



## “Debate and Protocol vs Measurement and Openness, A Chiropractic Issue”

*By James F. Palmer, Professor of Technical Science and Mathematics University of Toledo*

This article is written at the invitation of the Editor of The Upper Cervical Monograph, Dr. Ralph Gregory. The purpose of this article is to provide a representative example of what the National Upper Cervical Chiropractic Association has to contend with on an ongoing basis from others in chiropractic. (See this issue of the Monograph for a full reprint of Dr. Lawrence's letter to the editor (6/27/88) and Dr. Seemann's response (7/27/88).)

This article is a result of the editing of four letters: (1) Dr. Lawrence's reply (8/1/88) to Dr. Seemann's response (7/27/88), (2) this author's response to the editor of JMPT via a letter to the editor of The Upper Cervical Monograph (8/5/88), (3) Dr. Lawrence's reply (postmarked 8/10/88) to this author's response, and (4) this author's response (9/6/88) to Dr. Lawrence's reply (8/10/88).

In Dr. Lawrence's letter (8/1/88) to Dr. Seemann he indicates that his “only concern is to foster public debate on topics affecting our profession”. Correspondence from Dr. Lawrence consistently states his perceived need for public debate.

In response to Dr. Seemann's statements about the paper that he submitted in 1982 and its review process, Dr. Lawrence states the following:

First, I began my position with the JMPT in 1983; I had to go back to our records to examine the comments made in regard to the paper you submitted for possible publication. I find that your comments about your paper are true; the paper evidently languished in processing prior to its ultimate rejection on the grounds of use of X-ray on human subjects (coincidentally, the same reason I had a paper rejected by the JMPT at about the same time). I guess this reflects Dr. Hildebrant's bias concerning the use of X-ray in research; it certainly does not reflect mine. Therefore, if you would like to consider preparation of material for future consideration, I would be happy to consider it, and I promise you a much speedier processing time. I might note, in reference to your question concerning who on the JMPT Board is

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## Stabilizing the C1 Subluxation Complex

*By Ralph R. Gregory, D.C.*

A structure is stable if it is resistant to change of motion. The misalignment factors of the C1 subluxation can be in a state of malposition and still be stable, i.e., they may be locked or fixed out of position in which state a force greater than the resistance offered by the misalignments is required to further malposition them. A state of subluxation then exists.

Sufficient evidence supports the hypothesis one-hundred percent that all the misaligned structures that cause the subluxation must be restored by the adjustment to a position of alignment or no stabilization can exist. A stabilized state for a subluxation-free spinal column is one in which the skull, spinal vertebrae, and pelvis are aligned or restored to their normal positions on the vertical axis of the body; a state in which all acting influences are cancelled by other influences resulting in a balanced or unchanging system.

The vertical axis is the intersection of the frontal and sagittal planes, the “Y” coordinate of the orientation planes, running from above downward. The vertical axis is often referred to as the “line of symmetry” or the “gravital line” of the human body. The vertebral column is the longitudinal axis of the human body and the axes of motion and centers of gravity of the skull, the twenty-six spinal vertebrae and the pelvic girdle should align to the vertical axis or “Y” coordinate. When a vertebra's axis of motion lies squarely on the vertical axis it is in alignment or normal position, not subject to gravitational stress, its joints are in juxtaposition; it is architecturally balanced, and only then is it capable of conducting a normal range of motion. Restoration of displaced structures to the vertical axis is the objective of the adjustment and the basis of predictability that makes the system scientifically acceptable.

Neurological tissue is affected by the C1 subluxation because its fibers become tractionized from the misalignments. Neurological imbalance results, evidenced by the existence of bodily distortions which always follow immediately after the subluxation asserts itself. Because nervous tissue is tractionized by the subluxation, the diameter of the affected nerves are reduced. Nerves so damaged require sufficient time to regain their original sizes

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## “Debate and Protocol vs Measurement and Openness, A Chiropractic Issue”

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qualified to review papers examining line-drawing procedures, that the Editorial Board are by no means the only people I use to review manuscripts. They certainly do so, but I now use them to help provide advice on a variety of matters and to help me set policy. I have a much larger group of people I may use for manuscript review, and of those, several are qualified to provide such review.

I hope that the profession does not view what we publish as the ultimate and final word of truth. I know that we have a reputation concerning the “scientificity” of what we publish, but I would never lead anyone to think that there can be no further debate on what we publish.

Because this author is of the opinion that the critical and fundamental issues were either not addressed in any of the previous correspondence/publications or were not made explicit, additional correspondence followed.

August 5, 1988 letter (Palmer): Rigor, Measurement, Openness.

Your position “that a discipline unique to chiropractic (upper cervical/upper cervical line drawings) is beginning to undergo rigorous testing, and (that) the jury is still out on the subject” is based on the false assumption that the Sigler and Howe study is rigorous. Rigorous means severely exact or rigidly accurate. Clarity, profundity of thought, proper experimental design and proper control of the experimental-measurement process are severely lacking in the Sigler and Howe study.

The Sigler and Howe study is not rigorous by any reasonable standard. To suggest that it is rigorous by the standards of science is absurd.

My letter to the editor of JMPT (JMPT 1985: 8: 285-286), the correspondence that followed in the JMPT, and what the editor of the JMPT excluded of the examiner’s letter to the editor of JMPT support my perception of a lack of rigor and also give the impression of a cover-up on the part of the authors and of the former editor of JMPT. To have the present editor of JMPT continue to promulgate this assumption of rigor is very unfortunate for chiropractic. (The assumption of rigor gives a false sense to the chiropractic community that chiropractic research is part of the scientific mainstream and that the amount of debate over issues must also be approximately as extensive in areas outside chiropractic.)

The three participants of the Sigler and Howe study sent me a complete copy of their letter to the editor of JMPT (April 10, 1986) in which they discuss a series of problems with the study. For example, the three participants state:

“Thirdly, Dr. Palmer asked which analysis system

was used and Sigler replied that all three examiners used the same system. However, Sigler contradicted himself by stating that one examiner ‘used the template with the double pivot (SIC) and one did not use the double pivot (technique)’. Sigler’s reply also failed to describe the analysis system used by the third examiner. Let the record show that, in fact, two examiners used the N.U.C.C.A. cephalometers exclusively and one examiner used both Harrison and N.U.C.C.A. cephalometers. In addition, one examiner utilized the double pivot technique and the other two examiners did not. In fact, one examiner utilized his own system as he is self-taught and has never attended a Grostic Seminar. Thus, Sigler’s statement that ‘all three doctors (practice) the same system’ is false.”

Sigler responds that “point no. 3 is a combination of utter nonsense and mistruth” (JMPT Vol. 9, No. 4; 285).

Where is the rigor, the efficacy, the **honesty**, the credibility in a study whose foundation is a comparison of measurements when one examiner utilized “his own system (of measurement) and is self-taught”? As Dr. Seemann states “the truth in the statistics or charts look great but the substance and the methodology of the research is **very shaky**”.

August 10, 1988 letter (Lawrence): Overkill.

Somehow, I think you are trotting out cannons to kill flies. You take issue with my use of the word “rigorous”, which you have interpreted in the severest sense of research. In point of fact, all I was trying to say (and evidently not well) was that many procedures in chiropractic are beginning to undergo testing, and that I think this is all to the good.

August 5, 1988 (Palmer): Efficacy, Acceptability.

Another example of a problem with the Sigler and Howe study is that the examiners state that “the data was generated under a certain amount of duress in that the examiners were pressured into rushing their analysis due to time constraints imposed by the author (Sigler).” How did the authors control and adjust for this duress in their results? I would have thrown out the data, so would all of my colleagues. Besides, I would have used Board Certified N.U.C.C.A. doctors for the study if I wanted to know about the efficacy of the measurement system. By not using the best practitioners Sigler and Howe will not realize the existing potential of the measurement system, which to me should have been their major objective because it would have assisted the Chiropractic Colleges in ascertaining which chiropractic procedures/techniques have the greatest likelihood of promoting the health of people.

In my opinion Sigler and Howe exhibited a lack of completeness and a lack of openness in their methods and materials—a position that is contrary to science and, therefore, below the limit of acceptability. How

could and why should anyone do such an incredibly poor job on methods and materials and still have it accepted by an indexed journal is beyond my comprehension. Just what level of scientific honesty can one expect from JMPT? Where is JMPT's credibility?

August 10, 1988 letter (Lawrence): Acknowledgement, Perspective.

You have rightfully pointed to flaws within the paper by Sigler, and you have noted several issues that could have impacted upon their results. These are legitimate points which bear further investigation, which I see is indeed being done by individuals such as Barry Jackson and Joseph Keating. I have invited Dr. Seemann to consider preparation of material as well.

August 10, 1988 (Lawrence): Critical Issues: Timing of information.

