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CONSUMER PROTECTION, PROFESSIONAL PROFICIENCY, AND CHIROPRACTIC EDUCATION.

by Ralph R. Gregory, D.C.

Educational accrediting agencies exist essentially to protect the consumer: to insure that the student consumer receives a college training that will qualify him/her, and that will protect the patient consumer from incompetence. Obviously, the patient consumer is entitled to receive those services that the chiropractor holds himself out to the public to deliver. The quality and the relevancy of the practitioner's education is, therefore, vitally important to both student and patient consumer. Over the past thirty-odd years, chiropractic colleges, forced to educate students to meet rigorous state board examinations—especially the basic science boards—have improved their educational standards. Despite this improvement, however, the subjects most relevant and necessary to the practice of the essential principles of chiropractic—the production and the reduction of the vertebral subluxation—have suffered neglect; and as a result the ability and skill of the practitioner has not substantially improved to a performance level that insures consumer protection.

Dr. Chung Ha Suh, University of Colorado, in the April-May issue of the *ICA Review,* expressed the observation that a chiropractor's education better equips him if he is trained more in the sciences of mathematics and physics than in the chemistry oriented sciences. Those chiropractors who have had to learn how to correct subluxations after graduation from college and licensure by board examination would heartily agree with Dr. Suh. Experience based on post-checks after the adjustment has taught the practitioner who reduces subluxations that adjustments, if they are to be corrective of vertebral misalignments, must be tailored mathematically and mechanically to each subluxation. Doctors of chiropractic, therefore, require an education in dynamic mechanics, kinetics, the study of forces and motion. They need a concentrated training in biomechanics, and in the fundamentals of kinesiology. The duty of a chiropractic accrediting agency should be to insist that a candidate for a chiropractic degree be sufficiently knowledgeable in these subjects so that consumer patient protection is assured. These subjects will equip him to practice the art which he professes to practice.

If the physical sciences were taught in chiropractic colleges, many of the present-day mechanically inept systems of adjusting patients would not be tolerated. Properly educated practitioners would recognize their inadequacies. To adjust vertebrae means to restore them to their normal position, where all parts fit. In the cervical spine, at least, adjusting vertebral misplacements benefit the patient immensely if only because adjustments correct to normal position vertebral misplacements, realign distorted bony structures. This benefit, considered alone, not mentioning related factors such as nerve imbalance, bodily distortions, muscle imbalance, and the like, all proved effects of the Cl subluxation, justify chiropractic practice to society and provide a needed service to the public. Chiropractic is based on the theory that the restoration of the vertebral subluxation is essential to the restoration of health: a subluxated person cannot be a healthy person. So-called adjustments that do not

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A PERSONAL POSITION PAPER ON CHIROPRACTIC

by Daniel Seemann, Ph.D.

The Problem

The future of the CCE is dependent upon whether the chiropractic profession can agree on what chiropractic is about and what the chiropractic priorities should be. At present, the most basic question in chiropractic is skillfully being avoided: How can the vertebral subluxation be reduced successfully?

One group looking for a scientific basis for chiropractic has adopted a quasi-medical model for the purpose of treating patients. This trend seems to be taking chiropractic away from the basic art of reducing subluxations. This trend is more or less being promoted by the colleges because the students are not being taught to successfully reduce subluxations in chiropractic colleges.

The other group sensing this trend toward the quasi-medical model are fearful that the art and practice of chiropractic as originally taught by the Palmers is being lost and consumed by the medical model, similar to what happened to the osteopaths. This group has called for a return to the basic principles of chiropractic. Many practitioners are sympathetic to the plea but cannot accept a return to the basic principles of chiropractic because there has been little change in these principles since the late 1930's. The resultant curriculums in those colleges which call for a return to the basics of chiropractic are emphasizing more subjective treatment of the patient. Again, this presents a dilemma for the graduating student because the student has not been taught how to successfully reduce the subluxation. Unless the new practitioner can obtain further

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restore vertebral misplacements to normal position, merely changing their position or even increasing distortion, are not the practice of chiropractic. The health of the consumer may be endangered by such inept practices.

Further mechanically inept adjustments do not provide reliable data for research, data that can be correlated to the subluxation. How can chiropractic scientifically investigate and validate its fundamental theories if its practitioners are not skilled in correcting subluxations? The starting point to the validation of a separate and distinct system starts with the training of its practitioners to perform efficiently. The result of lack of training has for too long been painfully apparent: the lack of training and development of needed skills and poor performance ability in adjusting has opened the door for substitute methods that have divested the profession of the development of its basic concept. Substituting auxiliary methods means an enlargement of the scope of practice; ergo, the bitter split in the profession.

In this controversy, neither side is blameless. Had the orthodox faction conducted scientific research of basic chiropractic theories, they could have firmly met the quasi-medical challenge by establishing the scientific validity of the subluxation and its reduction. They would have filled the knowledge gap with relevent data, built a body of knowledge regarding the efficacy of chiropractic, and successfully influenced the scope of chiropractic practice. Acceptable research of the subluxation would have armed them.

Researching the subluxation requires identification of its effects on the body. Such identification is at least some use of the art of diagnosis, the use of which in chiropractic practice is highly disputed by some chiropractors. But diagnosis is essential if the effects of the subluxation on the body are to be studied and related; if investigation of the removal of subluxation-caused effects is to be correlated. In bodily areas where the subluxation disturbs function or creates pathology—as, for example, when a subluxation causes over-innervation (pathology) and spastic contracture (malfunction) of the extensor muscles—identification of signs is essential to chiropractic research. Whatever name chiropractors call it, analysis, diagnosis or identification of signs, some form of diagnosis must be used in chiropractic research. The important point, however, is the correlation of the signs or symptoms to the subluxation; that these identifications are derived from and confined to the subluxation and its reduction, therefore chiropractically justified as these signs flow naturally from pure subluxation research. A refusal to allow any use of diagnosis could end all chiropractic research of the subluxation, all identification of its effects on the body.

