



## Adjusting: The Human Component

By Daniel C. Seemann, Ph.D.

Gregory (1984) discusses the causal factors of poor reductions such as stance, shoulder and pelvic levers, settleback, conversion, roll-in, contact and the triceps pull. The adjuster can have excellent form, an accurate film analysis and still have poor reductions because the adjuster does not understand the relationship between the notch-pisaform distance, the notch-transverse resultant and the horizontal resultant. The notch-pisaform distance of the adjuster is critical because it is the adjuster's component in conjunction with patient's horizontal resultant that determines the location of the adjuster's episternal notch during the conversion stage of adjustment.

This paper will discuss the adjuster's human component: the notch-pisaform distance and its relationship with the horizontal resultant and the notch-transverse resultant. The adjuster will be asked to calculate his notch-pisaform distance and determine the vertical distance from the horizontal resultant with different patient's listings. The paper will review how each of the three components of the adjustment triangle are determined, and discuss some of the problems encountered when the adjuster's body is not properly aligned with the reduction pathway.

### The Horizontal Resultant

As has been described earlier (Gregory, 1982), the horizontal resultant is derived from the height vector and the rotation vector. Using a patient's listing of H5 A5, the patient is placed on his right side. The rotation vector is measured laterally 5 inches from the left transverse process to a point in space that is level with the transverse process. The height vector is measured from the tip of the rotation vector superior 5 inches. The hypotenuse of the right triangle with sides that are 5 inches is 7 inches. See Figure 1. The hypotenuse therefore becomes the horizontal resultant, and is the expression of the rotation and height vectors. If there were no rotation vector, the horizontal resultant would move the transverse process in an inferior and superior direction. If there were no height vector, the horizontal resultant would move the transverse process in a lateral direction.

The horizontal resultant becomes the horizontal base for the triangle that forms the notch-transverse resultant. The horizontal resultant determines where the adjuster stands for the roll-in and for the final conversion before the triceps pull.

*(Continued on page 2)*

## Research Update

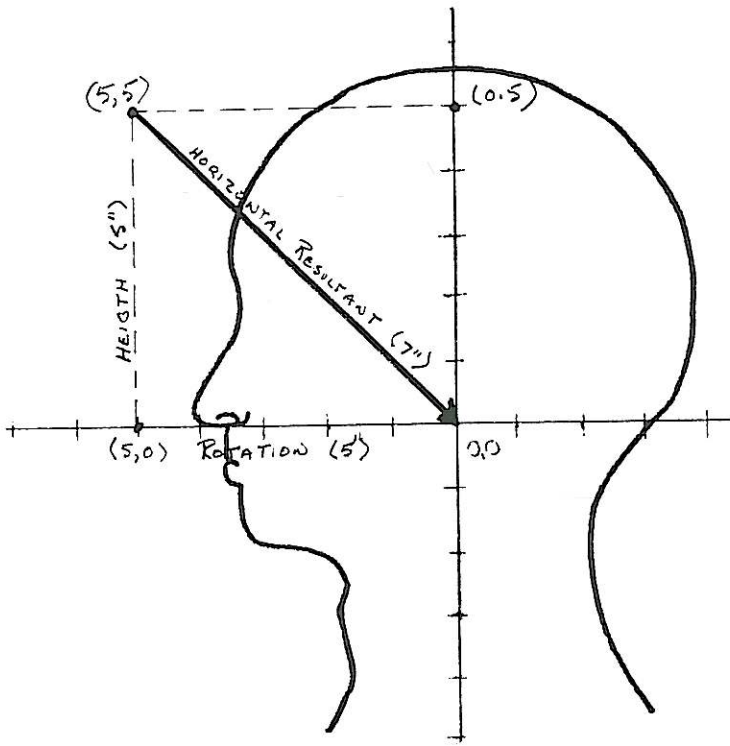
By J. Palmer

One of the research projects that NUCCRA is involved with is the design/development and construction of an adjustic teaching prototype. NUCCRA is fortunate to have Mr. Stephen Marosi, a professional inventor, who lives in Irvine, California, as the lead developer of the prototype. This author visited Mr. Marosi in Irvine in late March to clarify the conceptualization of the problem that the prototype is to address. At that time a basic mechanical design was, to a first approximation, agreed upon. At this time, Mr. Marosi is developing a working set of blue prints.

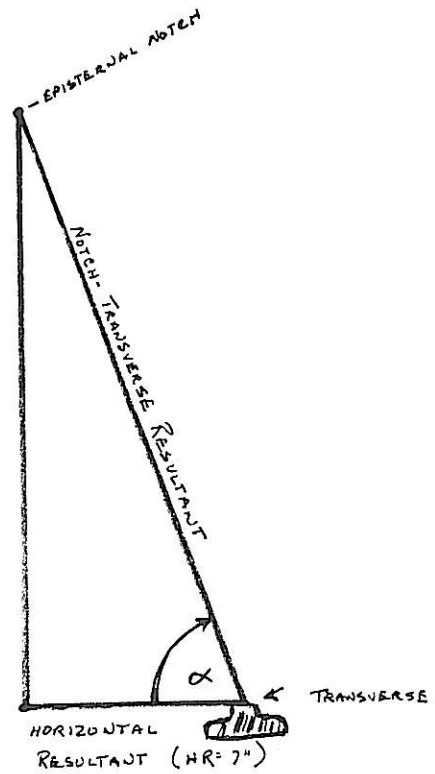
The adjustic teaching prototype will measure what the adjuster is doing in the region of patient contact. Each adjuster will generate a set of characteristic curves for each listing. These curves can then be evaluated and compared with those of Board Certified NUCCA doctors.