It seems that a great deal of consternation exists about the paper written by Sigler and Howe. I am now aware that there has been great differences between the principal author and the people who acted as examiners in the paper, but those issues, and this is critical, did **not** come to light until after the paper had been published.

September 10, 1988 (Palmer): Critical Issues.

The issue about the legal situation/feelings between Sigler and the experimenters is irrelevant. Therefore, it certainly is not critical that "these issues did not come to light until after the paper had been published".

One issue that is critical is that the article was so seriously flawed that even I was provoked enough to write JMPT. Whoever your journal had to review the Sigler article knows little about the "state of the art" in upper cervical; their learning probably stopped in the early 1960's. Certainly the reviewer(s) had a very poor grasp of the nature of scientific inquiry because measurement is the heart and soul of upper cervical line drawing (and of science for that matter) and therefore, it is obvious to me that measurement should have been concisely, clearly, completely, and openly discussed in the method and materials sections.

Scientists do not consider measurement to be a moot point. A reviewer cannot compromise standards of measurement just because it is for chiropractic; an editor cannot compromise standards of measurement if he openly professes the desire to have his journal (JMPT) accepted by the scientific community. This particular individual (reviewer of the Sigler article) may meet your standards of expertise as a chiropractor but he does not meet minimal standards of the scientific community. The chiropractic community needs to be unequivocally so informed. Otherwise, JMPT is being less than honest and open with its readers.

August 10, 1988 (Lawrence): Editorial process at JMPT.

I didn't know what transpired between Dr. Hildebrandt and yourself. I rejected the idea that Dr. Hildebrandt would in some manner try to "cover up"

the flaws in the Sigler paper; that is simply not his way, and whatever else he might be, he is a rigidly honest person. He would rather have the public debate, as would I for that matter. You allude to what Roy excluded from the letter by Sansone et al. Roy had to reduce the letter by Sansone extensively since so much of it had nothing to do with the scientific merits of Sigler's paper; he did the same to Sigler's response for the same reason, as well as the response from Dr. Howe. The combined total pages for these letters was over 20 pages, which was simply too much to publish. He did feel the matter obviously important, or he would not have published anything.

September 10, 1988 (Palmer): Strictly professional.

Nothing transpired between Dr. Hildebrandt and myself. I am not inveighing against you or the former editor of JMPT on a personal basis.

August 10, 1988 (Lawrence): Hard work and responsibility of an editor.

I have said to Dr. Seemann and I say as well to you that debate is healthy when it is done openly and honestly. I have labored extremely hard over the past two years to let the profession know that they don't have to fear the JMPT, that the field practitioner can consider preparing a paper for publication, and that the tools necessary to do so are not hard to learn. Frankly, I hope to hell the readers can be assured a level of scientific honesty because I know it is there; I'm now the one whose responsibility it is to make sure that happens.

September 10, 1988 (Palmer): Responsibility and perception.

You rightfully stated the editor is "the one whose responsibility it is to make sure that (a level of scientific honesty) happens". It is the editor who is responsible for the review process. The editor of JMPT made a bad choice for the reviewer. I do not see this admission by even yourself.

August 5, 1988 (Palmer): Cognitive dissonance.

Dr. Seemann makes an excellent case that his article which was submitted to the JMPT should have been published, or at least not rejected for the reasons given. I have made the case that the Sigler and Howe article should have been rejected. JMPT's jury should be found with two articles supporting upper cervical line drawings (Seemann and Jackson) and zero against. Why is JMPT promoting cognitive dissonance in the chiropractic community by printing non-science (nonsense)?

August 10, 1988 (Lawrence): Cognitive dissonance.

We do not promote cognitive dissonance, and we certainly are honest. You cannot base your opinion on the fact that we published one paper you found offensive.

September 10, 1988 (Palmer): Case for Cognitive Dissonance.

You indicate that Dr. Hildebrandt "had to reduce the letter by Sansone extensively since so much of it had nothing to do with the scientific merits of Sigler's paper". First of all measurement/measurement systems had everything to do with Sigler's paper. Sansone's paragraph (3rd point) on measurement was all important and therefore should have been printed in its entirety for the sake of scientific honesty and openness. Secondly half of the printed reply (JMPT Vol. 9, No. 4, 285) by Sigler was a challenge to NUCCA. NUCCA was never mentioned in Sigler's article. Why was it hidden? It was not in the methods and materials section. Neither was it in Sigler's reply to me. (And it was excluded from the examiners letter to the editor of JMPT by the editor) The fact that Dr. Hildebrandt chose to print that reference to NUCCA combined with the fact that he chose to make the reference one half of Sigler's printed response even though that passage constituted only about one half page out of the original 17 plus pages submitted by the authors creates cognitive dissonance and appears to be more than just another mistake in judgment by Dr. Hildebrandt. When coupled with the reasons for the rejection of Dr. Seemann's article that was submitted to JMPT (long before the Sigler and Howe article was submitted to JMPT) there appears to be more than just circumstantial evidence. Why did Dr. Hildebrandt consider the challenge to NUCCA so important to his readers? I see no appropriate reason.

August 10, 1988 (Lawrence): Protocol.

Please note the Sansone et al contravened our published protocols for handling copyrighted material by forwarding copies of their letter to third parties; that was a serious ethical breach.

September 10, 1988 (Palmer): Honesty vs. Protocol.

Scientific honesty is infinitely more important than anyone's published protocol. Professionally, I am glad they did send me a copy of their letter to the editor of JMPT.

Debate and protocol are not the issue, the issue is **scientific** research in the field of chiropractic reviewed by **appropriate** experts and published in an open forum. These experts have the responsibility to cull the few good studies from the mix containing numerous bad studies. This helps to increase the likelihood that the reader will be exposed to quality not quantity. What is unique in chiropractic will be put to the test and that which survives will be placed on a firm scientific foundation thereby ending these never ending debates. The foundation of scientific research is measurement.

June 27, 1988

Dr. Ralph R. Gregory, Editor  
The Upper Cervical Monograph  
221 West Second Street  
Monroe, MI 48161

Dear Dr. Gregory:

In his article "A Model for Understanding the Difference Between Mythology, Theory, and Science" (Upper Cervical Monograph, Volume 4 Number 6, June 1988), Dr. Daniel Seemann develops an interesting and for the most part cogent argument concerning the heirarchical levels of understanding relative to the scientific process. However, I think the author errs in taking the issue to excessive extremes in what appears ultimately an attempt to repudiate the use of scientific methods.

Debate about scientific issues is healthy. Dr. Seemann has chosen to focus upon the issue of line drawing on radiographic films, and references the article by Barry Jackson initially published in response to an article by Sigler and Howe; both were published within the pages of the JMPT (1,2). What is happening here is that a discipline unique to chiropractic is beginning to undergo rigorous testing, and the jury is still out on the subject. Certainly, the radiologists are no more biased than is Dr. Seemann; a case might be argued that practitioners of upper cervical work may have a greater stake (read: bias) than do the radiologists. The radiologists have essentially nothing to lose in taking the stance they do; their practice is not based upon a procedure that may not have merit (or may have merit — it still has not been properly tested).

I do take issue with his statements concerning deference to "refereed" journals. Refereeing a journal simply means that papers are submitted to reviewers who examine the paper with an eye toward determining the accuracy and appropriateness of the material discussed by the paper. This cannot guarantee the quality of the research, and I know of no one who will claim that a paper published in a refereed journal is better than a paper published in a non-refereed journal simply by virtue of the journal using a referee process. I also know of no-one who claims that publication in a refereed journal means that an article contains "truth" and is the definitive study. Actually, I think the issue concerns the use of the term "indexed", which has a more important implication for the publication of material. A reader can be assured of a certain level of scientific honesty in reading material published in an indexed journal. This means the journal meets certain very high standards for the publication of information.

A statement that "the truth is the statistics or charts look great but the substance and the methodology of the research is very shaky . . ." is essentially meaningless unless it can be supported by example. It is simply contention, and represents, in my opinion, just another attempt to repudiate reputable and scientific journals.

Journals such as the JMPT strive to act responsibly and fairly, and we attempt to represent the entire chiropractic profession. We set stringent standards indeed, but the

standards we set help to ensure our acceptance by not only the chiropractic profession but by all in the worldwide scientific community. And that, ultimately, benefits all of us who practice the art and science of chiropractic.

Most sincerely,  
Dana J. Lawrence, DC  
Editor

## References

1. Sigler, DC, Howe JW. Inter- and intraexaminer reliability of the upper cervical X-ray marking system. *J Manipulative Physiol Ther* 1985;8:75-80.
2. Jackson BL et al. Inter- and intra-examiner reliability of the upper cervical X-ray marking system: a second look. *J Manipulative Physiol Ther* 1987;10:157-163.

