when subjected to an inferential test (Cochran's Q test), were shown to be extremely significant at the 0.001 level. The Cochran Q test was used because it generalizes the results of the sample in this study to the total population.

Conclusion: This study demonstrates that the reliability of the MMT between different examiners, when subjected to an inferential test (Cochran's Q test) is extremely significant, with excellent reliability. (Collected Papers International College of Applied Kinesiology, Summer, 1987:311-325)

Key Indexing Terms: *Reproducibility of Results; Muscle Weakness; Muscle Strength; Diagnosis; Cohort Studies; Chiropractic; Kinesiology, Applied.*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1987 (Winter)

-- Edited by Scott Cuthbert, D.C.

APPLIED KINESIOLOGY AND HUMAN PERFORMANCE

Robert M. Blaich, D.C.

ABSTRACT

Objective: To present an observational and interventional cohort study to assess how the correction of neurological disorganization affects the reading speed.

Clinical Features: One-hundred and thirty-seven participants at 6 post-graduate chiropractic seminars were tested for their reading speed, in words per minute.

Intervention and Outcome: Each participant was treated to eliminate neurological disorganization (ND), using an AK procedure (cranial fault correction). Psychological reversal techniques were then diagnosed and treated. The participants were pushed to read beyond their comfort zone after this stage, and ND was again examined for and treated if found. The added demands of the increased performance created ND in many of the participants, and its treatment after this challenge improved their reading further. The average reading rate of 137 participants after this series of AK treatments increased approximately 250% the original rate.

Conclusion: Without a course in speed-reading 137 people increased their reading rate 250% during a weekend seminar involving AK techniques to treat ND. (Collected Papers International College of Applied Kinesiology, Winter, 1987:7-25)

Key Indexing Terms: *Reading; Task Performance and Analysis; Cohort Studies; Treatment; Diagnosis; Manipulation, Chiropractic; Kinesiology, Applied*

INCIDENCE OF VARIOUS FAULTS IN A POPULATION OF ELITE BICYCLISTS

Robert M. Blaich, D.C.

ABSTRACT

Objective: To present an observational and interventional cohort study of world class or Olympic bicyclists to assess the incidence of various problems identified in AK practice.

Clinical Features: Eighty-two world class or Olympic bicyclists were examined, frequently during extended stage races or while training for major races. Information is tabulated from over 300 patient visits. Due to the diversity of symptoms and conditions of these elite athletes, no specific protocol was followed for examination and treatment. The athletes were treated for clinical effectiveness, not research purposes.

Intervention and Outcome: The following findings among the 82 athletes were found: category II pelvic fault (58); cranial fault (43); cervical subluxation (43); psoas weakness, one or both (43); category I (40); thoracic subluxation (33); sartorius muscle weakness, adrenal related muscle (33); lumbar subluxation (28); occiput fixation (24); upper cervical fixation (22); repeated muscle test weakness (19); pectoralis major sternal division weakness, liver related (14); lower thoracic fixation (13); retrograde lymphatic (12); quadriceps weakness (12); homolateral crawl strength (9); infraspinatus weakness, thymus gland related (9); hiatal hernia (8); tensor fascia lata weakness, cuboid subluxation related (6); Pitch (5); Roll (5), cervical-dorsal fixation (4); Yaw (3).

Conclusion: The category II pelvic fault is the most common single fault in this survey. The high incidence of sartorius muscle weakness, related to the adrenal gland, may be related to this. The high incidence of structural faults in this population is thought to be due to the rigors of training and the crashes that occur in this sport. (Collected Papers International College of Applied Kinesiology, Winter, 1987:27-30)

Key Indexing Terms: *Athletic Injuries; Incidence; Cohort Studies; Muscle Weakness; Diagnosis; Kinesiology, Applied*

AN ATTEMPT TO QUANTIFY MUSCLE TESTING USING MERIDIAN THERAPY/ACUPUNCTURE TECHNIQUES

John M. Corneal, D.C., Randy Dick, M.S.

ABSTRACT

Objective: To present an observational study on the relationship between acupuncture meridian sedation and muscle force using electromyographic measurements.