Another research project that NUCCRA is involved with is the development of an optional scanning system for analysis of patient x-rays. Taking the lead in packaging the hardware and developing the software is Datagraphic Systems of Plymouth, Michigan. Datagraphic Systems developed Cadmaster and is in the process of developing Image Master, a roster handling software package. Components of both Cadmaster and Image Master will be incorporated in the NUCCRA software package.

The first step with Datagraphic Systems is a \$50,000 feasibility study. This study requires the selection of appropriate hardware and the writing of some basic programs to determine laterality. At this time optical parameters are being investigated. It is expected that by the time the Monograph is in print that all hardware used in the study will have been determined.



**Figure 1**  
Calculating the horizontal resultant.



**Figure 2**  
The notch transverse resultant.

**The Notch-Transverse Resultant**

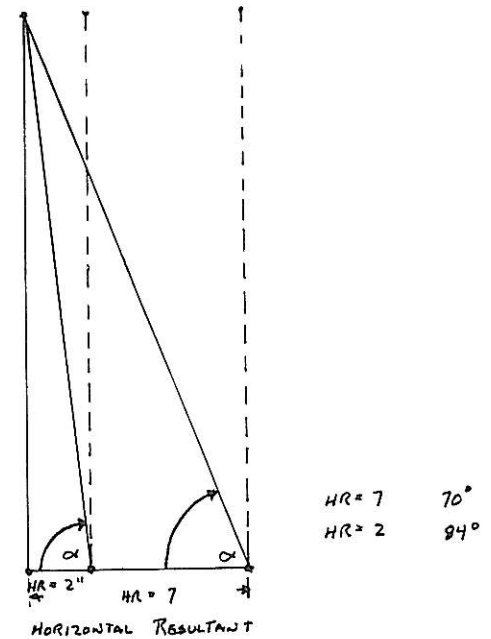
The notch-transverse resultant is the angle formed by the adjuster's episternal notch and the pisaform contacting the transverse process and the episternal notch's vertical distance to the horizontal resultant. See Figure 2. The size of the angle is determined by the length of the horizontal resultant. If the HR is 2, the angle will be quite small, whereas if the HR is large (7), the angle will be larger. See Figure 3.

**The Notch-Pisaform Distance**

The notch-pisaform distance (NP) is a critical factor in a successful reduction but many times the adjuster is not aware of his NP distance. The NP distance is determined by measuring the distance from the episternal notch to the pisaform bone on the contact hand just prior to pulling the triceps. The measurement is best performed by extending the arms horizontally, preferably to a coordinator that is attached to a wall. Prior to the measurement, the triceps should be pulled and the arms extended to give the most accurate distance.

The range of distances is 16" to 24" with the mean at about 20" which was reported earlier by Gregory (1974). More recent measurements taken this May 1986 seminar shows that for an N=41 the range was 17.5" to 25" with a mean of 21". The standard deviation was .2.

The length of the NP distance is the same as the NT resultant, but the importance of the resultant is not its length but its angle. The importance of the NP distance is not its angle but how it determines the height and locates the episternal notch in relation to the horizontal resultant. See Figure 4.

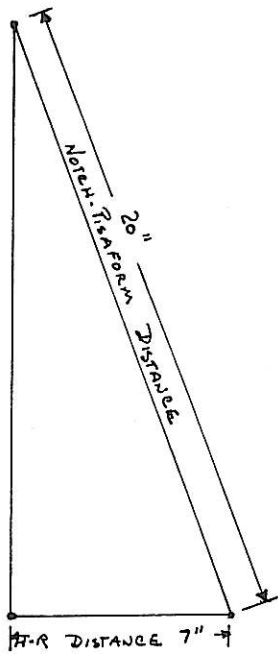


**Figure 3**  
The notch transverse resultant with an HR of 2" and 7".

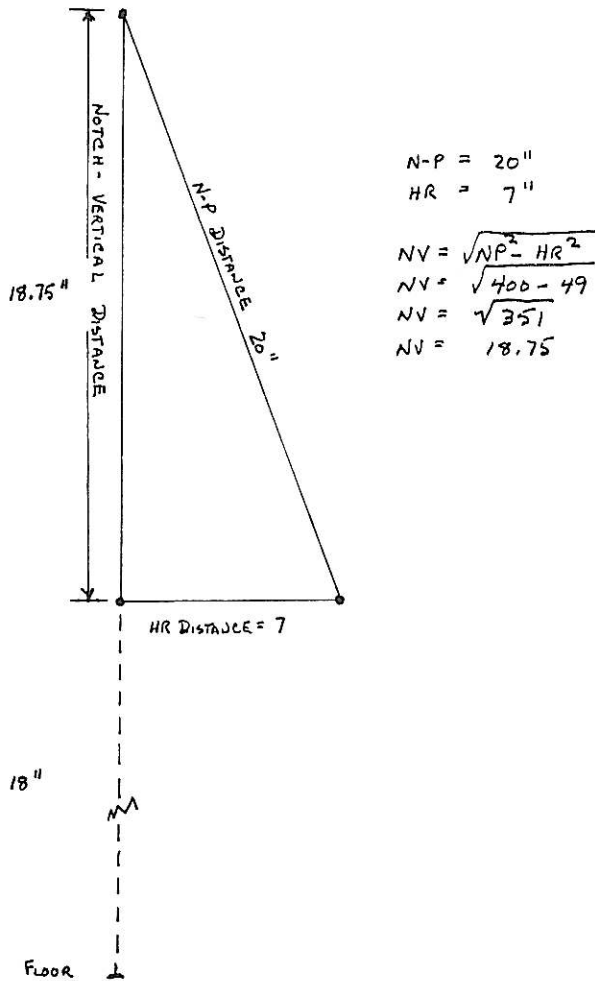
The NP distance then is the adjuster's human component contribution to the triangle. The HR is the patient's contribution to the triangle. These two distances determine the length of the third side of the right triangle.