July 27, 1988

Dr. Dana Lawrence  
200 East Roosevelt Road  
Lombard, Illinois 60148

Dear Dr. Lawrence,

Dr. Gregory suggested that I might want to reply to your response to my article "A Model for Understanding the Difference Between Mythology Theory and Science." First off, I really do not like to get into debates about what I wrote, little is ever decided by these exchanges, but some of the assertions that were made were a bit emotional and I feel that I should respond.

The first statement that I reacted to is that I am attempting to repudiate the use of scientific methods, which is exactly opposite to what I am attempting to convey. People sometimes tend to call something scientific when in fact, it could be either mythological or theoretical. In the article I cite problems both in chiropractic and other disciplines. I am surprised that you do not recognize that these gaps exist. I am not repudiating the scientific method, I am asking for a better understanding of it especially from the chiropractic profession.

A case in point is the Sigler and Howe article (which I did not mention in my article) which illustrates several examples of the scientific mythology that I am concerned about. For an example, according to the three doctors who participated in the study (one of whom I know), they were never fully briefed about the objectives of the investigation. To me this was a clear violation of the Declaration of Helsinki and should have been rejected on that basis alone. Another concern was the competence of the investigators. Neither of the authors as far as I know were trained in upper cervical work, even better the NUCCA work. I wonder how a group of neurosurgeons would accept the findings of someone outside their discipline who was not particularly experienced

in their field? I think an informed reader would probably reject the conclusions even if the study was tight. This brings up another point, who on the JMPT review board is competent to referee line drawing articles as they relate to upper cervical work?

What is detrimental for chiropractic is that since the article was printed in the JMPT the conclusions must be valid, because a large portion of the chiropractic profession does not have the training to read journal articles critically. Dr. Gregory's experience over the last 40 years certainly would not support the Sigler & Howe conclusions, (8,000 patients with nearly a 100% reduction rate). It would seem to me that if Sigler & Howe wanted a rigorous study they should have contacted Dr. Gregory. I know Howe has been in the office. My feeling is that Sigler & Howe were not really interested in a conclusion that support measurements on x-rays. You state that the radiologists have nothing at stake about the stance that they take with regard to reading line drawings on x-rays. It has been my impression, and many others in chiropractic, that the radiologists have almost a religious fervor about their position. If the jury is still out, would it not be more intellectually honest to take a neutral position especially if there is nothing at stake? Jackson et al, in a substantially tighter article demonstrate that lateral x-rays can be read reliably. This makes those radiologists who took the anti-position look bad. I think those folks have a considerable amount to lose, especially credibility.

I also have some complaints about JMPT related to this discussion. I submitted an article to JMPT about observer reliability in 1982 and was accepted for consideration. After a year of "consideration" the manuscript was rejected on the grounds that the analysis system was questionable and the use of a model would have avoided the need to take x-rays on human subjects. I thought the reasons for rejection were weak. An important part of the study was to determine if the analysis could stand the test of different readers. The reviewers had in effect rejected the hypothesis before I was allowed to test it. The excessive use of x-rays was not a logical argument, because the subjects (also patients) received less than the standard series given. The fact the Sigler & Howe & Jackson studies were both accepted, negates the model argument.

I have been a referee and been refereed with other journals, and in most cases the review process was supportive, i.e., giving suggestions or making modifications to give the study more "rigor." With my article there was none of this.

A final question that I would ask you is this. I did poke a beef at the radiologists who have taken the anti-position about line drawings. I would have thought a reaction would have come from one of the radiologists. Why does the editor of JMPT have to defend this group? Is there some sort of bias here?

Daniel C. Seemann, Ph.D.  
Executive Director and  
Research Consultant to NUCCA

DCS/eld

## Stabilizing the C1 Subluxation Complex

(Continued from page 1)

and become capable of conducting a normal neurological flow, both sensory and motor.

The neurological imbalance occurs when C1 moves laterally from under the occipital condyles the distance of the thickness of the width of a pencil mark; bodily distortion follows immediately. This phenomenon appears to be the effect of the C1 lateral movement on the Reticular Formation in the brain stem causing contracture of the extensor muscles.

The skull or upper cervical vertebrae can be stressed by internal forces sufficient to unbalance the system. These stressful forces are the result of influences within the individual in which one influence does not rule out another influence resulting in unbalance within the system. A C1 subluxation recurs, therefore, because the system is out of balance. It usually takes about three days before the subluxation and syndrome assert themselves which is not enough time, after the adjustment, for the nerves to regain normal conductivity.

Stress forces, therefore, arising from sources within the individual can cause a new subluxation. The stress of gravity from the skull that has deviated from the vertical axis, stress produced from the cervical spine moving as a unit into either of the two frontal planes, the stress remaining following an incompletely corrective adjustment, stress caused by stretched tendons, ligaments, and muscles are but to name a few more common sources of internal stress that can be responsible for loss of equilibrium in the C1 system.

One of the most aggressive of these stresses, for example, is the effect of the center of gravity of the skull on the cervical spine. The law of gravity is always in operation and the gravitational stress from a displaced skull may well reproduce the C1 subluxation because of the skull's relative weight.

As Daniel C. Seemann, Ph.D. and a member of the NUCCRA Research Board, wrote: "The center of gravity is a point about which a single downward force equals the weight of the body. Because of the influence of the earth's pull of gravity, every body tends to assume a position in which its center of gravity is as low as possible. Within the skull there is a vertical line with a single downward force which is the sum of all the downward forces of the skull which is equal to the weight of the skull. A force equal to the weight of the skull is necessary to maintain the skull in the vertical position.

"If the skull is in a state of equilibrium, the resultant of all forces acting on the skull is zero.

"When the center of gravity is in a state of equilibrium, the center of gravity is at its highest level on the vertical plane. As the center of gravity becomes unstable, it will lower and move further from the original vertical center.

"An unstable equilibrium causes the resultant of forces necessary to maintain the skull in the vertical position to

shift in the same direction as the center of gravity. The resultant of forces now become greater than 0 because there are vertical and horizontal stresses attempting to compensate for the skull which is misaligned.

"Therefore, the goal of the adjustment is to reduce all the misalignments and return the skull to a state of equilibrium where the resultant forces needed to maintain the skull upright are zero." (Vol. 2, #4, Monograph, January, 1978)

Thousands of C1 subluxations have been analysed, and thousands of different subluxations exist, each requiring its unique vector, patient-table placement and adjustic procedures subluxation-correction and stability is to be achieved. The characteristics of these subluxations, however, have been collated on the basis of their individual misalignment stresses and procedural aspects into four basic patterns, or basic types. Each type contains many sub-types, each exhibiting the characteristics of the parent type.

The mechanical actions that set up the characteristics of the four basic types are the result of the internal forces that tend to destroy stability by overcoming resistances. These characteristics vary within the four basic types.

Motion is the act or process of changing place or position with respect to some reference point. In the C1 subluxation, the reference point is the vertical axis. The mechanical motion may be restorative, i.e., to or toward the vertical axis or normal position, or it may be farther misalignment from the reference point. Motion is always instigated by force in either case, and it must be sufficiently great to overcome inertia. If an adjustic force fails to overcome the resistances in a C1 subluxation, it fails to be corrective. Because the adjustment must overcome the resistance of the subluxation, the adjustic force must be exactly directed along a resultant that counteracts the resistances. This directional procedure greatly reduces force and depth in the adjustment, two of the dangerous elements of an adjustment. The magnitude of force, therefore, relative to the magnitude of resistance is the determining factor in causing motion.

Direction is the relationship by which orientation of any position in respect to any other position is established. It is vital whenever force—which is directional in nature—is applied to achieve motion to or toward a specific reference point.

Direction of motion and force, therefore, must be pre-calculated before delivering the adjustment so as to correct the misalignments. If the adjustic force is greater than the resistances, larger misalignments result from the excessive force and subluxations increase. If the adjustic force is not enough to overcome the resistances, the misalignments are not sufficiently corrected leaving some of the internal forces to create another subluxation in little time.