Diagnosis for the chiropractor, however, is not, as has been stated, the basis "for determining the type of treatment or counsel necessary". If this means that the patient must be diagnosed as is done medically to determine how he is to be adjusted, the statement is false. Adjustments are computed from the patient's x-ray films, not from symptoms. Vectors are then determined that serve to guide the adjustic force along a specific reduction pathway. This emphasizes the need for a good education in the physical sciences before a chiropractic student is graduated. A master's degree in biochemistry, or a high proficiency attained in diagnosis, would be of little help in mathematically computing the vector quantities of an adjustment, or its final resultant. This is, perhaps, in one sense a limited practice, but it is an essential practice.

Some chiropractic practitioners prefer a limited practice, confining it to the reduction of the subluxation, relating the reduction to clinical results. Patients travel all over the country to find practitioners skilled in this art. Certainly these practitioners have the right to specialize. Consumer protection, however, dictates that those who specialize in this manner, as well as others, are qualified to recognize their limitations and refer patients when necessary. In a specialized practice, the chiropractor is not always serving as a portal of entry; it is not his function to act like a traffic officer, ordering one patient here and the other there. He is a corrector of subluxations; and every patient, regardless of his health problem, is entitled to have a normally functioning body free of the stresses of the subluxation. The right to so limit a practice is a valid right.

The emotional rhetoric surrounding the controversy in chiropractic gives birth to derogatory comments regarding those who limit themselves. The word *technician,* for example, is frequently applied in a pejorative sense to practitioners of limited services. Yet, who would consult a surgeon, or a dentist, who he did not believe was an expert technician? Chiropractic needs more technicians, people trained in the technical methods of reducing vertebral subluxations. Chiropractic needs a technology of its own, based on its fundamentals. Even the word technique, when applied in the chiropractic context, is in some quarters frowned upon. Yet a technique explains how to manage the technical details involved in accomplishing an objective. Propaganda of this kind only serves to confuse and embitter. Examination of the arguments of both factions shows clearly that the two sides are not disputing the same concepts. The problem is not being defined, only a profession is being slowly destroyed.

Consumer protection and professional proficiency are to be equated; the second is essential to the first, one cannot exist without the other. Both require that the chiropractor be educated in the subjects that will equip him for public services in the area that he professes to be efficient in. The chiropractic profession must scientifically research the subluxation, if it is to survive. Scientific correlations must be established so that the public may be reliably advised as to the noxious effects of the subluxation, and what constitute the benefits of its reduction by the adjustment on bodily function and pathology. It should, further, examine the techniques that are taught and utilized in practice to see if they do in fact correct subluxations. These examinations are vital to consumer protection and professional proficiency. They are also vital to the

growth of chiropractic as a separate and distinct science.

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training after graduation, his scope of practice is limited.

Recommendation

These two divergent movements in chiropractic have had a direct influence on the education and research activities in the profession today. Suh, in the April-May issue of the ICA journal notes that two-thirds of the chiropractic colleges have degree programs similar to the medical colleges. He asks whether this is logical? He questions why the basic sciences that are taught in the colleges are so heavily oriented toward chemistry when the adjustment, a mechanical movement, should dictate the basic sciences be more physically oriented. Courses such as forces, movements, displacements and dynamics of motion should be incorporated into the programs. I support this notion of Dr. Suh. I would also include courses such as kinesology, research design and statistics. I would reduce the amount of time devoted to philosophy. This seems to be an important aspect of chiropractic, but it should not take priority over reducing the subluxation. Most research in chiropractic does not address the question of how to reduce the subluxation. In my opinion, those chiropractic researchers who are concerned with questions not directly related to the spinal column or the adjustment seem to be avoiding the issue. Research should be focused on those questions that are unique to chiropractic. The divergency and lack of unity with regard to the basic research questions in chiropractic serve to further divide a leaderless profession.

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June 1, 1979

NUCCA EDITORIAL

For the past several years, NUCCA has been promoting the importance of using extreme care in the analysis and adjustment of the upper cervical spine. Numerous editorials and letters to members of the chiropractic profession, as well as a resolution to the chiropractic colleges, have stimulated little interest. This has been particularly frustrating because the specter of government intervention looms in the wings waiting for us.

It seems that many in the profession today are not interested in reducing the subluxation successfully. It does not seem to matter whether the chiropractor wears a white coat and uses a stethoscope, or whether the chiropractor believes that Innate will take the adjustment the last few notches. The fact is, that a majority of practitioners, regardless of their orientation, do not use pre and post evaluation of the patient and therefore would not know if the subluxation was reduced. Not many chiropractors are aware of the fact that they may be increasing subluxations. NUCCA teaches that ¾ of a degree of laterality of the atlas can cause a neurological deficit. The demand for this type of precision in the analysis and the adjustment requires an understanding that escapes both the quasi-medical and the traditional approach to chiropractic. The slightest movement of the patient's head, or using too much depth in the adjustment may increase the misalignment factors of the subluxation. The subtlety of the adjustment can be taught and learned.

B. J. Palmer's theoretical contributions to chiropractic have been enormous as we all know. Theory, which is only one phase of the scientific process, must ultimately be proven. Perhaps B. J. unwittingly lulled us into complacency when he wrote "In a crude, limited way we externally and educationally can approximate the abnormal position of a vertebral subluxation. In a crude, limited way, we can approximate the adjustment above or below, but in the last analysis INNATE is the only force that knows accurately, efficiently, and correctly where it is, what it is, what it should be, and does set and seat it in its precise normal position. There are so many bi-lateral osteological variables, differing in each person from all others, that there is only one factor that knows the detailed insides of man, viz., the INNATE that made that body knows its every variation and peculiarity, which educationally we can see in the rough, but which INNATE alone knows in its minutae." (History In The Making, 1957).