**The Notch Vertical Distance**

The third leg of the triangle is the vertical distance from the episternal notch to the HR. See Figure 5. The distance is



**Figure 4**  
The notch pisaform distance.



**Figure 5**  
The notch vertical distance.

calculated by squaring the NP distance ( $20^2=400$ ), and squaring the HR ( $7^2=49$ ) and then subtracting 49 from 400 which =351 and the square root is 18.75 which is the vertical distance from the episternal notch to the HR.

In the past, this distance has been called the notch-pisaform distance, but technically this is not correct, because the NP distance is the hypotenuse distance. It is proposed that the vertical distance be called the **notch-vertical distance**.

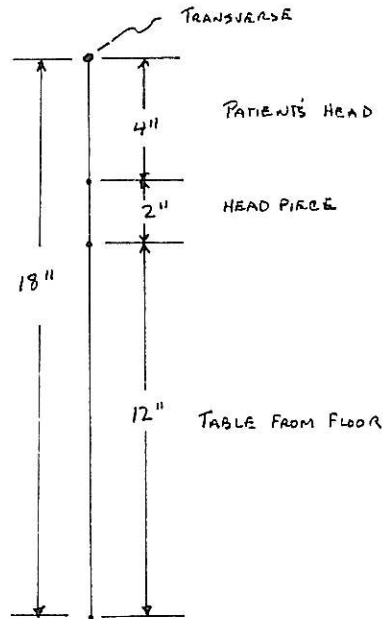
The importance of knowing the height should be evident, because if the episternal notch is not at the correct height above the HR and the floor (36.75"), the HR will be incorrect and the adjuster will have difficulty in reducing the subluxation.

### Table and Headpiece Distance

The height of the adjusting table and the headpiece should be approximately 14" above the floor. The diameter of the skull is around 4" giving a total of 18" that the transverse is above the floor. If the transverse is more or less than 18" the adjuster will alter the NT resultant and will have difficulty in reducing the subluxation. See Figure 6. The effects of too high of a table would be to reduce the size of the HR resultant. If the table is too low the HR resultant would be increased.

### Differences in the Human Component: The HR Resultant

The length of the HR resultant will affect the size of the NT angle. As the length of the HR distance increases, the size of the NT angle decreases. For an example, with a small HR(2) the angle for an adjuster with a 20" NP distance would be 84 degrees, but with an HR distance of 10" the angle would be 62 degrees which is 22 degrees from the vertical. An adjuster should realize therefore that small



**Figure 6**  
The vertical distance from the floor to the transverse.

HR's call for small angles from the vertical whereas large HR's require large angles from the vertical. See Figure 7.

Figure 8 shows the range of angles (NT resultants) with an HR of 1 to an HR of 20. Again note the angle size changes from high to low as the HR increases.

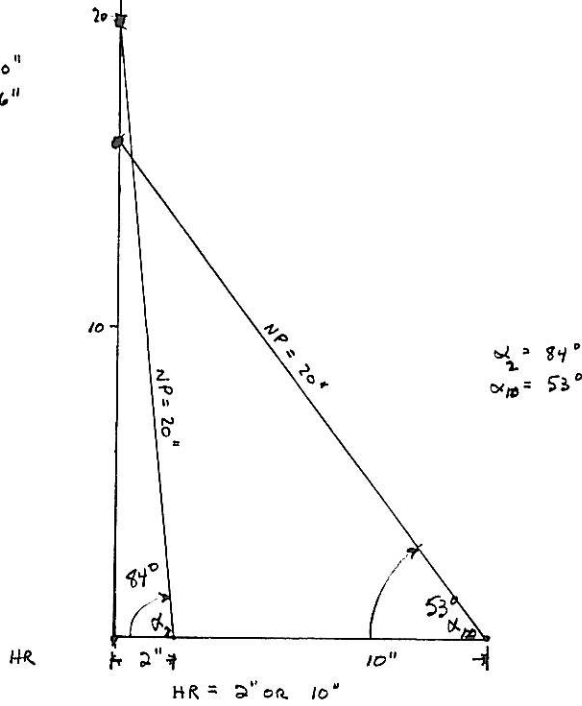


Figure 7

The notch transverse changes when the horizontal resultant distance changes.

