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~~George Goodheart~~

Picture

BY George Goodheart, D.C.

CHIROPRACTIC EDUCATION TODAY AND CONSTRUCTIVE IMPROVEMENT

Chiropractic education today stands at a high point with pre-chiropractic basic science preparing the student for the clinical sciences. Still the student lacks the ability to coordinate what he has been taught with what he should do therapeutically. Isolated segments of physiology, histology, pathology all rotate independently at different rates with no common meter. The curriculum with its enforced subject isolation effectively limits the cross indexing that must come, preferably sooner, but in reality later and later, if ever. Lack of clinical teaching material that parallels subsequent private or group practice experience leaves the student unprepared to be the "people doctor" B. J. Palmer eloquently described.

A more active and extensive preceptorship program should begin in the junior year if not sooner. Access to tax-supported teaching hospitals would give differential diagnostic review experience.

Chiropractic succeeds despite itself; the patient load makes the D.C. graduate become a chiropractic physician. He should be trained for this by his education and not by his patients.

The director of clinics should schedule frequent visits on at least a monthly basis by experienced field practitioners and full value should be derived of their expertise by well organized audio video technics. All clinic directors should be indoctrinated in all existing technics and should be sent regularly to existing tutorial lectures and seminars.

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CHIROPRACTIC RESEARCH

The very existence of the Louisa Burns research circa 1905-1948 and the present mode of practice of the vast majority of osteopathic physicians, shows how ignored this monumental work has been.

Four decades of research from over six hundred pages of literature has been soundly and thoroughly ignored by the establishment both without and within the osteopathic profession. Why?

As Irwin Korr of M.S.U. has said, "It has been known for many decades that the nervous system is a major mediator of the clinical effects of manipulative therapy." The unifying factor for chiropractic education, future and research, is not - repeat not - the subluxation but the nervous system. There are subluxations, there are fixations, and theoretically there are holographic subluxations. All affect the nervous system differently. All are treated differently but manipulatively similarly.

Diagnosis of the joint dysfunction should naturally and simplistically include x-ray, flexion and extension and rotation positions. But first and foremost, certainly in the human model itself, it should include manual muscle testing to determine the effects of the joint dysfunction. EMG of the subject during test, and paramountly of the operator, should yield the value manual muscle testing now empirically and therapeutically delivers. The perception of the operator of muscle weakness apparently has and can be documented electromyographically.*

* Research in progress - Rheims University, Compeigne, France.

Dr. Korr, in "The Neurobiologic Mechanisms in Manipulative Therapy" states, "Before calling for the last summary, I would like to comment on your questions, Dr. Sunderland and Dr. Sjostrand. As Murray will confirm, our grant application to NINCDS proposed three workshops at two-year intervals, on the general theme, Biologic Mechanisms in Manipulative Therapy. The first one in the proposal was the neurobiologic. The second one would deal with hydrodynamic or body-fluid mechanisms - blood, plasma, lymph, cerebrospinal and endoneurial fluid, interstitial fluid and edema. Presumably, intraneural circulation would be included, Dr. Sjostrand. The third workshop would be on the biomechanics of the musculoskeletal system. In its wisdom, NINCDS decided that we had enough to do with neurobiologic mechanisms."

The subsequent remark of Dr. Haldeman, "This is a hard assignment. I would like to answer a question which has come up in basic science discussions both here and outside, and that is, why am I here? Why is the basic scientist who has no concept of manipulation being invited to a manipulation conference? And has he anything to offer?"

"To use the metaphor of switching on the light in manipulation, there has been very little research, and participants may never know the consequences of their contributions here. As one who spends much of his time promoting, trying to motivate people to do research, especially in the chiropractic field, I know that the NINCDS manipulative conference of 1975 was such a powerful stimulus to the sciences in the manipulative field that there are now science departments in every chiropractic college. The more established science and research departments in osteopathic colleges are becoming reactivated.

"At least four foundations in the chiropractic profession, collecting funds for research, have been set up in the last two years. What these conferences serve to do is, not switch on the light, necessarily, but point to the fact that there is a light switch."

Retrograde and anterograde axonal neuroplasmic transport may be CSF motivated, therefore cranial and vertebral responding movement should be closely investigated in biped man with quadrupedal nervous system, as well as in quadrupeds. Quoting from "Axonal Transport: Mechanisms and Derangement," "It is clear that any extensive perturbation of the above mentioned kinds interferes with the amount of material transported. We can see at least a possibility that the basis of some of the therapeutic effects of manipulation may lie in axoplasmic transport events."

Dr. Greenam, in his remark in the concluding discussion of Korr's text, states, "It would appear to me that this is one area, although it is global in its scope, that we ought to look at, and particularly in view of the statistics from various studies indicating that 20% of the population have 80% of the disease states that we treat. Maybe we ought to be looking at what has gone wrong in that 20% segment of the population, and see if we can do anything that will improve their trophicity. Experience indicates that one way is through appropriately designed manipulative care of the patients, to maintain their health, rather than just treat disease."

Research should establish the subtle norms of CSF movement, the muscular response to joint disturbances in all of the skeletal system as detected by sophisticated muscle testing parameters as well as the joint response to

disturbances in lymphatic arterial and venous circulation, and alteration in CSF volume and flow. The neurologic mechanics of meridian therapy should be emphasized and holographic sonography as well as holographic x-ray should prove to be useful tools. The future is molded by the present. Presently we know, "One distinction may be worth mentioning. Although discharges of both types of endings are more or less proportional to length, the primary (annulospiral) ending has the additional feature that its frequency of firing during a stretch is in proportion to the rate of change. That is, the secondary ending apparently reports length at any moment, but the primary ending reports both velocity of stretch (and hence of joint motion) and length (hence joint position). The primary ending, thereby, provides a predictive or anticipatory input to the nervous system."

Jones states, "Now let us visualize the primary ending in the muscle spindle of the muscle on the opposite side of the joint from the side being strained. It is at the minimal limit of its stretch, extremely short. The input from its proprioceptors is probably almost nil. Add to this reciprocal inhibition from the reflexes on the overstretched side and visualize an extremely low rate of firing of impulses from these proprioceptors. Now the body reacts to the emergency of the strain and suddenly and forcibly straightens the joint, stretching the hypershortened muscle and its proprioceptors so that it begins to report strain even before it reaches its normal length. Once begun, this inappropriate message of strain when there is none cannot be turned off by the body.

"One would think that the central nervous system, through a reduced outflow of the gamma motor neuron, would relax intrafusal fibers enough to restore

the primary proprioceptor to a normal rate of firing. Korr offers the hypothesis that the central nervous system, seeking a response from the hypershortened and silent primary ending, begins an extraordinary outflow, which, followed by an unusually fast stretching, results in high gamma gain that the body is unable to reduce to normal."

Korr suggests: "The shortened spindle nevertheless continues to fire, despite the slackening of the main muscle, and the CNS is gradually enabled to turn down the gamma discharge, and, in turn, enables the muscle to return to 'easy neutral' at its resting length. In effect, the physician has led the patient through a repetition done in slow motion with gentle muscular forces, and, second, there have been no 'surprises' for the CNS; the spindle has continued to report throughout."

A close correlation with the work of Lutetges, et al, University of Colorado, who wrote "Peripheral Nerve Responses to Experimental Damage" (funded by U.S. Government as well as ACA and ICA) should be made with Korr's observation with integration of existing technic in chiropractic. All students should be part of this research project and it should be directed by heads of departments under a single central authority.