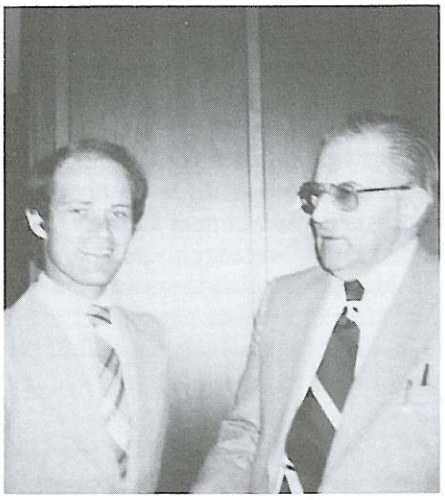
Assuming that innate is a factor in the healing process but a factor that cannot be measured, we need to ask the question: How crude can we be in determining the presence of the subluxation and how crude can we be in reducing the subluxation? Until B. J.'s proposition can be verified, most of us really do not have a clue. Many practitioners feel that it is impossible to determine with precision the presence or absence of the subluxation because of bone malformations, x-ray distortions and the difficulty in pre and post patient placement for x-ray. The NUCCRA research program is demonstrating that these barriers to a scientifically based chiropractic are not valid. A system of measurement and precision are available now.

The profession is running out of time. This is the age of consumer protection, which means we are going to have to answer for our treatment. We are going to need indicators that the patient is in fact getting well. I invite you to try NUCCA work. It is difficult to master the analysis and the adjustment, but I do not think that chiropractic was meant to be learned in a week-end course in technique or practice building. Chiropractic can be a science and proper methods of giving an adjustment can be taught. We can take an analogy from golf: How many of us achieve par scores the first time we play the game? Most of us do not! The same is true with reducing subluxations. The intricate relationships in the upper cervical region are extensive, but can be mastered. Once mastery is achieved, the chiropractor can feel assured that he/she has given the patient the best possible treatment available and can stand by the adjustment as being delivered in a verifiable manner. Those

practitioners who cannot verify their procedures in the future may find themselves locked out of Noah's Ark.

Chiropractic is headed in two opposite directions. There are those who think they are helping chiropractic by increasing the scope of practice. There is the other group who insists on limiting treatment. NUCCA has a viable alternative. NUCCA is willing to educate both groups to what scientific chiropractic is about. If this were to occur, I would be willing to wager that an end to the mixer—straight disagreements would result and a beginning of a new dynamic chiropractic would commence.

Steven Goodman, D.C.



Dr. Michel Marmier of Bayonne, France (L) talking with Dr. Ralph Gregory, NUCCA President (R). Dr. Marmier, a member of the National Upper Cervical Chiropractic Association, Inc. (NUCCA), traveled to Monroe Michigan for the 1979 Educational Program.

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THE CONCEPT OF SELF HEALING: OUR NATURAL SYSTEM OF DEFENSE

by
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Microorganisms are rather ubiquitous in their distribution. They are found in soil, in water, in the air that we breathe, on many objects with which we come in contact, as well as in and on plant and animal life, including our own bodies. Fortunately for us the majority of these microorganisms are harmless, even though many persons in our society may tend to view them as little more than disease-causing agents.

In fact, many microorganisms such as bacteria and fungi are extremely important components of our ecosystem. These agents serve to decompose once living material. In so doing, they gain sustenance for themselves and return vital elements to the soil, air, and water contributing to the continuation of vital biogeochemical cycles. They are, indeed, a crucial part of nature's recycling system.

There are parts of our body which typically harbor microorganisms without suffering disadvantageous effects. The skin is one such region. Dead cells are contained on our skin's outer surface and these cells are constantly being sloughed off. They serve as a rich food supply for various microorganisms. Likewise, mucus membranes, as well as the intestinal tract, provide many different microorganisms with food and shelter.

Nevertheless, various microbes are pathogenic. They may induce disease through the production of toxins, through the disruption of cellular functioning, or through harnessing the internal machinery of cells. Such microbes have been among our foremost opponents in our struggle for survival. Individuals have and continue to succumb to pathogenic agents. Yet, the human species as a whole continues to exist largely as a result of the body's ability to defend itself against microbial attack and to repair itself when damage is done. Even in the technological surroundings of the present, the body is the chief of forces directed at the recovery from illness. The assemblage of weapons which medical science directs against disease consists of tools which are aimed at helping the body help itself.

Our resistance to insult ranges from primitive, non-specific, external protection devices to highly complex, specific, internal factors of defense. Healthy intact skin, for example, serves as a highly effective physical barrier against invasion by foreign agents. It provides mechanical strength as well as secretions which inhibit the growth of undesirable microorganisms. The respiratory tract includes mucus-secreting cells which trap many foreign particles. Cilia which undulate to propel such trapped invaders to the oral cavity where they may be expectorated or swallowed, various cells which are capable of ingesting strangers, as well as antimicrobial enzymes. Stomach acid, tears, and mucus secretions are also involved in attacking intruders.

In spite of such barriers some microorganisms may gain entry into the body or become displaced from an area where their presence poses no threat. These invaders are chemically distinguished from natural body substances on the basis of specific chemical configurations, or anti-genic factors, which they possess. Antigenic factors trigger our internal defense apparatus. Granulocytes, macrophages, and phagocytes are among the populations of cells which act as an internal garbage disposal system attempting to "clean up" our bodies, ridding them of unwanted agents.

Antibodies are produced in response to specific antigens. These substances are proteins which are capable of uniting with an antigen. We have many different categories of antibodies. One category known as immunoglobulin A (IgG) is found in tears, saliva, and various other body secretions. IgA antibodies bathe external surfaces which constantly come in contact with outside forces. Immunoglobulin G (IgA) and M (IgM) circulate within the bloodstream.

When we are born we possess various maternal antibodies which have been transplacentally transmitted. These maternal antibodies are not long lasting in our bodies. Being protein in nature they are eventually degraded and excreted; but, they serve to protect us until we can manufacture our own. Breast milk, being a normal body secretion, is rich in IgA antibodies. Breast feeding facilitates IgA antibody dispersal to coat the mouth, throat, stomach, and intestines.

In antibodies which we eventually manufacture ourselves in response to a disease causing agent or an attenuated pathogen introduced through a vaccine are longer-lasting conferring immunity for varying periods of time.