Clinical Features: In AK, a clinical relationship has been suggested between the muscles of the body and the meridian system in traditional Chinese medicine. The stomach meridian is associated in AK with the biceps brachaii and brachioradialis muscles. Four subjects with no history of arm problems, with a mean age of 31 years, and who were right-handed were tested for maximal isometric elbow flexion on the right with an isometric test apparatus secured to a table. The tests were made before and after sedation therapy for the stomach meridian. Force produced, biceps EMG, and triceps EMG were recorded for each subject. The elbow flexion was tested in the standardized MMT position for the biceps muscle.

Intervention and Outcome: An acu-Aid was taped to stomach meridian's sedation point (S-45) on the second toe, and then isometric testing was performed. After a five-minute rest period, a placebo (tape) was applied to the same location (subjects were unable to distinguish between these two conditions), and isometric testing was again performed. Subjects averaged 5.3% less force produced with the acu-Aid applied than with the placebo. The acu-Aid appeared to have no effect on EMG measurement.

Conclusion: Sedation of the stomach meridian produced a significant reduction in bicep force production as measured in an isometric elbow flexion test. Bicep EMG demonstrated no relationship to the stomach meridian sedation. (Collected Papers International College of Applied Kinesiology, Winter, 1987:59-78)

Key Indexing Terms: *Acupuncture Therapy; Acupuncture Points; Muscle Weakness; Cohort Studies; Kinesiology, Applied*

FISH FILLETERS SYNDROME

Hannes L. Hendrickson BChE, P.E., D.C.

ABSTRACT

Objective: To present the case of a fish filleter who suffered from right shoulder, elbow, and wrist pain successfully managed with AK procedures.

Clinical Features: A 27-year-old male who had been a fish cutter for 10 years presented with shoulder, elbow and wrist pain.

Intervention and Outcome: MMT examination found the latissimus dorsi, deltoid, and supraspinatus muscles inhibited. Manipulative correction of the head of the humerus, the proximal head of the radius, and lunate and navicular bones in the wrist corrected the weaknesses of the muscles of the shoulder and restored normal function to the arm and wrist.

Conclusion: Correction of shoulder, elbow, and arm dysfunction rapidly improved this patient's arm pain. (Collected Papers International College of Applied Kinesiology, Winter, 1987:123-129)

Key Indexing Terms: *Shoulder Pain; Carpal Tunnel Syndrome; Muscle Weakness; Diagnosis; Treatment; Case Reports; Manipulation, Chiropractic; Kinesiology, Applied*

THE FREQUENCY OF THREE COMMON CRANIAL FAULTS

James D.W. Hogg, D.C.

ABSTRACT

Objective: To present an observational cohort study to assess the frequency of three cranial faults in a convenience sample.

Clinical Features: The cohort group's inclusion criteria for this study were that the subjects exhibited any of the respiratory, cruciate or sagittal suture cranial faults. The AK method of diagnosis for these problems was used. Two-hundred and sixty-five patients were evaluated.

Intervention and Outcome: The following statistics express the positive cranial findings found in 265 patients: 262 (99%) inspiratory assist; 17 (6%) cruciate suture TL; 128 (48%) cruciate suture challenge; 24 (24%) sagittal suture fault showing before cruciate suture correction; 46 (46%) sagittal suture cranial

fault showing only after cruciate suture correction. Additional statistical observations were made: 49% of the patients showed a cruciate suture fault, and 18% a sagittal suture fault, when an inspiratory assist fault was present. The sagittal suture cranial fault was present 55% of the time when the cruciate suture fault was present. The sagittal suture cranial fault was present 66% of the time only after the cruciate suture fault was corrected. The cruciate suture cranial fault was also present 100% of the time after direct challenge.

Conclusion: Statistically in this cohort study, the cruciate suture cranial fault should be examined by challenge, after which several other cranial faults will be diagnosed. (Collected Papers International College of Applied Kinesiology, Winter, 1987:141-144)

Key Indexing Terms: *Cranial Sutures; Cohort Studies; Manipulation, Chiropractic; Kinesiology, Applied*

A COMPARISON BETWEEN THE ZINC TALLY TEST, GAMMA-2 MUSCLE TESTING, KININ MEDIATED ALLERGIES, AND PRE-TEST IMAGING

Michael Lebowitz, D.C.

ABSTRACT

Objective: To present an observational cohort study to assess the correlation between the zinc tally test and gamma-2 MMT for zinc levels. The relationship between pre-test imaging, kinin mediated allergies, and zinc levels were also described.