The adjuster should also be cognizant of the fact high angles (small HR's) do not displace the atlas along the reduction pathway as far as smaller angles (large HR's), because the force of the adjustment is more downward much like a chip shot in golf. With the larger HR's the force of the adjustment is lateral and moves the atlas further along the reduction pathway, much like using a driver in golf.

**Differences in the Human Component:  
The Notch-Pisaform Distance**

Each adjuster will have a different NP distance depending on body type and arm length. With a different NP distance each adjuster has a slightly different NT resultant. For an example, if the HR=7 and the NP=20", the NT resultant=70 degrees, and the NV distance=18.75. If the NP distance=16", the NT=64 degrees and the NV= 14.4. If the NP=24", the NT=73 degrees and the NV=23". See Figure 10. It is important the adjuster realize with a shorter NP distance he will be shooting a resultant at a slightly different angle than someone with a longer NP distance. This also means that the episternal notch will be located in space above the floor at a different distance. Whether the NP distance is 16" or 24" a clue to the proper vertical height will be when the adjuster has properly aligned his body over the distal end of the HR resultant during the final conversion phase of the adjustment.

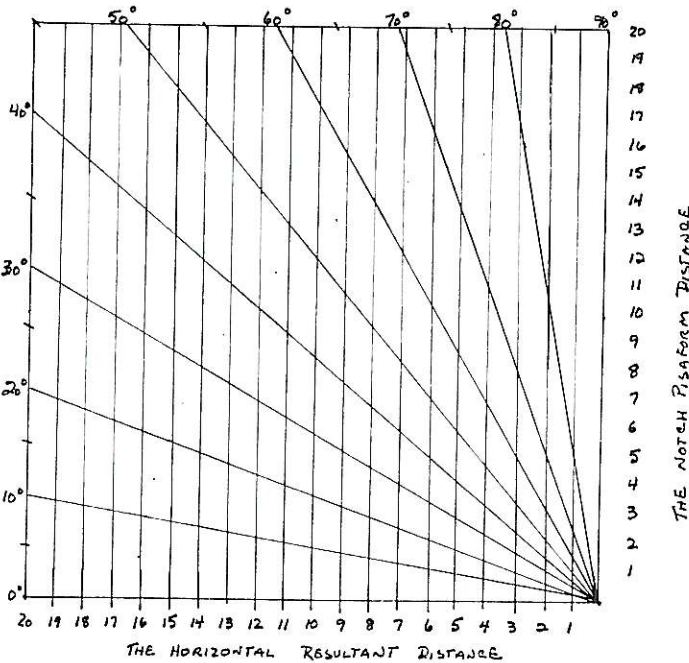


Figure 8

The relationship between the NT resultant and the horizontal resultant distance.

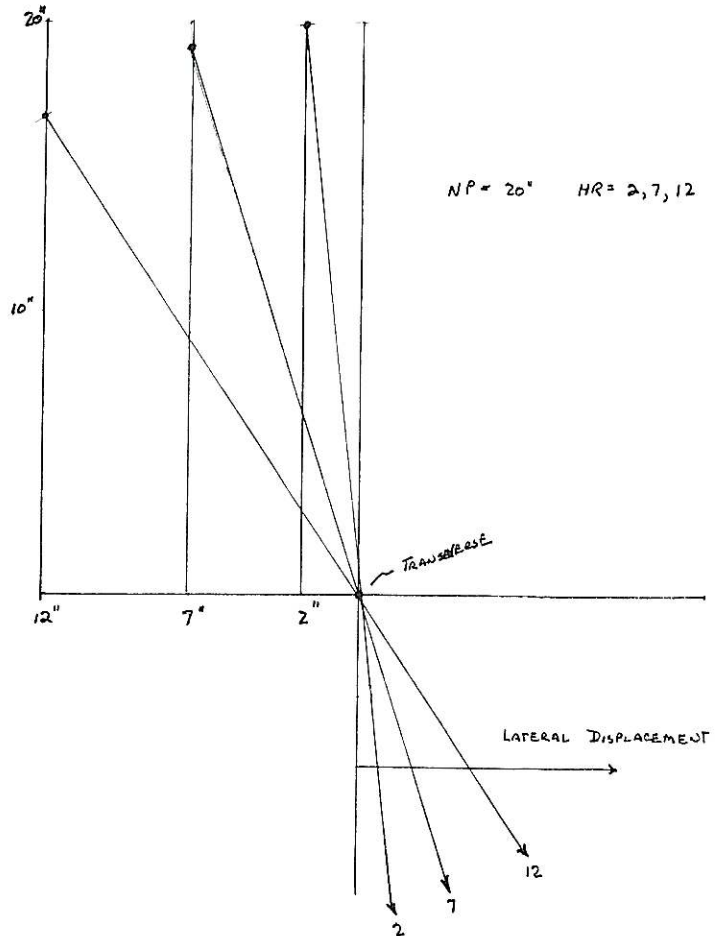
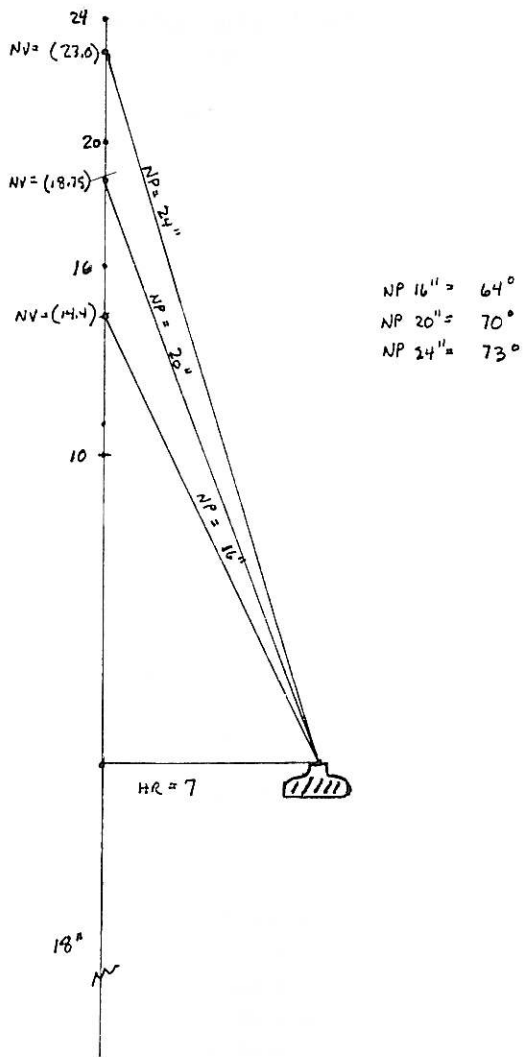