Technically, antibodies assist a series of proteins known as complement proteins which represent a critically important aspect of our immune system. When antibodies attach themselves to the antigenic component the complex is molecularly capable of receiving the series of complement proteins. When the full series is assembled they are capable of creating a hole in the cell wall of the foreign invader, thus destroying its structure and function.

Over the past century we have enjoyed a decrease in the incidence of infectious disease. It is generally recognized that the enjoyed decline is the result of the successful application of three major tools: sanitation, immunization, and case finding followed by appropriate treatment.

Sanitation attempts to keep the immediate surroundings free of harmful agents. Improvements in sanitation which have occurred over the past one hundred years have been one of the most important factors operating in the control of human infectious disease. We must be careful to guard against breakdowns in sanitation in the future. Our large and growing population which is urban in nature puts strains on such attempts. Large numbers of people living close together produce large amounts of waste and garbage. They also demand the delivery of a number of services such as those regarding the production of food and the delivery of drinking water. Such numbers of people and needed services make the chance for a breakdown in sanitation greater.

Immunization has endeavored to erect a barrier between an individual and a disease causing microorganism. The decline in the rates of certain diseases in association with the development of vaccines has fostered a belief that vaccines are an ultimate tool against almost all infection. In other words, if a particular disease is prevalent—work on developing a vaccine against it.

Immunizations capitalize on the bodies self-healing abilities. In the way that our bodies produce antibodies in response to overt agents of disease, they also are stimulated to do so against attenuated live or dead agents which are artificially introduced into our systems.

Respecting the protective activities which can be initiated by immunizations we must also be mindful of their limitations. Vaccines do not result in initial outpourings of antibodies which are as high as those stimulated in response to an experience with the wild disease causing agent. This can sometimes be compensated for by the administration of booster shots at appropriate intervals. Antibody levels wane with time but the degree of dwindling and the total amount available at any given time is related to the levels which were originally manufactured. Overt or subclinical infection generally confers life-long immunity. In spite of waning levels with time, the total amount at any given point is generally sufficient to effectively combat the renewed presence of the agent in question. If levels of antibodies are much lower in response to a certain vaccine than they are in response to disease causing agents we must be mindful of the possibility of an immunized individual becoming one more susceptible to the disease for which he/she was immunized. When booster shots are available they are not always taken advantage of. A person may forget to undergo revaccination or may not be motivated to do so.

Quality-control of vaccines is another important factor that we must remain mindful of. Efforts must be made to insure a vaccine free of any possible contaminants, including oncogenic viruses. Also, quality control dictates a concern for antigenic accuracy.

The possibility of overwhelming an individual's antibody producing abilities is being studied and researched by some. Here interest is directed at the individual who is in a precarious state regarding his/her disease profile and stores of nutrients. Antibodies are manufactured from nutrient stores within our bodies. If one is malnourished there may not be appropriate ammunition to draw upon. More work needs to be done concerning the effects of immunization on such individuals. The information which is generated will have greatest importance for persons living in less developed areas of the world or in poverty pockets where they are more likely to be malnourished as well as suffering from multiple disease states.

When sanitation and/or immunization practices have not been effective or appropriate as tools of disease control, case finding and treatment have been applied. There are a number of drugs which have been discovered in a natural setting or synthesized in a laboratory to combat the activities of infectious disease causing microorganisms.

Infectious disease may be misdiagnosed and an inappropriate drug administered. Antibiotic drugs are routinely administered for upper respiratory infection in spite of the fact that the majority of such infections are associated with viruses. Viruses cause disease by robbing the cell of its nuclear material so that the cell is directed to manufacture viruses rather than to synthesize protein or reproduce its own kind. Thus, the virus established intimate contact with the cell. Drugs directed at the virus wipe out the cell as well. Very few effective antiviral preparations have been developed. Those that have been developed have been largely effective against various viruses belonging to the category known as Herpes viruses.

Nevertheless, colds and influenza represent good examples of viral infections which frequently are associated with antibiotic therapy or "a shot of penicillin". Some physicians justify such treatment because they

maintain that they are attempting to prevent secondary bacterial infections. Indeed, secondary bacterial infections do sometimes follow a viral episode. When they do they may cause far more serious problems than those associated with the activity of the virus. Antibiotics have been effective at helping to eliminate colonies of bacterial invaders. Many bacteria are far enough removed from the cellular activities that drugs can be given to differentially disrupt bacterial versus human cellular processes.

The administration of an antibiotic under such conditions is unwarranted for a number of reasons. First, no antibiotic is effective at combating all bacteria. Since one would not know what bacteria would definitely colonize secondary to a viral infection one could not properly administer a "preventive" drug. To successfully do so one would have to know the enemy.

A second reason that such a practive should not be engaged in involves the possibility of an adverse reaction in association with the administered drug. Therapeutic efforts involve an element of risk, and benefit/risk ratios must be considered. Exposing a person to the possible risk of an adverse drug reaction is unjustified when there is no immediate benefit to be enjoyed. Indeed, the majority of upper respiratory viral infections do not result in bacterial colonization. Hence, we cannot operate on the basis that there is a longterm benefit to be enjoyed.

The problem of antibiotic drug resistance represents still another factor which argues against routine use of these drugs. We have known for quite some time that exposing populations of bacteria to antibiotic drugs encourages the development of resistant strains. Susceptible members of a population of bacteria are devastated by the drugs, but those members who possess genetic material which render them impervious to antibiotics will survive to reproduce their own kind. Such information should sound a cry for the "judicious" use of antibiotics.

The relaxed attitude regarding the use of antibiotics is one which permeates our raising of livestock as well as our attempts to administer to the sick. A large percentage of antibiotics which are produced in this country goes into livestock feed for two major reasons. Antibiotics are used prophylactically to help keep livestock "disease-free" and they are frequently used for their growth stimulating properties. This practice should be stopped as it can possibly contribute to the development of drug resistant strains of bacteria. Likewise, there may be persons who are allergic to various drugs who suffer allergic reactions while eating meat containing residual levels of various antibiotics.