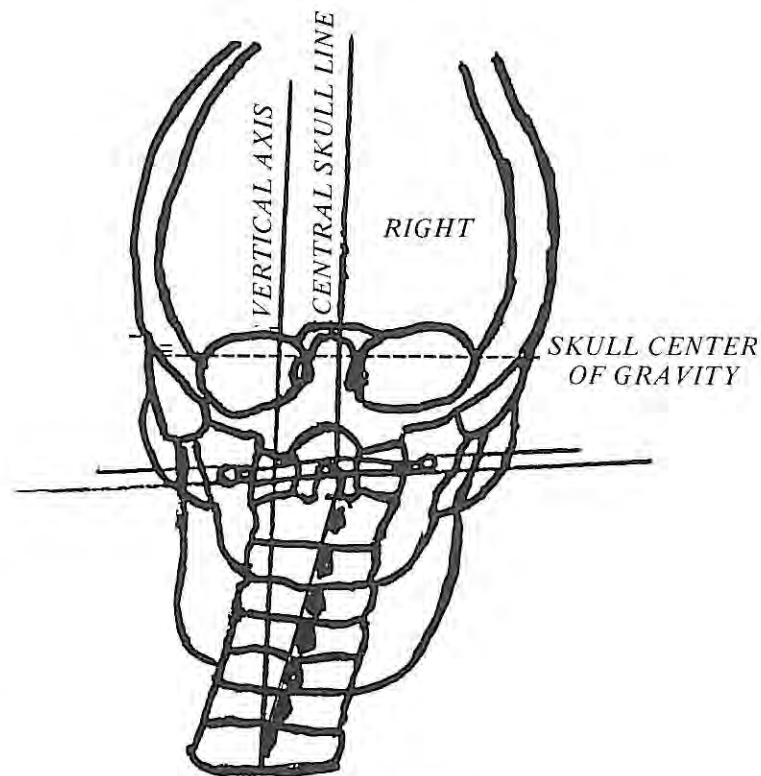
No one has yet shown conclusively that the magnitude of the required adjustic force in any given case can be pre-determined from the x-ray analysis. So-called "light" adjustments have no meaning as do "no force" adjustments. These terms defy definition. Each C1 subluxation requires its unique force magnitude to overcome the resistances within that subluxation. This is an adjusting problem and a

patient headpiece-placement problem, and will be discussed in another paper.

To equilibrate or stabilize the opposing resistances of the C1 subluxation, the misaligned structures must be restored to the vertical axis, i.e., skull, vertebrae, and pelvic girdle must have their axes of motion aligned to the vertical axis. This procedure necessitates accurate patient placement according to the basic type as well as control of force and depth. To restore a vertebrae to normal requires moving it a very slight distance.

Stresses and resistances that account for the characteristics of each of the four basic types are noted in the examples of the basic types presented below. Also commented on will be the importance of control of direction and similar fundamentals.

The characteristics that identify a first basic type (Figure 1) are: Angular rotation of the cervical spine as a unit and C1 laterality are always on the same side; the central line of the skull and the vertical axis line are either parallel or the skull line may tip slightly toward the vertical axis line; the normally horizontal plane line of C1 is higher on the side of C1 laterality, and the cervical spinal vertebrae are in a state of rotation because of the movement of the cervical spine into one of the frontal planes and the rotative influence of C2.



*First Basic Type*

These characteristics are caused by the abnormal movement of the cervical spine into a frontal plane. As the cervical spine moves into a frontal plane, the superior articulating surfaces (base of support for C1 and the skull) move from under the skull and C1 is forced upward against the occipital condyle on the side of laterality. This action is resisted by the weight of the skull. The opposing forces of the skull downward and the superior articulating surface of C2 upward cause C1 to slip laterally and move to the superior producing the higher plane of C1.

The frontal movement of the cervical spine tends to rotate the cervical vertebrae subjacent to C2 because the vertebrae tend to close toward each other on the side opposite rotation and elongate on the side to which they are rotated gliding on their zygapophyseal joints.

The skull moves slightly, if at all, in type one except as it moves to the side of angular rotation but remains somewhat parallel to the vertical axis. As a result, its center of gravity is not too greatly displaced and the gravital line falls rather close to the center of the base of support.

In the adjustment the patient's skull center of gravity should align to the mastoid support of the table headpiece to obtain easier reduction of the misalignments. The adjustic force must come down and around the superior articulating surfaces of C2 to correct cervical angulation and cervical rotations.

Examination of Figure one clearly shows that, using the right transverse process of C1 as the effort of the lever, the adjustic force must be applied so that it travels down and around the superior articulating surfaces of C2, a main resistance, if the subjacent cervicals are to be returned to the vertical axis, correcting cervical angulation and rotation of

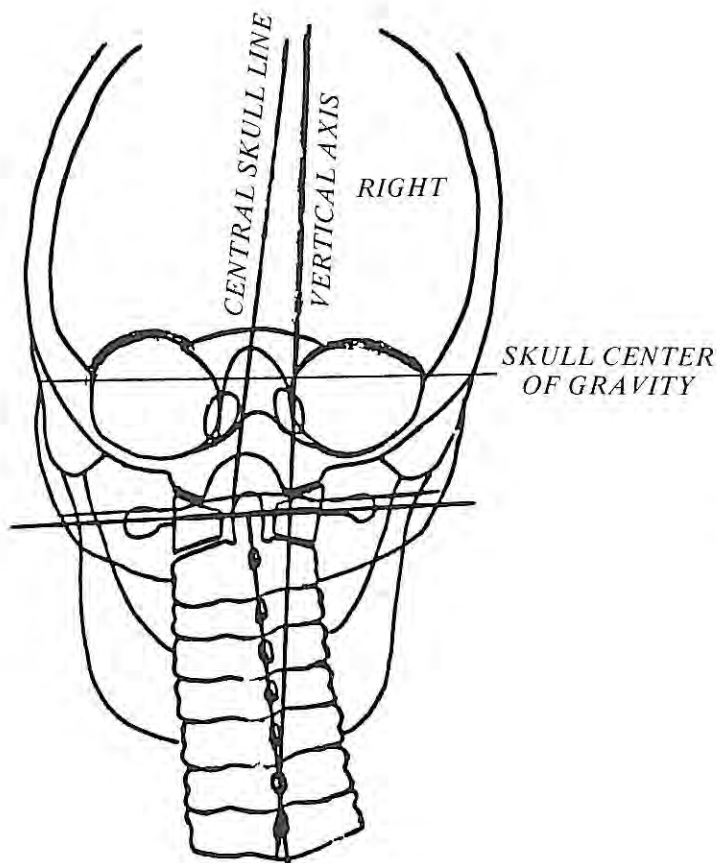
the cervical vertebrae in the transverse plane. The height from which the adjustment must be delivered includes the superiority of the atlas plane, the sizes of the superior articulating surfaces of C2 and the condylar circle, which vary considerably in different cases, the ratio of displacement between C1 laterality and the laterality of the C2 odontoid process of C2, and the difference in the degree relationship between C1 laterality and angular rotation. Unless angular rotation is corrected by applying the proper height in the adjustment, the laterality of C1 will not correct.

If the adjustic force is delivered too low to overcome the resistances in a type one, the result has been proved to be non-corrective, the misalignments will not be restored to normal position, and the subluxation increased.

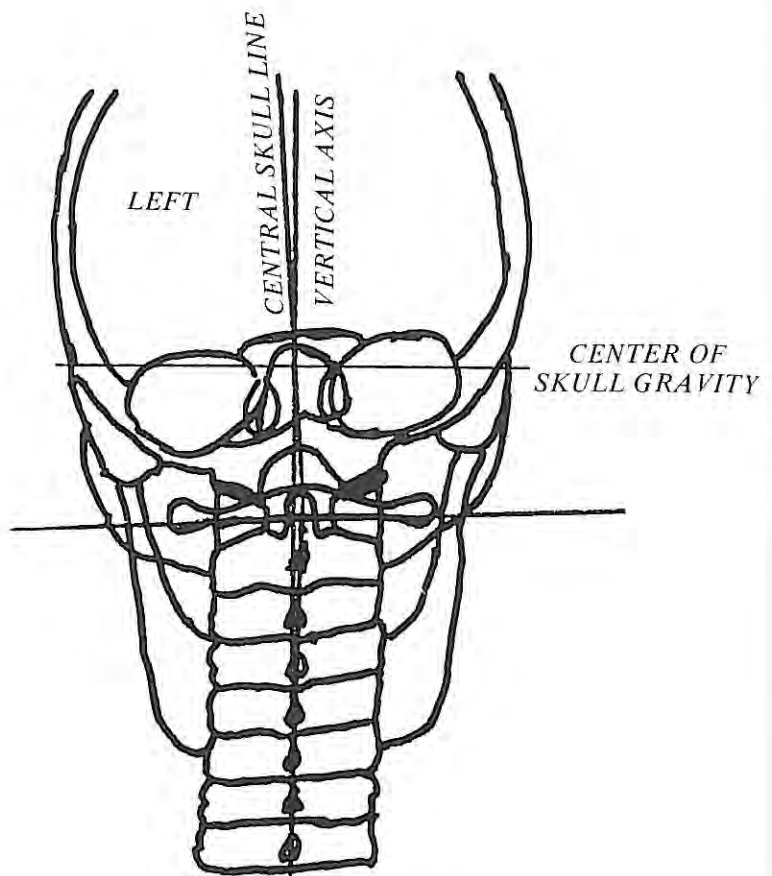
These characteristics remain fairly constant throughout the years unless a direct force is so potent as to change them. While the malpositions may change slightly, the patterns do not because of the forces that lock them in. Subluxation patterns do not change as a rule.