Clinical Features: One hundred patients were selected who demonstrated the so-called gamma-2 MMT finding (patient-initiated MMT). These patients were given the zinc tally test; then tested with the diagnostic procedure called pre-test imaging; cholecystokinin (CCK) was orally insalivated to see if it caused universal muscle weakness; finally a zinc solution was given to the patients and the gamma-2 MMT finding was retested. The most common cause of kinin-mediated allergies is hypothesized to be a zinc deficiency.

Intervention and Outcome: On the zinc tally, grade 1, 2, 3, and 4 levels were found in 16, 63, 17, and 4 of the patients. Of the grade 1 (most severely deficient in zinc) patients, all 16 (100%) showed strengthening of the gamma-2 test with insalivation of a zinc mixture, and 6 (37.5%) of these patients showed weakening on insalivation of CCK. Of the grade 2 patients, 26 (41%) showed strengthening with insalivation of zinc, and 12 (19%) showed weakening on insalivation of CCK. Patients with grades 3 and 4 on the zinc tally showed no response to oral zinc on gamma-2 testing, nor did they show response to CCK. Of the 100 patients screened, 43 showed positive pre-test imaging, with the greatest percentages found with patients who had a grade 1 and 2 zinc tallies. In the pre-test imaging procedure, it is hypothesized that if a weak muscle becomes strong after the patient imagines performing the test, this indicates the patient has one or more cranial faults.

Conclusion: From these statistics it appears that if zinc levels are adequate on the zinc tally test, a kinin-mediated allergy will not develop and that the number of cranial faults diagnosed with pre-test imaging is reduced. (Collected Papers International College of Applied Kinesiology, Winter, 1987:145-151)

Key Indexing Terms: *Zinc; Biochemical Phenomena, Metabolism, and Nutrition; Nutritional Status; Diagnosis; Chiropractic; Kinesiology, Applied*

A COMPARISON BETWEEN KOENIGSBURG'S TEST FOR URINARY CHLORIDES, SULKOWITCH TEST FOR URINARY CALCIUM EXCRETION, AND GAMMA-2 MUSCLE TESTING

Michael Lebowitz, D.C.

ABSTRACT

Objective: To present an observational cohort study to assess the correlations between the Koenigsburg and Sulkowitch tests and AK MMT findings.

Clinical Features: The Koenigsburg and Sulkowitch urinary tests were performed on 50 patients. The Sulkowitch test for urinary calcium excretion was tested on the 50 patients, and given grades 1-4, with 1 showing no calcium in the urine ("deficient in calcium"), and 4 showing adequate calcium in the urine. The Koenigsburg test for urinary chlorides is a screening test for adrenal function, with values less than 17 showing hyperadrenia, greater than 25 showing hypoadrenia, and greater than 50 or less than 17 showing the exhaustion stage of adrenal function.

Intervention and Outcome: For the Sulkowitch test, 22 patients showed grade 1 and 7 showed grade 2 (calcium deficiency indicated). In all 29 patients, insalivation of calcium produced a strengthening of a weak gamma-2 MMT (patient-initiated MMT). Twenty-one patients showed grades 3 and 4, and only 1 patient showed strengthening after insalivation of calcium. For the Koenigsburg test, 29 patients showed hypoadrenia on the test and TL to the neurolymphatic reflex for the adrenal produced a strengthening of a weak-gamma-2 MMT. For 14 patients who had normal Koenigsburg test results, only 2 of 14 patients showed strengthening with TL to the NL for the adrenal glands. For 7 patients with hyperadrenia, 2 patients showed strengthening with TL to the NL for the adrenal glands.

Conclusion: Overall agreement between gamma-2 MMT and the Sulkowitch and Koenigsburg tests was 96.8% and indicates the accuracy of this technique. (Collected Papers International College of Applied Kinesiology, Winter, 1987:167-171)

Key Indexing Terms: *Adrenal Cortex Function Tests; Calcium Metabolism Disorders; Cohort Studies; Diagnosis; Kinesiology, Applied*

BIOTYPES AND ESSENTIAL FATTY ACID REQUIREMENTS

Philip B. Maffetone, D.C.