The judicious use of antibiotics not only concerns the actions of physicians, and those who oversee our food supply, but it concerns the attitude and behavior of the general public as well. We live in a quick-fix, technological age. We have come to expect an immediate solution for a given problem. The patient who wants a shot or a pill for any feeling of ill-health which overtakes him/her must be re-educated. They must be made to realize that a quick-fix is not always available or appropriate.

For those antibiotics which are properly associated with the treatment of a particular infectious disease we must remember that by themselves they would do no good. Antibiotics in the absence of the body's natural defense system are ineffective. In the course of an infectious episode it is the body which heals itself if its natural system of defense is functioning properly. Antibiotics serve to retard the growth of the microbes. They help the body to help itself.

NEUROLOGICAL FOUNDATIONS OF THE UPPER CERVICAL SUBLUXATION

by Zoe Backman, Ph.D.

Subluxation of the upper cervical spine presents more research; produces more detrimental effects; and causes more widespread effects throughout the human organism than those of the subadjacent areas. These effects on the CNS are more verifiable, testable, measureable, and objectively demonstrable. In breaking down the subluxation into its component parts and by testing the effect of each unit in any given occipital-atlanto-axial subluxation, it becomes clear that the detriment to the nervous system caused by the subluxation is that of cleavage, both of the spinal cord and brain stem.

The atlas and axis are the two most vulnerable vertebrae to the possibility of true subluxation, since they are the only two vertebrae in the entire spine which do not have interlocking bony facets; and they have fewer muscular and ligamentous attachments. They are most likely, therefore, to subluxate whenever a concussion of forces is applied to the body. They are the weakest link and as such are the easiest victims to an outside invading force. (2,5)

All concussions are not derived from the outside. Internal stresses and strains are of the same major importance as physical accidents. Emotional accident (insults) to the body are just as significant and play a measureable role in the production of subluxation. Emotions effect muscles. It is easy to look at a person and tell his/her emotional state. These changes in musculature set up noxious impulses back to the cord (inimical reflexes) via the afferent neurons which can effect that segment or any other segment of the cord. Muscle fibers maintain a connection with the vertemere of their embryological development. A muscle may have fibers with connections to several segments of the cord. Emotional stress most often causes what is commonly referred to as a tension headache,

which is actually an upper-cervical postvertebral headache. (1,3,4,5)

It can be seen that the effects of upper cervical subluxations present major problems, partly due to the presence of the reticular formation, and the fact that the vagus nerve emerges in the area of the atlas-axis complex. Other important neurological considerations include the following:

1. The recurrent meningeal nerve, along with the post ganglionic sympathetic colateral go back into the cord. (1)
2. The first cervical nerve leaves the vertebral canal through the sulcus arteriae vertebralis along with a branch of the subclavian artery, know as the vertebral artery; hence, this nerve can be affected by vasodilation and vasoconstriction of this vessel. (1,2,3,4,5)
3. The sympathetic ganglia of the cervical region are in close proximity to the vertebrae and anterior cervical musculature. Fixation will cause reflex contracture of the muscles and put pressure on the ganglion. Atlas displacement can cause either bilateral or unilateral swelling and thickening of the muscles and exert pressure on one or both superior servical ganglion. (3,4)
4. All cranial nerves have a spinal connection. Some have a direct connection via the parasympathetic system, and others via rootlets and nerve tracts. (1,2,3,4,5,)
5. The medulla spinalis is enlarged in the cervical region, accommodating the nerves from the upper limbs. (1,2,3,4,5)
6. There are at least sixteen different fasciculi in the upper cervical region, some peculiar to this region. Increased noxious impulses go to the posterior horn and reflex connections causing a variety of effects.

Atlas-axis subluxation affects the reticular formation of the Central Nervous System (CNS) causing far reaching and damaging effects throughout the entire system. This causes spastic contracture of muscles and an overload of the motor units of the spinal cord, often with spill over and more widespread contracture.

The reticular formation is a collection of diffuse neutrons throughout the medulla, pons, mesencephalon and part of the diencephalon. It is the oldest system, and all tracts and systems drop off colaterals to it. Its lower portion is continuous with the internuncial cells of the spinal cord. The proximity of the atlas vertebra to the lower end of the brain stem is important. Any rotational movement which this vertebra may undergo in trauma will directly affect the functioning of the reticular formation.

One of the basic functions of the reticular system is to provide a basis for supporting the body against gravity. When standing, there is a continuous transmission of impulses from the reticular formation to the extensor muscles of the limbs. Contracture of these muscles allows for respositioning to support against the pull of gravity. The reticular formation receives information on the position of the head with respect to the body from proprioceptors in the neck and body; either directly to the reticular formation, or indirectly via the cerebellum. The neck joints provide the most important proprioceptive information. (2,4,5)

Additionally, the reticular formation contains within it centers for the regulation of respiration, heart rate, blood pressure and other vegetative functions. It contains ascending and descending components that play important roles in the adjustment of endocrine secretions, formation of conditioned reflexes, and the regulation of sensory input, learning and consciousness.

Vascular reflexes are mediated through the afferent fibers of the vagus nerve. The nerve contains afferent fibers which terminate in the aortic arch and the heart.

Stimulation of these fibers produce an alteration in the caliber of the blood vessels, and as a result, changes in blood pressure. The fibers of the vagus nerve which bring about an elevation in blood pressure are stimulated by a fall in blood pressure. Messages ascend to the medullary centers and cause a generalized vasoconstriction. (3,4)

Pulmonary reflexes are, also, mediated through afferent fibers of the vagus. Vagal influences inhibit the activity of the respiratory center.

The vagus nerve is cardioinhibitory. They convey fibers from the parasympathetic system of the Autonomic Nervous System (ANS) from a center in the medulla to specialized cardiac tissues. The sinoatrial node receives its main parasympathetic innervation from the right vagus nerve, resulting in slowing or weakening of the auricular beat. Subluxation alters the tone of the vagus nerve, and hence, causes a variety of symptoms and problems.