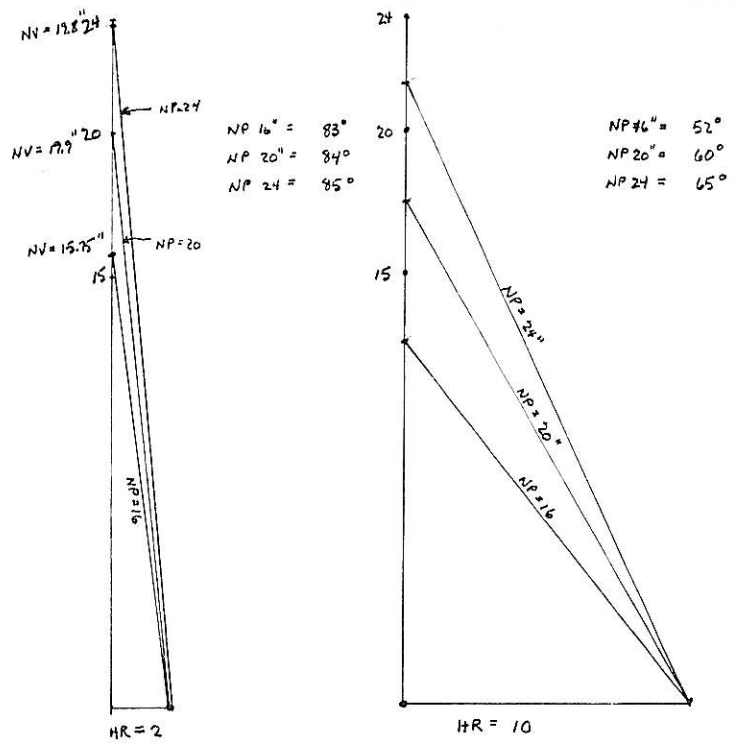
Figure 9

Lateral displacement using an HR of 2, 7, 12.



**Figure 10**

The differences between NP's of 16", 20" and 24".



**Figure 11**

A comparison between HR=2 and HR=10 with NP's of 16", 20", and 24".

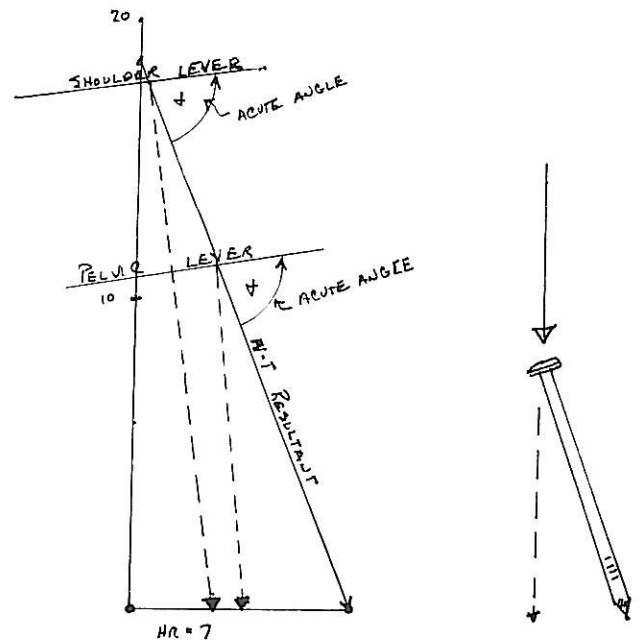
**Problems: Shoulder and Pelvic Levers**

In another article Gregory (1984) discusses the importance of the shoulder and pelvic levers being at right angle to the NT resultant prior to pulling the triceps for the adjustment. This is most important and is re-emphasized here. In Figure 12, the shoulder and pelvic levers are not at

Figure 11 shows two different HR distances with three different NP distances. The contrast between an HR of 10" and 2" will give the adjuster an idea of the range of angles and NV distances with different listings. With an HR=2, the NT angles are very close and the NV distances almost the same. But with an HR=10 the differences are quite large for both the NT angles and the NV distances. The suggestion here is that with small HR's the NT resultants will be about the same for all adjusters, but as the HR's increase the NT's of each adjuster will be different.