ABSTRACT

Objective: To present an observational cohort study showing the relationship between biotypes and essential fatty acid (EFA) needs in patients.

Clinical Features: Two body types were included in this study, the endomorph (heavy physique, typical of the Eskimo), and the ectomorph (tall and slender body type). Forty-one patient files were reviewed which met the following criteria, 1) the patient was either a dominant ectomorph or a dominant endomorph, based on anatomical features, and 2) the patient also showed a need for EFA supplementation using AK evaluation methods.

Intervention and Outcome: Of the 41 patients, 19 were endomorphs, and 17 required omega-3 EFA (fish or linseed oil) supplementation, and 2 required omega-6 EFA (currant seed or primrose oil). Of the 41 patients, 22 were ectomorphs, and 4 required omega-3 EFA, and 18 required omega-6 EFA.

Conclusion: In this observational cohort study, the endomorphic body type predominantly required omega-3 EFAs, and the ectomorphic body type predominantly required the omega-6 EFAs. (Collected Papers International College of Applied Kinesiology, Winter, 1987:173-177)

Key Indexing Terms: *Somatotypes; Fatty Acids, Essential; Fatty Acids, Omega 3; Fatty Acids, Omega-6; Biochemical Phenomena, Metabolism, and Nutrition; Cohort Studies; Kinesiology, Applied*

"THE SLEEPING TMJ"

Gerald J. Polino, D.C.

ABSTRACT

Objective: To present a case report of a patient with TMJ dysfunction successfully treated with AK therapies.

Clinical Features: A 26-year-old female presents with a primary complaint of awakening with debilitating temporal headaches along with cervical tension and stiffness. The patient had been treated 6 times with the usual AK procedures, with only limited results. The patient was referred to a dental TMJ specialist who observed considerable dental deterioration due to bruxism and she was fitted with a M.O.R.A. splint. This reduced the intensity of her symptoms, however, only by 40% in the patient's estimation. On subsequent visits, the TMJ and cranium were tested as problem free despite the continuing symptoms.

Intervention and Outcome: On a subsequent visit the patient was examined in the usual fashion and found to be problem free. However, when she was tested in the normal manner with her eyes closed, several TMJ problems were found and corrected. Two visits later the patient was asymptomatic, and her dentist withdrew the appliance. She was no longer bruxing at night, and her energy level was much improved.

Conclusion: In this difficult TMJ case involving nighttime bruxism, the use of AK diagnostic methods while the patient had her eyes closed during the testing allowed for the treatment that resulted in her recovery. (Collected Papers International College of Applied Kinesiology, Winter, 1987:195-198)

Key Indexing Terms: *Temporomandibular Joint; Headache; Stomatognathic System; Diagnosis; Treatment; Case Reports; Manipulation, Chiropractic; Kinesiology, Applied*

AN INVESTIGATION OF APPLIED KINESIOLOGY'S MANUAL MUSCLE TESTING BY THREE DIMENSIONAL COMPUTERIZED FORCE-PLATE ANALYSIS

Dean Raffelock, D.C., DIBAK

ABSTRACT

Objective: To present an observational cohort study of tennis players with a history of knee injury and ongoing pain, and to assess with a computerized force plate the effects of AK neuromuscular spindle (NMS) cell treatment.

Clinical Features: Five tennis players with knee pain were selected who respectively showed MMT weakness of a lower extremity muscle. Using the computerized force plate pre-treatment, the instrument measured the vertical force during the MMT of the patient (the examiner's force lifting off the plate), the lateral force (the examiner's force moving laterally), and the anterior to posterior force (the examiner's force moving in anterior or posterior direction).

Intervention and Outcome: After treatment to dysfunctional NMS cells found in these muscles by AK methods, there was a significant increase in the force of the examiner vertically lifting off of the force plate during the MMT. After treatment of the same NMS cell to make the muscle weaker, there was also a consistent and substantial weakening of the forces involved in the MMT.