There are three cervical ganglia on each side of the spinal column: superior, middle and inferior cervical ganglion. The superior cervical ganglion is the largest and lies opposite to the three upper cervical vertebrae in relation with the covering of the internal carotid artery and internal jugular vein, and lies on the Rectus capitus anticus major muscle. It is easily affected by swelling of the internal carotid and the anterior cervical musculature. This ganglion communicates with the tympanic branch of the glossopharyngeal nerve; with the third, fourth, opthalamic division of the fifth and sixth cranial nerve; with branches of the glossopharyngeal, pneumogastric, and external laryngeal nerves; with the middle and inferior cervical ganglia; thyroid and middle cardiac nerve; superior cardiac and recurrent laryngeal nerve; and plexi around arteries including opthalmic arteries, central artery of the retina, cerebral arteries, carotid artery, the artery of the Longus collis muscles, innominate artery, aortic arch, middle meningeal artery, external carotid which is connected to a branch of the facial nerve and optic ganglion. The Superior cervical ganglion affects the eyes, heart, and respiratory tract, directly or indirectly. Subluxation of the atlas produces pressure on this ganglion and hence, exerts a widespread variability of response. Subluxation of atlas can also indirectly affect the Middle and Inferior Cervical ganglia, as the Superior Cervical ganglion

communicates with both. The Middle Cervical affects, mainly, the thyroid, which accounts for its secondary name, the thyroid ganglion. The Inferior Cervical ganglion is located at the base of the transverse process of the seventh cervical vertebra. Several connections are sent to the vertebral artery and accompany it through the vertebral canal and still form a plexus around the vertebral artery and basilar cerebral arteries. Hence, its affect is on the blood supply of the brain. The Inferior Cervical ganglion is affected by atlas subluxation by changes in the Vertebral artery. The symptoms exerted by pressure on the ganglia can be either unilateral or bilateral. (1,3)

The Sympathetic and Parasympathetic divisions of the ANS balance each other. That is, they have an antagonistic action. The vagus, parasympathetic, weakens heart action, while the sympathetic, via the cervical ganglia, increases heart action.

There are several fasciculi in the cervical region of the cord. They are:

1. anterior cerebrospinal: voluntary motor from the post central gyrus to the motor centers of the cord.
2. vestibulospinal: vestibular division of the acoustic nerve, either directly or indirectly, to the anterior horn-equilibrium.
3. tectospinal: superior colliculus, either directly or indirectly, to anterior horn cells-visual reflexes and head.
4. ventral spinothalamic: posterior horn cells to thalamus.
5. anterior proper: intersegmental, eventually ascends into brain as the medial longitudinal bundle-head movements.
6. lateral cerebrospinal: from the large pyramidal cells of the motor cortex, either directly or indirectly, to anterior horn cells.
7. rubrospinal: from the red nucleus of the thalamus to cells of the anterior horn.
8. dorsal spinocerebellar: posterior horn cells to cerebellum.
9. ventral spinocerebellar: posterior horn cells to the thalamus or cerebellum.
10. lateral spinocerebellar: carries pain and temperature impulses from the posterior horn cells to the thalamus.
11. lateral proper: chiefly intersegmental, also part of the medial longitudinal bundle.
12. cuneatus and gracilis: to the nucleus cuneatus and nucleus gracilis to the medial lemniscus to the thalamus and ultimately to the cortex.
13. tractus solitarus: fibers descend the cord several segments.
14. tract of Lissauer: fibers from posterior nerve root to the cells of the posterior horn can go either intersegmentally or to the substantia gelatinosa. (Nucleus of Spinal Tract of Trigeminal Nerve in the medulla) Irritation of the Trigeminal Nerve (Cranial Nerve V) via the above pathway will cause spasm of the SCM and trapezious muscles. Uppercervical subluxation causes noxious impulses to be replayed via the Tract of Lissauer, causing spillover to the Trigeminal System. (1,4)
15. Spinal Accessory nerve: rootlets of this cranial nerve receives axons from C1 through C5. Root is composed of vagal fibers which run with the fibers of the Spinal Accessory Nerve. Subluxation of the atlasaxis complex will affect the vagus in this way.

All the fasciculi can be stimulated by noxious impulses as the result of subluxation, which will stimulate the cells of the posterior horn and cause reflex action. The viscera, as well as the musculature, eyes, heart and brain are all affected to varying extents by uppercervical subluxation. The numerous symptomatology that can be observed by overstimulation of the posterior horn cells via the fasciculi and the interconnections and colaterals received by the nuclei and fasciculi are too numerous to mention. (1,2,3,4,5)

Upper cervical subluxation can produce a variety of problems, some of which are high blood pressure, tachycardia, headaches, menstral disorders, cross-eyed children, asthma, thyroid dysfunction, syncope, ataxia, vertigo, and torticolis.

Upper cervical technique offers an invaluable method of removing the widespread symptomatology produced by upper cervical subluxation, thus allowing the body to regain and maintain its healthful balance.

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Editor's Note:

Neurological Foundations of the Upper Cervical Subluxation, submitted by its author Dr. Zoe-Marcia Backman, was judged acceptable for the NUCCA Monograph Scholarship Grant. The author, a fourth trimester student at the New York College of Chiropractic, obtained her doctorate at the New York University Medical School where she studied neuroanatomy and neurophysiology.

New NUCCA Policy

For several years, NUCCA has sent the MONOGRAPH and other materials, including booklets and pamplets, to non-member doctors and students enrolled in chiropractic colleges throughout the world without charge. Up to now, NUCCA wrote off the publishing, handling, and postage costs to public relations. Because of the increased costs, NUCCA can no longer offer this free service to non-members.

A yearly subscription of ten ($10.00) dollars, therefore, to non-members will be charged for the MONOGRAPH. Booklets and pamplets of a technical nature will be priced according to cost of printing and handling. NUCCA members will, of course, receive the MONOGRAPH and other publications, without charge as part of their membership privileges.

Many requests are received from doctors and students for past issues of the MONOGRAPH, because of the NUCCRA research and academic articles. There are 16 past issues which can be obtained from NUCCA for a cost of ten ($10.00) dollars by ordering them from the NUCCA Editor, 217 West Second Street, Monroe, Michigan 48161. Single issues of the MONOGRAPH can be obtained for one ($1.00) dollar.