The Second Basic Type (Figure 2) exhibits the characteristics of angular rotation of the cervical spine on the side opposite C1 laterality; the skull turns toward the vertical axis considerably and to the side of C1 laterality, and the horizontal plane of C1 is slightly lower or higher than a true horizontal plane.

These characteristics are produced by the abnormal movement of the cervical spine as it deviates from the vertical axis. Resultantly, the superior articulating surfaces of C2, or base of support, have moved from under the skull which drops downward on the side opposite the angular rotation causing some of the C1 laterality. The remainder of



*Second Basic Type*



*Third Basic Type*

the C1 laterality results from the movement laterally on the occipital condyles of that vertebra. The adjuster must determine the degree of laterality caused by the skull and/or C1 moving on the occipital condyles so that he/she knows the distance each element produces as each must be restored to the vertical axis the exact distance each deviates.

The downward pressure of the skull weight accounts for the lowering of the plane of C1.

As in a type one, angular rotation of the cervical spine in conjunction with the rotation of C2 causes the rotation of the cervicals into the transverse plane.

The center of gravity of the skull which is considerable in a type two reinforces angular rotation and usually produces an anterior rotation of C1 in the transverse plane.

Adjustive correction of a basic type two subluxation requires that the adjustive force be directed up and around the superior articulating surfaces of C2. An examination of Figure two will show that any force from above downward will increase angular rotation and the tilting of the skull further displacing the base of support, increasing C1 laterality, and increasing the subluxation. An upward force can restore both the skull and the angular rotation of the cervical spine to the vertical axis. Restoration of the cervical spine angulation corrects the transverse rotations of the cervicals if coupled with the proper torque for turning the spinous process of C2.

The greater resistance in this type subluxation is the weight of the skull which must be lifted upward toward the vertical axis. This factor makes it imperative that the

adjustive force comes from below the transverse of C1. To aid in raising the skull, the patient's skull must be placed on the headpiece of the table so that the mastoid process contacts the mastoid support of the headpiece thus allowing the skull to turn toward the vertical axis. Determining the exact line of the adjustive force requires an understanding of the biomechanics in every type subluxation. How to compute the vectors in these basic types is too involved and lengthy a subject for this paper. Personal instruction, moreover, is required.

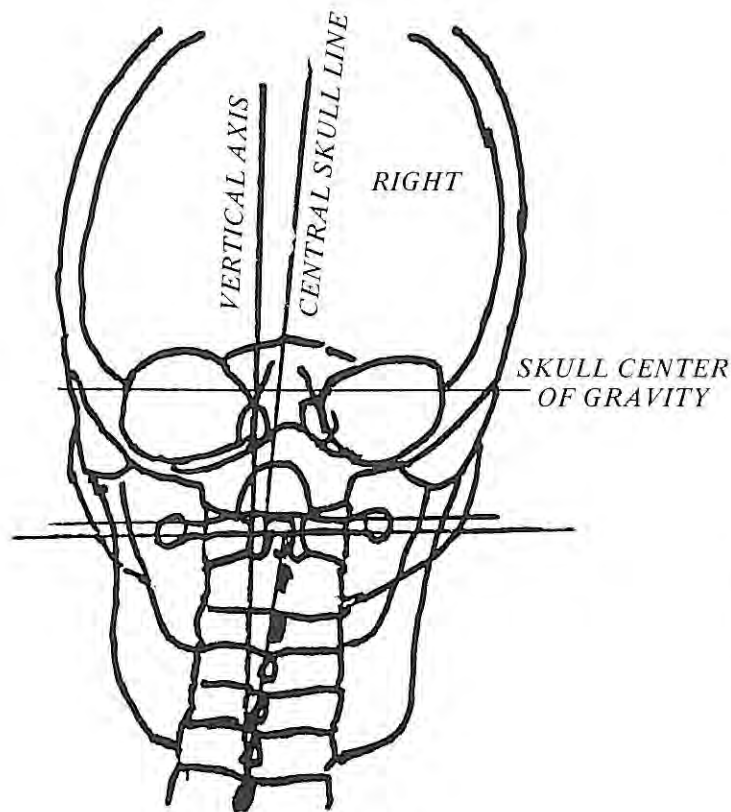
The characteristics that mark the Third Basic Type (Figure 3) are: the skull is tipped away from the vertical axis, indicated by the central skull line and the vertical axis line; the plane of C1 is nearly horizontal. The most distinguishing characteristic is that no angular rotation is present into either frontal plane, therefore no rotations for the cervical vertebrae subjacent to C2 exist in the transverse plane.

Because of the tipping of the skull to the side of C1 laterality creating a downward pressure on the superior articulating surface of C2 on the side of laterality, the atlas plane is nearly normally horizontal. The tipping of the skull produces all the laterality in a basic type three.

The largest resistance to the adjustive force in this type case is the greater weight of the skull. The adjustive force must raise the skull upward as in a type two; the force must come up and around the superior articulating surfaces of C2.

To facilitate the direction of the adjustive force and its effect in raising the skull, the patient's head must rest on the mastoid support of the table's headpiece at the tip of the





*Fourth Basic Type*

mastoid bone with the parietal end of the headpiece dropped sufficiently to allow the head to turn.

The direction of the adjustic force must be very carefully calculated. If the force is too low, even slightly, it will cause a deviation of the cervical spine into the opposite frontal plane; if the force is too high, it will convert the third basic type into a second basic type.

The Fourth Basic Type presents characteristics similar to a basic type one and a basic type two (Figure 4). Angular rotation is to the same side as a C1 laterality although its excursion from the vertical axis is limited. As in a type two, the skull is tipped down on the side of C1 laterality which is produced by the tipping of the skull and the movement of C1 on the occipital condyles to the side of C1 laterality.

The combination of both the skull and C1 contributing to C1 laterality requires a computation to determine how much each structure contributes, and a precise direction of the adjustic force to restore each structure to the vertical axis. Should this not be done, the adjustment will fail to remove the internal forces of the subluxation causing loss of equilibrium.

To facilitate the correction of both structures to the vertical axis, the patient's mastoid bone should rest on the mastoid support about mid-way between the skull center of gravity and the lower end of the mastoid bone. The reactive force of the adjustment will help move both structures correctly.

The resistances to the adjustic force are the skull and the superior articulating surfaces of C2. Adjustic direction is

crucial because a too high line of force will increase the turning of the skull, increasing laterality, and too low a line of drive, no matter how slight in either case, will increase angulation of the cervical spine and, resultantly, rotation of the cervicals subjacent to C2 into the transverse plane.

The purpose of this paper has been to give some idea of the resistance-forces within the C1 subluxation complex that must be overcome by the adjustic force. Some reasons for accurate direction in adjusting are also presented; the need for accuracy in pre-determining the resultants that will be utilized when adjusting, and the detrimental results that can occur from inaccurate adjusting. Only the nasium x-ray film has been considered.

## The Ruth O. Gregory Memorial Fund

To the many and generous contributors to the RUTH O. GREGORY MEMORIAL FUND, NUCCRA extends its thanks. Your contributions to the fund have helped to finance C1 subluxation research, advance your profession, and assist your colleagues to practice subluxation-reduction, thereby helping your profession, your patients, and yourselves.

The NUCCRA Directive Board in November of 1982 unanimously voted to establish a Memorial Fund as a tribute to Ruth O. Gregory in appreciation for the time and effort which she so unselfishly gave to the NUCCA-NUCCRA organizations. This fund is to exist as long as the organizations exist. It was her great desire that chiropractic become more scientific and of greater benefit to mankind. She saw bona fide research as the only way to achieve these goals. To this end, she devoted time, effort, and money.

Since her death in June of 1982, many donations have been received from doctors, students, and lay persons who knew her. These donations have been used for the sole purpose of furthering NUCCRA research.

It is the feeling of the NUCCRA Director Board that, through this Memorial Fund, Ruth O. Gregory's great interest in the development of chiropractic will live on, and the advancement of chiropractic continue for the benefit of all.

Recent donators to the Ruth O. Gregory Memorial Fund are:

Dr. Irene Adamczuk	New York
Dr. Steve Duff	California
Dr. Dennis Hawk	Georgia
Mr. John Savage	Ohio
Dr. Donald K. Moon	Ohio
Mrs. Marynelle Shields	Indiana
Dr. Jean Paul Martinet	California
Dr. Marshall Dickholtz, Sr.	Illinois
Mr. & Mrs. M.J. Anderson (Markey Foundation)	Ohio
Mr. & Mrs. James O. Lowe	Ohio
Dr. Ralph R. Gregory	Michigan

# Anatometer Update — 1988

By Daniel C. Seemann, PhD

It has been approximately 10 years since the Anatometer became available to the profession. And for those who have obtained an Anatometer their experiences with it have been positive. Most claim the instrument has been invaluable and has become an integral part of their practice. The purpose of this paper is to update and summarize the current use of the Anatometer as it relates to the practitioner in the field.