Conclusion: This study seems to indicate that after AK treatment to NMS cells of inhibited muscles during the MMT, that the muscle's ability to lift the examiner vertically off the force plate increased after the NMS procedure. (Collected Papers International College of Applied Kinesiology, Winter, 1987:213-230)

Key Indexing Terms: *Tennis; Athletic Injuries; Muscle Strength Dynamometer; Muscle Weakness; Cohort Studies; Treatment; Diagnosis; Manipulation, Chiropractic; Kinesiology, Applied*

MAKING B-6 WORK: ACTIVATING PYRIDOXINE TO PYRIDOXAL-5-PHOSPHATE

Walter H. Schmitt, Jr., D.C., DIBAK

ABSTRACT

Objective: To present 2 cases with diverse symptoms that successfully responded to AK therapy when the activated for of vitamin B-6 was supplemented.

Clinical Features: B-6 functions in the body in an activated form as pyridoxal-5-phosphate (P-5-P), and the activation of B-6 to P-5-P depends on magnesium, zinc, riboflavin, and phosphorus. One of vitamin B-6's functions is the processing of ammonia molecules, and this function may be assessed by having the patient sniff a source of unscented ammonia. In the first patient, six months after beginning oral contraceptives, a woman began to suffer from low back pain, water retention, and depression. The second patient, a 50-year-old man with a mild, but chronic L-5/S-1 disc protrusion, responds only temporarily to treatment, but remains symptomatic.

Intervention and Outcome: In the first patient a weak muscle was strengthened with insalivation of P-5-P. The patient also shows generalized weakening of all her muscles when she sniffs ammonia, and this is neutralized by P-5-P. The patient also has strengthening of a weak muscle with insalivation of riboflavin and magnesium. The patient took these supplements until her next visit. On her next office visit, she was improved in all symptoms. The second patient also shows generalized muscle weakness when he sniffs ammonia, which is corrected with insalivation of P-5-P. A weak psoas muscle strengthens with insalivation of zinc and riboflavin (necessary to convert B-6 to its activated form). In one week the patient begins to make continued progress.

Conclusion: In these two cases, vitamin B-6 deficiencies were thought to be contributing to their symptoms. The use of nutrients to activate B-6 in the body helped stabilize these patients' AK corrections. The ammonia sniff test helped diagnose the nutrients required in these two cases. (Collected Papers International College of Applied Kinesiology, Winter, 1987:249-258)

Key Indexing Terms: *Vitamin B 6 Deficiency; Pyridoxal Phosphate; Diagnosis; Biochemical Phenomena, Metabolism, and Nutrition; Muscle Weakness; Case Reports; Treatment; Kinesiology, Applied*

APPLIED KINESIOLOGY AND NUTRITIONAL TESTING

David S. Walther, D.C., DIBAK

ABSTRACT

Objective: To present the method of testing nutrition generally accepted by members of the ICAK and supported by the organization.

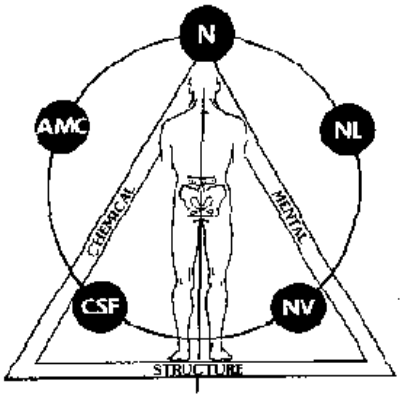
Clinical Features: Observing the change in muscle function after a patient chews or sucks on nutrition is a frequently used method of nutritional testing in AK. The ICAK has taken the stand that evaluating

nutritional needs by testing muscle function should only be done when the patient stimulates the gustatory receptors with the substance being tested.

Intervention and Outcome: This paper emphasizes the reasons individual patient consideration should be done, and that the method must be correlated with other means of nutritional need diagnosis. The effects on the body from gustatory stimulation are discussed, as well as some of the neurologic pathways of the gustatory system.

Conclusion: More basic research, properly designed, is needed to further understand the mechanisms at work in AK nutritional testing. (Collected Papers International College of Applied Kinesiology, Winter, 1987:295-388)

Key Indexing Terms: *Nutrition Assessment; Biochemical Phenomena, Metabolism, and Nutrition; Diagnostic Techniques and Procedures; Muscle Weakness; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1986 (Summer)

-- Edited by Scott Cuthbert, D.C.

LEARNING DIFFICULTIES VIEWED IN THE LIGHT OF APPLIED KINESIOLOGY, SPECIFICALLY, THE FERRARI NEURAL ORGANIZATION METHOD

Mitchell R. Corwin, D.C.