**The Adjuster's Human Component**

For each adjustment, there is a unique combination of the patient's listing and the adjuster's NP distance. This fact probably sets NUCCA apart from other health care systems who adjust or manipulate. In order for the adjuster to integrate his NP distance to the patient listing the adjuster must calculate the NV distance. The formula to figure the NV distance is:  $NV = \sqrt{NP^2 - HR^2}$ . For an example with a patient listing: L3 A6 S2 and an H6 what would the HV be? Answer 18.11" and the episternal notch of the adjuster would be 36.11" from the floor, with a 20" NP distance.



**Figure 12**

Action lines when the shoulder and pelvic levers are at an acute angle the NT resultant.

right angles to the reduction pathway and as result the action lines from the levers detract from the pathway. If the shoulder and pelvis were in the position that is illustrated in Figure 11 the reduction pathway would be altered to a smaller HR. An apt analogy is the one used about the nail that is set at an angle on a board and the head of the nail is hit with a vertical blow. It is an impossible task.

Figure 13 shows the correct alignment of the shoulder and pelvic levers with the correction pathway. In the illustration, the shoulder and pelvis are at right angles to the pathway and there should be a successful reduction, because all forces are co-planar with the NT resultant.

**Problems: Shooting the Wrong NT Resultant**

Once it has been established the shoulder and pelvic levers are properly aligned then it is important for the adjuster to "settle back" so the episternal notch is directly over the reduction pathway. If the episternal notch is not over the reduction pathway, the patient's listing is changed.

If the episternal notch is ahead of the reduction pathway, rotation will decrease and the height vector will increase. See Figure 14. On the other hand, if the episternal notch is behind the reduction pathway, the height vector will decrease and rotation will increase. If the adjuster has a tendency to get laterality at the expense of rotation or vice versa a clue may be to where the adjuster aligns to the reduction pathway.

The adjuster can also shoot the wrong NT resultant by directing the adjustic force too high or too low from the resultant. See Figure 9. If the force is too high, then there would be a failure to move the atlas far enough along the reduction pathway. If the force was too low, the result would

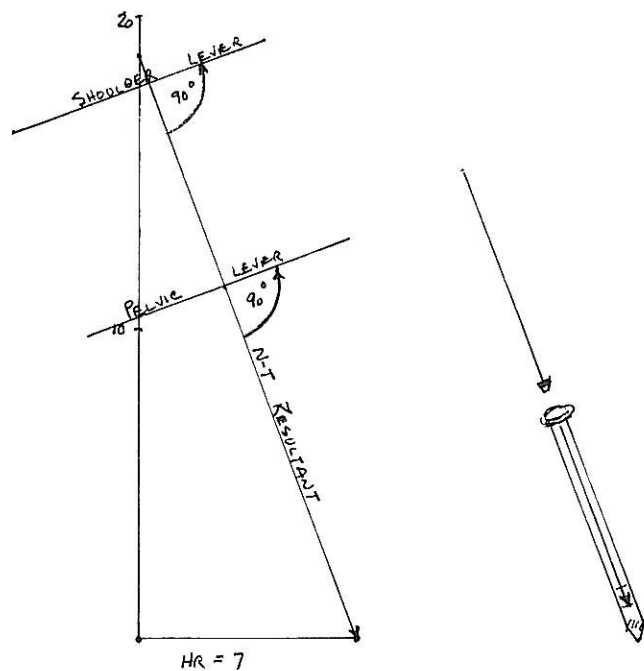


Figure 13

Action lines when the shoulder and pelvic levers are at right angles to the NT resultant.

be to drive the atlas too far along the pathway, perhaps to drive the atlas to an opposite laterality.

**The Human Component: Some Theoretical Considerations**

In the discussions about adjusting, the NT resultant is described as the angle from the episternal notch to the transverse process. In most diagrams though, a line extends beyond the transverse process and through to the floor. See Figure 15. Not much attention has been given to this segment of the line, but there may be some value to examining further.

It is relatively easy to calculate where this segment will hit the floor from the vertical distance between the episternal notch and the floor. With an HR=7, NP=20, an NV=18.75 a proportion can be calculated:  $18.75/7 = 36.75/x$  and this yields 13.72. There is now a point on the floor where the adjuster can sight in on (such as with a rifle) will help the adjuster establish the NT resultant.

We generally accept the theory that there is one unique reduction pathway for each patient listing, yet the paper explains how we must incorporate the adjuster's human component to achieve a successful reduction. So in reality there is a compromise between the one true pathway concept and the need for the adjuster to adapt his NP distance to the patient's listing. One answer might be to raise or lower the adjusting table to accommodate the different NP distances. For the shorter NP distances the table could be raised, and for the longer NP distances the table could be lowered. See Figure 16. Another method could be to those with the shorter NP distances to stand closer to the transverse process or further away if the adjuster had a longer NP distance. The problem with both suggestions is the HR distance will be altered and one of the two elements of the HR resultant will change.