## Review of the Literature

There are two articles which discussed the Anatometer and has been published in the *Monograph* over the last 10 years.

### C-1 Subluxations, Short Leg and Pelvic Distortions (1978)

Up to the time of the Anatometer, Clark felt the most accurate method of checking leg length was using the fluoriscope screen. A horizontal rigid wire was aligned to the crests of the ilium. The displacement between the high and low crests were then measured. In 1972, he compared the x-ray method to palpation and measuring the crests of the ilium and the lower ankle with a tape, and found the latter methods inadequate especially with small measurements ( $\frac{1}{4}$ "- $\frac{1}{2}$ "). Judovich and Bates (1949) felt in order for chronic back pain to manifest, at least a 10mm short leg would have to be present.

The supine leg check is the most popular leg check with upper cervical adjusters. The problem with the SLC is that the measurement can be very subjective and is probably no more accurate than what can be found with an ordinal or nominal scale (Seemann, 1988). There is agreement among most upper cervical adjusters though that 3.25mm ( $\frac{1}{8}$ " ) leg shortness is enough to cause low pain.

It is generally felt the supine leg check is superior to the tape measure and palpation, but is not as accurate as the x-ray method.

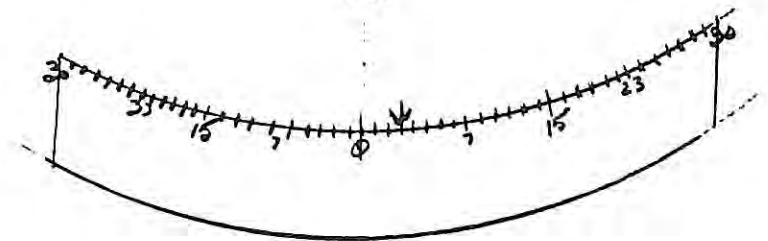
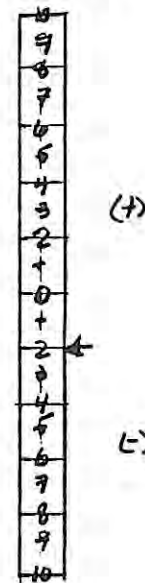
The conclusion of the above study, indicated a high correlation between a C-1 subluxation, pelvic distortion and short leg. All health care practitioners should benefit from knowing if a patient has a short leg that a C-1 subluxation will be present. The troublesome fact is that other health care systems do not feel this knowledge is particularly helpful. The major conclusion of the study was that if the misalignments of the ASC are reduced to zero, the distortions in the frontal and transverse planes will also reduce to zero as registered by the Anatometer.

Future research with the relationship between the ASC and pelvic distortions should examine whether the reduction of laterality directly effects reduction of the frontal plane in the pelvis and if so which side. It should also be determined if reduction of laterality affects the transverse plane in the pelvis. The converse of these hypotheses should be examined also.

### Objectivity and Reliability of the Anatometer (1984)

A previous study of Addington (1983) showed low coef-

## FRONTAL PLANE



## TRANSVERSE PLANE

Figure 1. The frontal and transverse scales found on the anatometer.

ficients of reliability with frontal, transverse and fixed point measurements of the Anatometer. This was a surprise because this was not consistent with the findings of Monroe, where there was relatively high reliability and objectivity. (Objectivity: is consistency between observers, reliability: consistency with a single observer.)

Results of the NUCCA study:

**Reliability:** .81 for the frontal plane, .44 for the transverse plane and .63 for the fixed point. The (.81) does not mean that the placing of the calipers is necessarily correct but the observer is consistent in how the calipers are being placed. The transverse (.44) would suggest a low level of consistency and an area for improvement. The fixed point (.63) shows a moderate level of consistency but not good enough for NUCCA standards. The (.63) for the fixed point was in the moderate range.

**Objectivity:** (.38) for the frontal plane, (.48) for the transverse plane. The fixed point was (.81). For the frontal plane, the (.38) suggests that the five observers placed the calipers differently, such things as placing the calipers over the fat fold, different foot placement, calipers too tight etc. The transverse index also was not satisfactory (.48). It is the writer's experience that with the transverse plane, foot placement is very critical. As the feet placement widens, the more stable the transverse becomes.

There were several variables in the study which could have influenced the validity of the study. One would be that using chiropractors as subjects is probably a bad idea, because as a group, (in my opinion) are more subluxated and therefore do not represent a normal population. Another, the participants in this study, were fatigued due to travel and lack of sleep. It has been determined that fatigue can account for at least 2 degrees of rotation, although fatigue does not seem to influence the frontal plane.

The mechanics of the Anatomer also seems to influence the readings. The foot platforms should be checked to make certain they are level. The caliper arms should move freely, both in the frontal and transverse planes. Barometric changes can also influence the readings as to stability.

### Considerations About Using The Anatomer

Nothing really definitive has been written since the 1978 study and therefore it might be helpful to the field doctor if an Anatomer update were presented regarding a detailed use of the instrument. The following steps should be observed when using the Anatomer.

1. The Anatomer is capable of 7 measurements. The most commonly used are the measurements of the frontal, transverse and the fixed point all of which are taken in degrees. Measurements that are taken in inches are foot width, hip width, ilium height, and pedal differential. Special mention should be made about the pedals. Each unit that the pedals move up or down is equivalent to .125 inches. Consideration has been given to the possibility adding transducers to the foot pedals. This would greatly increase the accuracy of dividing the patient's weight between the pedals. (See Figure 1.)
2. Placing the patient on the Anatomer. There are several steps necessary in placing the patient on the Anatomer properly.
  - (1) Check that the pedals are equal, preferably at zero. Also make sure frontal and transverse arms move freely.
  - (2) Place the patient on the Anatomer. Assure the heels of the patient are wedged into the heel plates.
  - (3) Prior to placing the patient on the Anatomer, check the foot spread of the instrument. A good initial spread for men is 4½ inches; for women, a foot spread of about 3 inches is a good guess.
  - (4) The weight of the patient should be equally divided between each foot pedal.
  - (5) Place the calipers on the crests of the ilium. This probably is the most difficult procedure. Men carry extra flesh around the ilium and it is necessary to place the arms of the caliper under the flesh and over the iliums. Women present a problem because there is a tendency to place the calipers too close together and the stability of the measurement is affected. Again, check for weight distribution.

- (6) Check the calipers again. It is important to establish the frontal plane measurement first.
- (7) It is also important to know the side of the short leg as determined by the supine leg check, because it is possible to get a (+) reading in the frontal plane. If the SLC is not known, the frontal plane measurement could be read as (-) on the opposite side.
- (8) If the frontal reading is good then proceed to take the transverse measurement. It helps to insure a good reading by rotating the patient both to the left and right of the first reading. If it is good measurement, the indicator will return to the original position.

If the feet are too close together, the transverse measurement will be less accurate. The more stable the base, the better the measurement. It is also a better measurement if you ask tall people to widen their base. Tall people tend to torque more.

- (9) Next, locate the fixed point, either at T-1 or C-7. If the probe does not reach the fixed point due to the posture of the patient, ask the patient to lean toward the probe. The measurement is simple to take, but the research shows there is variability with the measurement. It is important to place the probe directly onto the spinous.
- (10) After the three measurements are taken, the doctor should assess the findings. The normal pattern would be the frontal plane would be low on the side of the short leg (-), the transverse plane would be posterior, and the fixed point would be located on the side of the short leg. An out of pattern would be frontal, (-), transverse would be anterior, and the fixed point would be found on the opposite side of the short leg. The out of pattern measurements suggest a more complicated subluxation, where the center of gravity of the pelvis has shifted to the opposite quadrants causing a greater stress on the body.
- (11) All data should be recorded, because the patient becomes their own control. With each visit the patient pattern is established. This is a very important part of the treatment.
- (12) What happens after the adjustment?
  - (a) If there is a good reduction, all the Anatomer readings, transverse, frontal, and fixed point should go to zero.
  - (b) If the frontal plane goes to zero, but the transverse does not or the fixed point does not. Do not adjust the patient, but monitor the patient over time. The transverse sometimes does not lower due to fatigue which is usually worth at least 2 degrees. If transverse and fixed point reduce slowly while the frontal plane and SLC show no pressure it usually will go to zero (transverse and fixed point).

(c) The fixed point may not change for six months. The fixed point seems to follow the healing cycle more closely than the other measurements.

(d) The question to adjust if a 1/2 degree shows on the frontal plane, becomes judgemental call on the doctor's part. If the patient seems to be making progress, an adjustment probably would not be indicated. On the other hand, if the patient is not making the desired progress, an adjustment may be indicated.

(13) Sometimes immediately after an adjustment, there will be no change from the pre-adjustment readings. In this case, the patient should be asked to walk out the muscle change. Many times the walk-out will change the readings toward zero.