ABSTRACT

Objective: To present a case series report on the treatment of 23 patients who were diagnosed with learning disabilities.

Clinical Features: The selection criteria used were positive tests of neural disorganization (as defined by Dr. Carl Ferrari who developed the Neuro-Organizational Technique (N.O.T.), using AK evaluation tools), and imbalances in standing gait muscle testing. Patients or parents completed a one-page questionnaire also.

Intervention and Outcome: The length of treatment for this case series is not described, but the frequency of positive physical findings found and corrected are given. The N.O.T. method of diagnosis and treatment was used in all cases. A questionnaire was given to the 23 patients or their parents, and of those who responded, 89% rated the treatment successful.

Conclusion: Further clinical trials of this method of therapy, with larger numbers of children, more specific documentation, and corroborating diagnostic methods for the diagnosis of learning disability in the study group are required. From the information in this report, the N.O.T. treatment of some children with learning disabilities may be promising. (Collected Papers International College of Applied Kinesiology, Summer, 1986:61-67)

Key Indexing Terms: *Learning Disabilities; Adult Learning Disorders; Case Reports; Cohort Studies; Treatment; Chiropractic; Kinesiology, Applied*

LOW BACK PAIN REPORT

Richard Meldener, D.C., D.I.B.A.K.

ABSTRACT

Objective: To present the case of a patient with chronic low back pain who was successfully treated by exchanging his poorly fitting glasses with contact lenses.

Clinical Features: A 19-year-old male presents with chronic LBP who had improved symptoms by 70% using standard AK methods, with 30% residual pain appearing at the end of the day.

Intervention and Outcome: Observation of the patient's glasses reveals that they slide down and rest on the end of his nose. When the patient reads and writes (8 hours out of the day) the frames slide 1 centimeter toward the tip of his nose. AK MMT examination is performed while the patient reads a magazine with his glasses on. The glasses are in the habitual 1 cm down-the-nose position. During this reading, the following AK tests are found positive: the patient is neurologically disorganized, upper cervical pain is present, and a bilateral gluteus maximus weakness is found. L5 has positive TL and is painful to palpation. Each of these tests are negative within 30 seconds after the patient begins to read with the glasses maintained in position with his finger holding the glasses in place near the eyes. The patient was advised to purchase contact lenses and he has been pain free in his low back ever since.

Conclusion: In this case, AK MMT testing was able to demonstrate to the patient and the examiner that the incorrect use of glasses was creating low back pain and correction of this problem resolved his low back pain. (Collected Papers International College of Applied Kinesiology, Summer, 1986:213-215)

Key Indexing Terms: *Low Back Pain; Reading; Task Performance and Analysis; Case Reports; Treatment; Diagnosis; Manipulation, Chiropractic; Kinesiology, Applied*

LOW BACK PAIN AND DEPRESSION: A RETROSPECTIVE STUDY OF 129 CASES

John F. Thie, D.C.

ABSTRACT

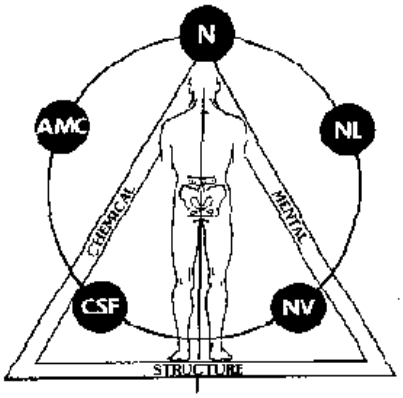
Objective: To present a retrospective observational cohort study to assess the correlation between the presence of low back pain and depression in chiropractic patients.

Clinical Features: One-hundred and twenty-nine consecutive presenting cases with low back pain are assessed for the presence of depression. This information was collected from history forms that were filled out by the patients on their initial visit to the doctor's office.

Intervention and Outcome: The data revealed that 7 patients, or 5.5%, had an entrance complaint of both low back pain and depression. Twenty-five, or 19%, stated that they had previously suffered from depression. Fourteen patients, or 11%, of the patients stated that they were currently suffering from depression. Sixty-six patients, or 51%, stated that they had never suffered from depression. There were 24 patients who left this question blank on their questionnaires.