This offer holds as long as past issues are available.

NUCCA Scholarship Awards

At its October 22, 1977 meeting, the NUCCA Board received with thanks the $500.00 donation sent by Mrs. Upton X. Furman of Neenah, Wisconsin in memory of her late husband, Dr. Upton X. Furman, who died April 22, 1977. Dr. Furman was a supporter and long time member of NUCCA. The NUCCA Board voted to use the donation to help fund the Scholarship Awards as Dr. Furman often expressed his interest in college students and their financial problems. This is also in accordance with Mrs. Furman's wishes.

The NUCCA Board approved a continuation of the $250.00 scholarship grant-in-aid for the next three years, and that this sum be paid to any chiropractic student currently enrolled in a chartered college of chiropractic who submits to the **Monograph** editor an acceptable article pertaining to the upper cervical spine.

Submitted articles may deal with any aspect of the Occipital-atlanto-axial area of the cervical spine: mechanics, neurological manifestations, analyses of cervical subluxations, corrective techniques for cervical subluxations, detrimental effects of upper cervical subluxations on the human organism, and the like.

All entries will be judged by the NUCCA Directive Board and by Professor Seemann. Their judgment will be final. Accepted articles become the property of the National Upper Cervical Chiropractic Association, Inc. Winners will be announced at the following NUCCA Convention.

NUCCA will attempt to return all manuscripts that are accompanied by a self-addressed, stamped envelope. NUCCA will not be responsible for lost or mislaid material. Further information is available by writing the **Monograph** Editor, 221 West Second Stree, Monroe, Michigan 48161

Change of Address

MONOGRAPHS, booklets, pamplets, and other NUCCA and NUCCRA materials, sent in answer to requests by mail, are too frequently returned because of lack of notification by the subscriber of change of address, or ineligible addresses. Return address corrections add considerably to the NUCCA postage costs as the U.S. Post Office charges twenty-five cents for each correction. Please notify the NUCCA Editor, 217 West Second Street, Monroe, Michigan 48161 of any change of address. PLEASE CLEARLY PRINT OR TYPE YOUR ADDRESS.

Dr. Ralph R. Gregory, President of the National Upper Cervical Chiropractic Research Association, Inc. (NUCCRA) receives a check for chiropractic research from Boyd Jackson (R), Winfield, Alabama at the NUCCA Convention.

Other donators to NUCCRA research were:

Dr. Laurence D. Vinson, Gadsen, Alabama.

Dr. Michel Marmier, Bayonne, France.

A substantial amount of money was raised for support of the new Pacific States Chiropractic College, San Lorenzo, California.

NOTICE

Our correspondence indicates that many doctors and students are apparently confused by the fact that there are two organizations: the National Upper Cervical Chiropractic Association, Inc. (NUCCA), and the National Upper Cervical Chiropractic Research Association, Inc. (NUCCRA).

NUCCA is a fraternal organization which conducts annual conventions and seminars. It was founded on April 16, 1966, as a non-profit organization. Membership is open to any graduate chiropractor of good moral character from a chartered chiropractic college. Students are also admitted to NUCCA membership if enrolled in a chiropractic college.

NUCCA in addition to its annual conventions and seminars releases through them NUCCRA research in biomechanics of the spinal column, techniques of adjusting that have been developed as a result of research data, and relevant material. Further information regarding NUCCA can be obtained by writing the NUCCA Editor.

NUCCRA is strictly a research organization, and unlike NUCCA has no membership. It was incorporated on October 6, 1971, in conformity with Michigan Statute, Act 327, P.A. of 1931, as amended. It enjoys an exempt status under Section 501 (c) 7 of the Internal Revenue Code. It is listed as a scientific research organization, having produced evidence of past research accomplishments.

NUCCRA is supported in its research activities by donations from doctors of chiropractic and from the public. It has, therefore, a responsibility to share its data and findings with the profession; and, through the profession, the public. NUCCA is the organization through which research data is released, either in conventions and seminars if such data requires demonstration and close instruction in its use, or through educational releases from the NUCCA-NUCCRA headquarters by mail.

NUCCA membership, therefore, involves affiliation with an established and recognized research association, dedicated to the establishment of the subluxation, and its effects on the body, its correction and post-effects, on a scientific basis that is acceptable to the scientific community.

Both NUCCA and NUCCRA are pursuing a definite course of action: to develop the potential of the subluxation, and to protect it against its detractors both within and without the profession. Underlying this course of action is the policy statement, adopted by NUCCA in 1966, which states that chiropractic is based upon the restoration principal: the reduction of the misalignments of the vertebral subluxation. Included, therefore, are all methods and systems of chiropractic that reduce to or toward normal position by adjustic forces the misalignment factors of a vertebral subluxation, based upon measurement of pre-determined and pre-directed processes of vertebral correction.

NUCCRA research is based upon measurement. Since the days of the Greek philosopher Thales of Miletus, five-hundred years before Christ, measurement has been the route to knowledge, the best means of acquiring knowledge, the basis of all good research. To measure is to know. Some astounding phenomena are evidenced by measurement of the effects of the subluxation on the body. It is this data that NUCCRA wishes to share.

NEW FILM RESULTS FROM COLORADO RESEARCH

by International Chiropractors Association

An exciting new film for chiropractors to use with the public shows a computer simulation of a moving spine. The film is now available through the International Chiropractors Association.

This movie, taken from a computer terminal viewing screen, shows a three-dimensional picture of the cervical spine in motion and without distortion. Dr. Chung-Ha Suh, director of the Colorado research on chiropractic, has introduced force (as perhaps in an automobile crash) from a particular direction. The movie then shows how the head whips forward and back and the extension and pull on the moving units of the cervical spine. The automotive industry has already acquired copies of the computer program to use in the simulation of spinal motion during collisions.

When you see the film, or introduce it to an audience, keep in mind that what you are seeing is not an animated drawing. You are seeing the computer's results from reviewing millions and millions of numerical data.