This discussion is somewhat academic, because the reduction pathways for the NP distances in the normal ranges (1

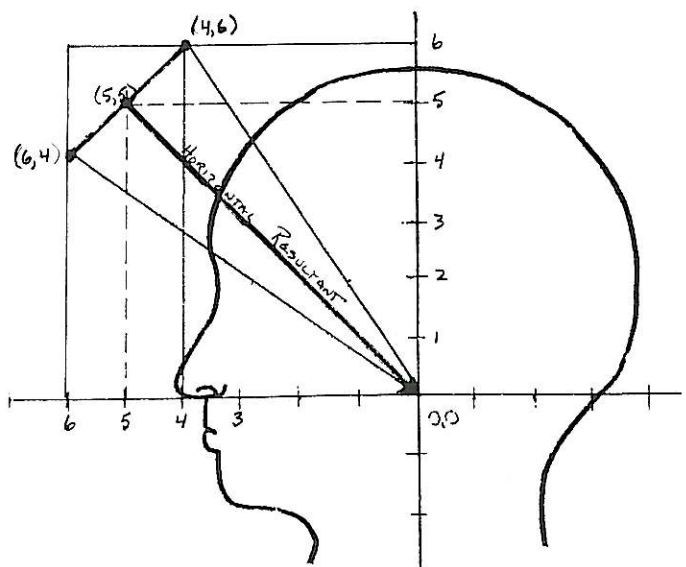
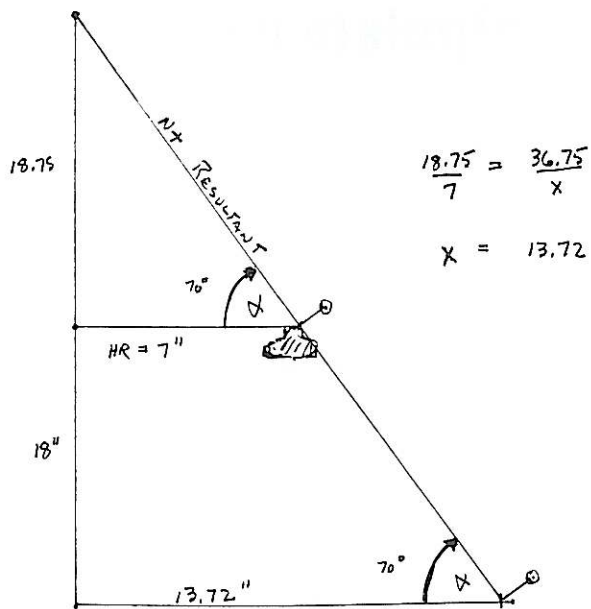


Figure 14

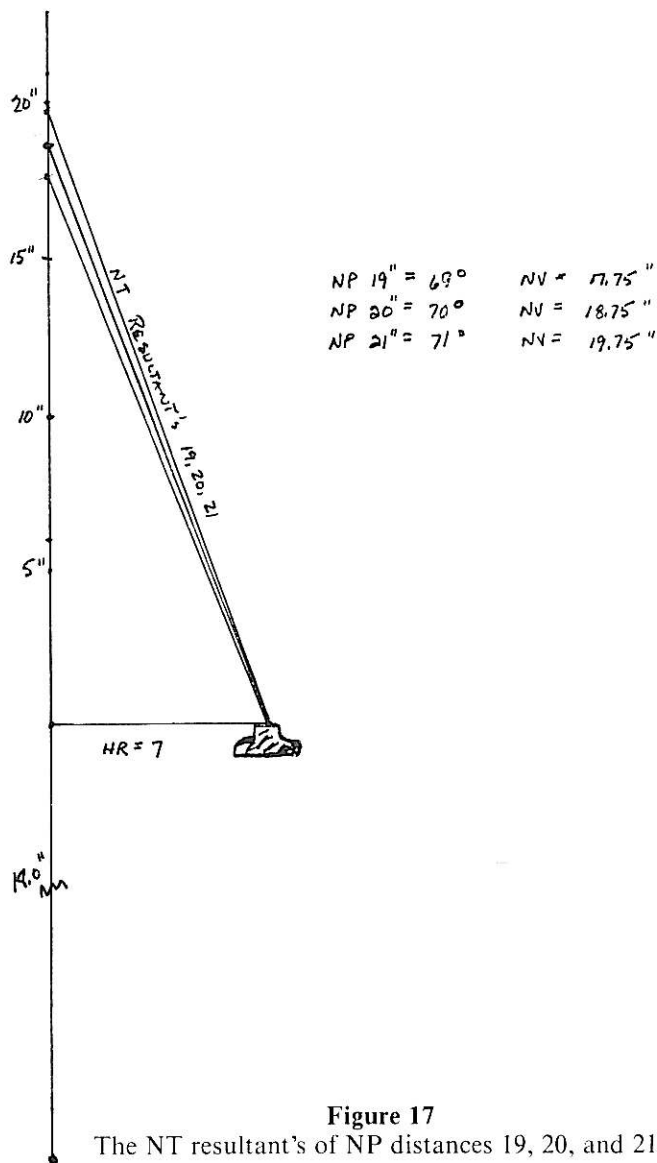
The episternal notch at three settle back positions.