Conclusion: Although this study demonstrates that only 5.5% of patients with low back pain also had depression, the data also show that 30% of new patients in a chiropractic office presently have or previously have had depression. (Collected Papers International College of Applied Kinesiology, Summer, 1986:277-279)

Key Indexing Terms: *Comorbidity; Low Back Pain; Depression; Cohort Studies; Kinesiology, Applied*



ICAK-USA Research

The Following is a Compilation of Applied Kinesiology Research Papers Published in the Collected Papers of the International College of Applied Kinesiology for the year 1986 (Winter)

-- Edited by Scott Cuthbert, D.C.

INTER-EXAMINER AGREEMENT IN APPLIED KINESIOLOGY MANUAL MUSCLE TESTING

Katharine M. Conable, D.C., Bert T. Hanicke, D.C.

ABSTRACT

Objective: To present an observational cohort study on the inter-examiner agreement of the manual muscle test.

Clinical Features: Two ICAK diplomates, with 20 and 13 years experience, were the examiners. The subjects were 11 subjects (6 females, 5 males) who had AK experience, between 21 and 40 years-of-age. Subjects were taken to a room to lay supine for 5 minutes on a flat table. During the tests the subjects were instructed to look straight at the ceiling and take no breath in or out during the actual MMT, keeping the breath neutral.

Intervention and Outcome: The first examiner came into the room and tested the following muscles bilaterally in the following order: pectoralis major (sternal division), middle deltoid, upper trapezius, rectus femoris, and tensor fascia lata. Any test which was questionable as to eye position, head position, phase of respiration, or accidental TL (patient touching their own body) was redone. Results were recorded as strong or weak for each muscle tested. The first examiner left the room after asking the subject to stay supine and to refrain from discussing the tests with the second examiner. The second examiner came into the room and repeated the above instructions and tests. Taking all 110 separate MMTs performed, overall agreement between examiners was 78.2%. However, when individual subjects were considered, 3 had 100% agreement, 4 had 90% agreement, and 4 had less than 90% agreement. Three of the 4 patients who had less than 90% agreement demonstrated cranial faults that produced muscle inhibition on specific phases of respiration. When these faults were corrected with the usual AK procedures, and the original MMT procedure was repeated, inter-examiner agreement was found to be 100%. The greatest discrepancies between examiners were found with the pectoralis major (sternal division) (32% disagreement), and the tensor fascia lata muscle (27% disagreement).

Conclusion: For the majority of subjects and muscles the agreement between experienced examiners with relatively few controls on how the tests were performed was excellent – 90% or better. It appears that cranial and sacral respiratory faults should be eliminated early in the examination for achieving the highest reliability of the MMT. (Collected Papers International College of Applied Kinesiology, Winter, 1986:1-13)

Key Indexing Terms: *Reliability; Muscle test; Cohort Studies; Kinesiology, Applied*

STUDY OF SPECIFIC MUSCLES TO DETERMINE DISC LESION AND CORRECTION

H. Louis Obersteadt, D.C.

ABSTRACT

Objective: To present a retrospective case series report on the correlation between the AK category III finding and specific muscle weaknesses in a group of patients with low back, leg pain, or both.

Clinical Features: Dr. John Bandy reports that specific muscles can be tested to identify specific intervertebral disc involvements. Dr. Goodheart presented the category III method of examination in his 1975 *Research Manual*. The design of this study was to see if there was a statistical correlation between these two methods of assessment.

Intervention and Outcome: In this report, the category III was determined by having the patient TL to the spinous processes of adjacent vertebra, and a weak muscle is tested for strengthening or a strong muscle is tested for weakening. If there is a change in muscle strength, then the transverse processes are challenged apart or together to determine the direction of disc protrusion and direction of correction. Dr. Bandy reports that the gastrocnemius, anterior tibial, and the rectus femoris (straight head) muscles were related to the L5 disc/S1 nerve root, L4 disc/L5 nerve root, and L3 disc/L4 nerve root respectively. The anterior tibial was found weak in 5 of the 50 patients tested, and there was a 100% correlation for L4/L5 nerve root involvement between the two techniques. The gastrocnemius was found weak in 21 of the 50 patients, and there was a 98% correlation for L5/S1 nerve root involvement between the two techniques. The rectus femoris was found weak in 24 of the 50 patients tested, and there was a 100% correlation between the two techniques.