3. The Anatometer is also useful in determining whether a patient has a congenital short leg. It is the writer's view there is a small portion of the population that has a congenital short leg. The procedure for determining a congenital short leg is to examine the frontal and transverse plane. If the frontal plane is low (-) and the transverse plane is posterior, the foot pedal is raised from the low side. If the two planes then reduce to zero, it can be deduced that the short leg is not congenital. If the two planes do not reduce to zero, it can be deduced the short leg is conital. If the Anatometer measurements are out of pattern, i.e., frontal plane is (-), but the transverse is anterior and fixed point is to the opposite side of the short leg, the procedure which is not logical, requires the pedal opposite the short leg, be raised. If the frontal and transverse planes reduce to zero, then it can be deduced that a congenital short leg does not exist.
4. And finally, for those doctors who have an Anatometer, the potential for using the instrument as a screening device for industrial and school applications seems limitless. Currently there is no instrument better than the Anatometer to do this type of screening. Making the Anatometer available to the community would be a tremendous practice builder.

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## The 1988 NUCCA Fall Seminar

The 1988 NUCCA Fall Seminar was held at the Howard Johnson Motor Lodge, 1440 North Dixie Highway, Monroe, Michigan from Saturday, October 29th thru Wednesday, November 2nd. The Howard Johnson conference room was filled to capacity. Doctors from the United States and Canada attended, and students from several chiropractic colleges were present. Dr. Noboru Ikuse from Japan made a surprise visit.

The educational program was supervised by Daniel C. Seemann, Ph.D., NUCCRA Research Board Member, and a professor at The University of Toledo. Coordinating the program was James F. Palmer, M.S., NUCCRA Research Board Member, also a professor at The University of Toledo.

Instructors were Dr. K. E. Denton, Dr. G. Cripe, Dr. Lloyd Pond, Dr. Lonnie Pond, Dr. M. Dickholtz, Sr., Dr. A. A. Berti, Dr. T. Palmer, Dr. L. Schrock, Dr. E. Stein, and Dr. R. R. Gregory.

The educational program was a "hands on" sequence, covering anatometer measurements, film analysis, biomechanics, leg-checking, headpiece placement, patient x-ray placement, x-ray alignment and adjusting exercises. Doctors were granted a choice of subjects.

All monies above expenses will be used to advance NUCCRA Research for the benefit of chiropractors, the profession, and patients.

## Notice of Price Increase

Due to increased cost of production and increases in postal charges, the educational pamphlets sold by N.U.C.C.A. will be increased from \$20.00 per 100 to \$27.00 per 100. If pamphlets are purchased at a seminar, the cost will be \$25.00 per 100.

N.U.C.C.A.'s status as a non-profit organization requires that pre payment on all items must be received before shipping can occur.

### NOTICE

The fees set by the NUCCA Board of Directors for applicants taking the Certification Tests are as follows:

1st Segment -	\$ 50.00
2nd Segment -	\$100.00
3rd Segment -	\$100.00

Fees are payable prior to taking each segment. Applicants should make checks payable to NUCCA, Inc.

# NUCCA at Palmer

By Bobbe Goodman

The following is a report of the events leading to the approval of the National Upper Cervical Chiropractic Association Procedure as an elective course at the Palmer College of Chiropractic, as well as the present activities which have resulted from these events. NUCCA is a light that has flickered on and off around the Palmer Campus for more than ten years. But now, standing on the shoulders of those who came before us, the torch has reached the pit and the flame is on.

NUCCA is now included in the Palmer College Continuing Education Program. It has also been approved as an elective technique for use in the Palmer Clinic. The first on-campus elective classes were held this past fall. Those students who have successfully completed the 45 hours of instruction will receive a NUCCA student clinic card which will allow many of them to use the NUCCA procedure in the clinic beginning in January of 1989.

The NUCCA procedure began to take hold at Palmer in the late 70's. At that time, most of the NUCCA group activities were off campus. Such doctors as Keith Denton, Marshall Dickholtz, Jr., Dan Fedeli, Julia Cirigliano, John Dunn, Elizabeth Erkinshaw, and Sherry Dickholtz (and others) were the first Palmer students to begin using the procedure. I like to refer to these doctors as 2nd Generation NUCCA. Sherry Dickholtz later started the first NUCCA Club on campus. However, with the graduation of these doctors, changes in the College's Administration, and the resignation of Dr. John Grostic, upper cervical specific adjusting procedures took a back seat to full spine adjusting techniques.

Within a few months after I arrived at Palmer, the Palmer Clinic initiated a Visiting Professors Program. In this program, field doctors come to the Palmer Clinic, do a complete clinical work up on a patient including the adjustment, and all according to that doctor's particular procedure which he uses in his own office. Dr. Robert Brooks was the first "Visiting Professor". Dr. George Hess volunteered to be the first patient in the program. Upper Quarter Clinic Externs (students) were permitted to observe the said clinical procedures. Two students, Dr. Andy Latanishan and Dr. Scott Simkowski, then students, were very interested in the NUCCA procedure and contacted me soon after. In the fall of 1987, the three of us reformed the NUCCA Club and had eight people at our first meeting. Now, one year later, we have over forty people involved in our club. At our last "Introduction to NUCCA" more than seventy people attended with standing room only. At this point, The NUCCA Club would like to offer a special thanks to Dr. Brooks for his steadfast support of all our activities.

The NUCCA elective class held this past fall was to be limited to 25 people, but due to the great response by students the limit was raised to 35. The class roster was filled within a week of the opening sign-up date in the quarter before the elective class was to commence. This is not usually the case, and the Continuing Education department was

truly surprised to see so much interest. Several people were even included on an alternate list in case any of the original 35 decided to drop the class.

NUCCA held the elective class over four separate weekends concluding 45 hours of instruction. The NUCCA instructors were as follows:

## Weekend I—

Doctors:

Glenn Cripe, Lead Instructor

Julia Cirigliano

Keith Denton

## Weekend II—

Doctors:

Ralph Gregory, Lead Instructor

Keith Denton

Marshall Dickholtz, Sr.

## Weekend III—

Doctors:

Lloyd Pond, Lead Instructor

Marshall Dickholtz, Sr.

Larry Schrock

## Weekend IV—

Doctors:

Al Berti, Lead Instructor

Teresa Palmer

Lonnie Pond

Subjects covered included: adjustment procedures, x-ray analysis, biomechanics, leg check, head piece placement, and patient care protocol. The students had several favorable comments about the classes. Many were impressed with the number of different doctors as instructors. The instructors worked well together without letting personalities or egos get in the way. The instructors spent no time talking about negative aspects of other techniques. The instructors were sincere in their presentation and made the student feel like the doctor. One student commented on how closely the procedure followed the three steps of scientific proof: Statement of the problem, Correction of the problem, and proof of the correction. The last step (post x-ray analysis) must be made to verify the other two. Another student said it was nice to get down to the basics in Chiropractic—the reduction of the subluxation, instead of placing so much interest on diagnosis and the symptomatic chase. Overall, the students thought the classes were professional and the instructors were well prepared. I can truthfully say, I heard no negative comments from any of the students in the class.

Each instructor expressed to me that they were likewise impressed with the students in the class. The students were attentive and questioning with an intent to learn the material. Out of the thirty some students that completed the course, approximately 12 students are involved in Chiropractic research projects that are funded through the College. Some of the best minds at Palmer were in the NUCCA class.

Much of the student body at Palmer College is not satisfied with the fact that Chiropractic works. They want proof. They are willing to take the time to read, to observe,

and to investigate. NUCCA at Palmer is a step in the right direction. At best, the students here at Palmer now would represent the next generation of NUCCA practitioners and Chiropractic researchers. I have been asked several times by students as to why NUCCRA research doesn't appear more often in Chiropractic referred journals. My answer is that the challenge for NUCCA now is to overcome the politics of the professional journals without compromising the parameters and integrity of its procedure. This, for any procedure, may not always be a question of whether the researcher meets the standards of the journal, but whether the journal meets the standards of the researcher.

The NUCCA Club would like to express its sincere gratitude to the instructors who took time from their busy schedules to successfully prepare and convey the NUCCA principles to us here at Palmer.

## Notice

Five patient education pamphlets are now available from NUCCA. The cost is \$27.00 per hundred which includes postage and handling. All pamphlets must be paid in advance due to our non-profit status.

1. *A Patient Guide*, (yellow), explains step-by-step office procedure to new patients.
2. *Questions and Answers*, (yellow), answers questions most frequently asked.
3. *A Patient Guide*, (green), explains what every patient should know.
4. *The Adjustment and the Patient*, (blue), explains the adjustment and how it works.
5. *The NUCCA System of Chiropractic*, (white), for patients, doctors, and students, explaining the NUCCA system.