The film represents only about one-hundredth of the information being utilized by the computer. If all the data the computer generates was brought to the screen it would obliterate the film. The number of lines that the computer is capable of generating would turn the picture to solid white in the moving areas. What the film does show is the amount of information that the film can pick up and the human mind and eye can follow.

At some level the film can be understood by all; and is in fact, visually exciting for the non-professional. When the force is introduced and the skull whips forward, an untrained eye can see that this would be painful and damaging. It looks like it hurts. In addition, the film will help the patient to understand the complexities of the spine and its normal and abnormal movements.

The professional will see much deeper meanings and possibilities. The computer considers not only the osseous structures of the spine but also the damping, friction, and spring constants of ligaments; the hydrostatic properties of discs; as well as the muscle forces as they affect spinal motion. The film shows the cervical spine react to force coming from head-on and various angles.

Eventually Dr. Suh hopes to extend this research to a level of sophistication that would permit the chiropractor to witness the probable effects of an adjustment BEFORE IT IS ADMINISTERED. If the results were not in keeping with the intent, the doctor's plans for the adjustment could be altered until a more proper and hoped for result was obtained.

The film should be very useful in patient education programs. The origination of the Colorado research program, and its continued support, reflects credit on the chiropractic profession. These dramatic results of the project can now be shown to the public. Every doctor of chiropractic should obtain a copy for this use.

To order your copy write: International Chiropractors Association, 1901 L Street NW, Suite 800, Washington, D.C. 20036 or phone (202) 659-6476. When writing be sure to include the kind of film: 16 millimeter, 8 millimeter, or Super 8. There is a charge of $65.00 to cover production, postage, and handling.

In line with ICA's support of the Colorado research program, ICA recently made the second quarter contribution. During the past nine years ICA has given over $200,000 to the project. Dr. Suh's research remains the only chiropractic research that has received the support of federal dollars.

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ICA URGES PRESIDENT CARTER, GOVERNORS TO STOP ORGANIZED BOYCOTT OF CHIROPRACTIC

by International Chiropractors Association

In response to an antitrust suit filed by the attorney general of the state of New York against the American Medical Association and other medical groups, the International Chiropractors Association (ICA) is asking President Carter and the governors of every state to "move swiftly, and if necessary appoint special prosecutors, to investigate and dismantle a nationwide conspiracy against chiropractors."

In letters to the President and to each governor, ICA urges these officials to "protect every citizen by taking action to remove the conspiracy that illegally restrains trade, hinders research efforts, harms all patients by its ban on inter-professional research and referral, and adds to health care costs."

ICA will also ask each state attorney general in the U.S. to follow the lead of New York Attorney General Robert Abrams, and investigate the possibility of filing similar suits to protect the interests of citizens in their states.

In the New York suit, filed in Brooklyn Federal Court on Thursday, July 5, Attorney General Abrams has charged the AMA and 13 other defendants with "conspiracy to boycott and eliminate the chiropractic profession."

The alleged conspiracy has limited and impaired competition in the health care system, thus driving up the cost of health care to consumers and to the state of New York, the attorney general said.

"As a direct result of defendants' combination, conspiracy, and course of conduct in violation of the antitrust laws, [the state of New York] has been restrained and prevented from offering a full range of health care services, including chiropractic care, to patients in state hospitals, for fear of losing eligibility for federal health care funds, medical and nursing school affiliations, private insurance reimbursements, and federal hospital construction funds, among other possible economic consequences."

The law suit charges that a conspiracy has been in existence for at least 15 years to discredit chiropractors and prevent them from effectively competing with medical doctors and doctors of osteopathy. Specifically, the defendants are accused of refusing to allow medical doctors and osteopaths to refer patients to chiropractors or to accept referrals from chiropractors. The attorney general's information indicates that medical doctors have been prevented from professionally associating with chiropractors, even to the extent of consulting with them on the telephone.

Further, the attorney general has information that "individual members of the defendant associations . . . would, but for the presence of the above-described boycott . . . voluntarily initiate and maintain inter-professional relations with members of the chiropractic profession . . ."

Attorney General Abrams said, "Chiropractors have been authorized and licensed to practice in New York State, and it is both inappropriate and illegal for medical doctors or anyone else to prevent consumers from having a free choice among legitimate health care providers."

Defendents named in the law suit are: the American Medical Association, the American Hospital Association, the American College of Surgeons, the American College of Physicians, the Joint Commission on Accreditation of Hospitals, the American College of Radiology, the American Academy of Orthopedic Surgeons, the American Osteopathic Association, the American Academy of Physical Medicine and Rehabilitation, the Medical Society of the State of New York, the Hospital Association of the State of New York, the New York State Chapter of the American College of Radiology, the Nassau County Medical Society, and Henry L. Fineberg, M.D. [long-time executive vice president of the Medical Society of the State of New York, member of the judicial council of the

AMA, and well-known member of the AMA's Committee on Quackery].

Attorney General Abrams has called for an immediate restraining order, that would force the defendants to cease their illegal acts, and up to $13 million in civil fines from the defendant organizations and a civil fine up to $100,000 from Dr. Fineberg.

When he learned of the law suit, ICA Executive Vice President Jerome F. McAndrews, D.C., said, "We now see for the first time a sovereign state acting to protect its citizens from adverse effects flowing from the charged conspiracy of the defendants against the chiropractic profession in the state of New York. The activities of the defendants in New York have been alleged to be identical to the actions of the defendants in all 50 states and the District of Columbia."

Although this is the first time such a law has been filed against the AMA by a state or other governmental official, it is not the first chiropractic antitrust suit against the medical groups. On October 12, 1979, five chiropractors filed a private antitrust action in Federal District Court in Chicago, Illinois. The chiropractors charged most of the same defendants with similar antitrust violations; in fact, some of the language of the New York complaint is identical to the Chicago complaint. The Chicago suit is still in discovery.

Shortly after that law suit was filed, the International Chiropractors Association sent copies of the complaint to every attorney general in the United States. In light of information indicating an artificial increase in health care costs, due to the defendants' alleged illegal acts, ICA asked the attorney general to investigate the possibility of bringing further action against the defendants.