Conclusion: The accuracy of each of these diagnostic methods is enhanced when the two different methods diagnose the same problem in patients. (Collected Papers International College of Applied Kinesiology, Winter, 1986:83-87)

Key Indexing Terms: *Low Back Pain; Sciatica; Diagnosis, Differential; Cohort Studies; Diagnosis; Kinesiology, Applied*

BUT WHAT IF THERE'S NO WATER IN THE HOSE?

Walther H. Schmitt, Jr., D.C.

ABSTRACT

Objective: The rationale and necessity for nutritional testing and supplementation in the chiropractic practice is presented in relation to a patient with a long history of back pain. A review of the importance of nutritional support for difficult patients with complex neurological problems is offered.

Clinical Features: A 32-year-old female with a long history of low back pain that had been stable for over one year presented with severe neck pain and limited ROM. Two months previously she had been restricted from eating eggs by her medical physician due to mildly elevated serum cholesterol. Eggs are a good source of choline, and proved to be the only major source of choline in this patient's diet.

Intervention and Outcome: She was treated for the neck pain that was primarily from a right levator scapula muscle weakness with compensatory spasm of the left. She was 60% improved after treatment

and fully recovered a few days later from the neck problem. The next day she went water skiing and her low back was in acute pain and antalgia, and was seen on an emergency basis. AK treatment, including correcting psoas muscle weakness, totally relieved her low back pain, but re-examining her posture after treatment showed the pattern of the earlier neck muscle imbalance to be present. When the levator scapula was treated again, the psoas weakness returned. When the psoas was treated again, the levator scapula weakness returned. When asked about dietary changes and the elimination of eggs, the examiner placed choline in the patient's mouth which strengthened the levator scapula muscle without the psoas muscle weakening, and vice versa. Choline supplementation was given to her and she was instructed to eat eggs again, but to limit them to 3 a week. She has not needed to be treated for either low back or neck pain in over a year.

Conclusion: In this case, the effectiveness of general dietary evaluation and counseling as well as appropriate nutritional supplementation was critical in solving the challenging problems of this patient. (Collected Papers International College of Applied Kinesiology, Winter, 1986:125-144)

Key Indexing Terms: *Low Back Pain; Neck Pain; Choline; Case Reports; Biochemical Phenomena, Metabolism, and Nutrition; Treatment; Diagnosis; Manipulation, Chiropractic; Kinesiology, Applied*

POSITIVE ZINC TALLY AND THE FREQUENCY OF CRANIAL FAULTS AND TEMPORAL MANDIBULAR JOINT INVOLVEMENT

Allan Zatkin, D.C.

ABSTRACT

Objective: To present a sequential sample of 102 new patients who presented for treatment in a chiropractic office that were given the zinc taste test (ZTT) or zinc tally, and to compare the number of these zinc deficient patients to the number of patients with positive signs of cranial faults and/or temporal mandibular joint involvement.

Clinical Features: The zinc tally is a saturated solution of zinc sulfate-hydrated as septahydrate which produces a varied flavor response when insalivated. The more zinc present in the patient, the stronger the metallic taste of the zinc tally solution.

Intervention and Outcome: Sixteen patients who scored a grade of 1 (zinc deficient) on the zinc tally test had 6 positive cranial faults and two TMJ involvements. Of 32 patients who scored a grade of 2 (zinc deficient, less severe), 11 showed positive cranial faults and 7 TMJ involvements. Of 31 patients who scored a grade of 3 (zinc deficiency, equivocal), 5 showed positive cranial faults and 5 positive TMJ involvements. Of 23 patients who scored a grade of 4, there were 0 cranial faults found and 4 positive TMJ involvements. In three cases, correction of the cranial or TMJ involvements brought on an immediate taste sensation on post-zinc tally testing. This was also observed on correction of small intestine dysfunction in one of the cases.

Conclusion: Cranial faults were noted with all scores that showed any signs of zinc deficiency using the zinc tally test, while TMJ involvements were present no matter the grade of zinc tally. (Collected Papers International College of Applied Kinesiology, Winter, 1986:179-181)

Key Indexing Terms: *Zinc; Biochemical Phenomena, Metabolism, and Nutrition; Nutritional Status; Diagnosis; Chiropractic; Kinesiology, Applied*