Three new booklets have been published by NUCCA. The first booklet details the NUCCA x-ray analysis procedure: *The NUCCA Basic Course: X-ray Analysis*; the second booklet, *The NUCCA Advanced Course: Biomechanics*, explains the biomechanics of The Atlas Subluxation Complex, and the third booklet, *The NUCCA Course: Adjusting The Atlas Subluxation Complex* details the phases and steps of the C1 adjustment and explains *The Standing Positions*, a glossary of terms is included.

Each booklet sells for \$15.00.

## The 1989 NUCCA Convention And Educational Conference

The 1989 NUCCA Convention and Educational Conference will be held at the Howard Johnson Motor Lodge, 1440 North Dixie Highway, Monroe, Michigan, 48161. The convention will start on Saturday, May 6th at 8:00 a.m. and close on Tuesday, May 9th at 12:00 noon.

Theme of the educational conference is: The application of biomechanics to the spinal column.

Supervising the conference will be Daniel C. Seemann, Ph.D., University of Toledo and James F. Palmer, M.S., also from the University of Toledo. Both professors will present a research update on current work being done by the NUCCRA Board.

Subjects will include basic and advanced film analysis, classification of the C1 Subluxation Complex, patient placement for the different type subluxations, resistances in the C1 subluxation, anatometer exercises, leg-checking exercises, biomechanics, adjusting exercises, and x-ray machine and patient alignment.

Prepared videotapes on adjusting errors, film analysis, phases and steps of the adjustment and others will be optional and presented as time permits.

Past NUCCA educational conferences and seminars have been accepted by many state boards for license-renewal. Participants at the 1989 Educational Conference who require attendance credit must obtain a NUCCA attendance card, be monitored, have the record card punched each session with the special NUCCA punch, and leave the duplicate with us.

Professional fees are \$400.00; doctors in practice for two years or less, the fee is \$250.00. Students are admitted for \$150.00.

The deadline date for registering is March 20, 1989. To prevent refusal because of overcrowding, please register early. Space is limited. A \$25.00 charge is added if an applicant fails to register by the deadline date.

Income above expenses will be donated for NUCCRA research.

Further information can be obtained by writing NUCCA, 217 West Second Street, Monroe, Michigan 48161.

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## Executive Director Attends 5th Annual Upper Cervical Conference

Dan Seemann, the Executive Director of NUCCA, gave a NUCCA Update to the 5th Annual Upper Cervical Conference in Marietta, Georgia, November 12, at the Life Chiropractic College. He reviewed the progress that NUCCA has made over the last 20 years. His talk focused on the concept of normal, the four basic types, the center of gravity of the skull, head piece placement, and using the atlas as a lever. Many of the upper cervical adjusters were interested as to the differences between the former Grostic work and the present NUCCA work.

Later in the day, Dr. Seemann chaired a meeting of the upper cervical groups, the purpose of which was to discuss

common problems among the various entities. One of the concerns was the need to present a united front against the insurance companies who use chiropractors to act as experts against field doctors with regard to claims. The position of the supposed "experts" is to attack chiropractors on the groups that it is not scientific. The upper cervical coalition feels that upper cervical chiropractors are strong with regard to x-ray analysis and should make a concerted effort to combat the negative allegations by the "experts". The upper cervical coalition will attempt to make a statement with regard to a standard for the taking of x-rays which will be published in the Chiropractic Research Journal (CRJ) in the near future.

## NOTICE

The NUCCA Board of Directors has decided to make the NUCCA collection of video tapes available to members. The price for tapes has been set at \$100.00 per classroom hour. Available titles include:

*Osseous Structure Identification* (45 min.) . . . . . \$ 90.00

This tape depicts the various bony structures involved in the NUCCA x-ray analysis. Included are structures that present analytical problems. X-rays of live and dry specimens are used.

*NUCCA X-ray Analysis* (60 min.) . . . . . \$100.00

Step by step procedure of the NUCCA analysis using X-rays of live specimen.

*Leg Check and Headpiece*

*Placement* (45 min.) . . . . . \$ 90.00

*Leg Check* describes the planes of reference and how to align the examiner's body for accurate checking. Models and patient used. Errors are discussed. *Headpiece Placement* briefly describes the biomechanics of the correction of the four basic types. Center of Gravity of the skull and its placement on the three types of headpieces is shown.

*Adjusting the A.S.C.* (3½ hrs.) . . . . . \$300.00

Step by step procedures used to align the adjuster's body in addressing the various A.S.C.s. Includes the most common errors in each phase. Outline of video follows early *Monographs*, Vol. 1 No. 3 through Vol. 2 No. 4. Film includes various steps for posterior rotations and low vector listings.

*Errors in Adjusting the A.S.C.* (2 hrs.) . . . . . \$200.00

Compliments *Adjusting the A.S.C.* This tape describes errors in adjusting, what causes them, and how to correct them.

*Patient Placement For X-ray* (45 min.) . . . . . \$90.00

Precision placement of the patient for the lateral, vertex, and nasium views are discussed.

*X-ray Alignment* (45 min.) . . . . . \$90.00

Step by step procedure used to align cervical x-ray equipment to N.U.C.C.A. standards. To be used with the N.U.C.C.A. X-ray Alignment booklet.

*Biomechanics of The Four*

*Basic Types* (1 hr.) . . . . . \$100.00

Detailed discussion of the production and correction of The Four Basic Types of A.S.C.S. Headpiece placement and lever system shown in detail.

*Questions And Answers, A Self Evaluation For Adjusting The A.S.C.* (1 hr.) . . . . . \$100.00

Follows Monograph Vol. 3, No. 9 and No. 10. A chronological order as a guide for the adjuster when practicing the C-1 or triceps pull adjustment. By self-questioning, based on this tape, the adjuster is alerted to the adjusting steps he/she may have neglected or does not know, and the order in which the steps should be performed.

High quality video tapes have been used for reproduction, which carry a lifetime guarantee. Please specify BETA or VHS. Allow 4-6 weeks for delivery. Prices are subject to change with cost of reproduction.

## NUCCA CERTIFICATION

A certification program has been initiated by the National Upper Cervical Chiropractic Association, Inc. (NUCCA). The purpose of the program is to NUCCA-qualify doctors in the NUCCA work. Doctors who successfully complete the program will be eligible to conduct and teach basic classes. A certification committee will be established from the initial group of doctors first certified. Examinations will be given at NUCCA seminars and conventions.

Doctors who wish to be NUCCA-certified must meet the following prior conditions: (1) be in practice for a period of at least three years, (2) have possession of, or access to, equipment and instrumentation recommended by NUCCA, and (3) permit NUCCA inspection of their office facilities. The entire examination must be completed in two years. Certificates will be issued successful candidates.

Doctors who have not engaged in practice for three years but who have attended NUCCA seminars are eligible to take the examination which covers a two-year period. A fee is charged each candidate. In the event of failure of the examination, or any part thereof, the candidate is re-examined in the part of the examination he failed without paying an additional fee, provided re-examination takes place within the two-year period.

Certification will be evaluated every three to five years, and certified doctors will be requested to either take an oral examination on updated data or provide evidence that they have attended a NUCCA seminar at least once each year.

The examination is in three segments, as follows:

### 1. X-RAY AND INSTRUMENTATION

- A. Understanding of x-ray alignment procedures
- B. Theory about distortion, magnification, collimation
- C. Produce ten sets of cervical films suitable for analysis
- D. Examination on x-ray procedures
- E. Submit a set of x-ray alignment films
- F. Examination on instrumentation

### 2. FILM ANALYSIS

- A. Knowledge of osseous structures
- B. Read ten sets of cervical spinal x-rays with an inter-observer reliability of .90
- C. Examination of film analysis

### 3. ADJUSTING

- A. Submit ten sets of consecutive pre and post cervical x-rays. The post x-rays presented to the examining board be those taken after the initial adjustment. Reductions in the height and rotation vectors to be evaluated at the discretion of the examining board.
- B. Oral examination in which the candidate is given various listings for which he is to explain reduction procedures.
- C. Written examination on adjusting. 100 questions with a passing grade of 85.

## Donors to NUCCRA Research

NUCCRA Research has expanded in the search for solutions to many problems regarding the subluxation, its effects, and its correction. Non-chiropractic institutions have become involved with their expertise. Many thousands of dollars have been raised, and more money to finance research is needed.

Contributors wishing to assist may contribute directly to NUCCRA or through the Ruth O. Gregory Memorial Fund. This fund was established by the NUCCA Directive Board after Mrs. Gregory's death in 1982 and is to exist in perpetuity. It is in memory of Ruth O. Gregory, who devoted time, effort, and money so unselfishly to the organizations that chiropractic would become more scientific and of greater benefit to the patient, the practitioner, and the profession.

All contributions are tax deductible.

Listed below are the most recent donations to NUCCRA and to the Ruth O. Gregory Memorial Fund. NUCCRA extends its heartfelt thanks to all who have so kindly contributed.

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