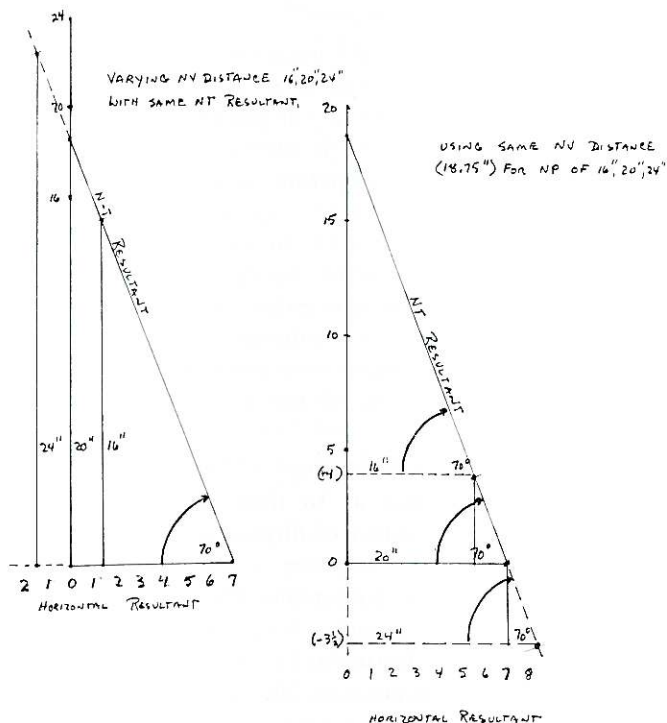
**Figure 15**  
The extension of the NT resultant to the floor.

SD) the differences are not that great. Even with an HR=7 and an NP distance of 19", 20", or 21" there is only a two degree difference over the three distances. See Figure 17.

There is a slight flaw with the single pathway concept but it is not proposed that a change be made at this time. As long as subluxations are being reduced the system must be working. As we get more sophisticated we may determine that there is an optimum NT resultant for each HR independent of the adjuster's NP distance.



**Figure 17**  
The NT resultant's of NP distances 19, 20, and 21.



**Figure 16**  
Adapting the adjuster's NP to the patient's NT resultant.

### The Human Component: Summary

The paper was written to make the adjuster aware of the human component in adjusting and how it is incorporated into the patient's listing. The adjuster was asked to calculate his NP distance and then incorporate the distance with the patient's listing. There also was discussion about the relationship between HR and NP distances and how this changes the NT resultant. Problems that adjusters encounter when the episternal notch is not located on the reduction pathway was outlined. And finally there was the conclusion that there is a slightly different NT resultant for each adjuster for each HR.

May 1986

### References

<sup>1</sup>Gregory, R. R. (1974). How to adjust the atlas subluxation complex. The Upper Cervical Monograph. Vol. 1, No. 4.  
<sup>2</sup>Gregory, R. R. (1984). Errors in the performance of the C1 motor skill. The Upper Cervical Monograph. Vol. 3, No. 7.  
<sup>3</sup>Gregory, R. R., (1982). Mechanics of the C1 Adjustment. The Upper Cervical Monograph. Vol. 3, No. 4.

# The Chiropractic Challenge: Manipulate or Adjust

By Ralph R. Gregory, D.C.

The health care system is undergoing dramatic changes. Competition is rapidly increasing among doctors and hospitals at an accelerated rate. Doctors from all professions are advertising for business and many hospitals are using the media to attract patients, a practice considered unethical a few years ago. Competition will continue to increase in the future as doctors see their patient volume and incomes decrease. In this health care revolution, the chiropractor is in a vulnerable position.

Most chiropractors are aware of the increasing use of spinal manipulation among physical therapists and medical doctors. The growth and spread of PPOs and of HMOs (Health Maintenance Organizations) throughout the country, while helping to stimulate the demand for chiropractic care, may well place the chiropractor on a more competitive basis as physical therapists and medics pursue manipulative methods. This poses a real threat to the chiropractic profession and particularly to chiropractors who practice spinal manipulation rather than the adjustment of the spinal subluxation. The clientele of the spinal manipulator will diminish in the face of the rising competition from physical therapists and medics because patients needing spinal care will be referred to medical and physical therapy manipulators before they have an opportunity to consult a chiropractor.

Chiropractors are to a great extent compounding the problem. For example, the words "manipulate" and "adjust" are frequently used in chiropractic literature today as if they are synonymous terms. Chiropractic writers frequently combine the two words, i.e., "manipulate/adjust". A recent editorial in a widely circulated chiropractic paper contained the statement that "A chiropractic adjustment is a manipulation". Many chiropractic students in our colleges today seem unable to distinguish a difference in meaning between the two terms.

Is there a genuine difference in meaning between the two terms manipulation and adjustment? The dictionaries inform us that a manipulation connotes the skillful use of the hands, management and control of tools, implements, persons, or non-physical problems and situations: to work with the hands (Latin: manus-hand). Dictionaries also inform us that the word "adjust" means to bring two or more things to agreement, to set right, to fit, arrange in order, to bring to a true or effective relative position (Latin: ad-near to plus quixta, close by, near).

When manipulating a spinal vertebra, the objective is not to bring them to agreement, to set them right, or to arrange them in order (order means to create a condition of methodical or prescribed arrangement among component parts, such that proper functioning or appearance is achieved).

Does a genuine difference in procedure exist between manipulating a spinal vertebra or adjusting it? The art of spinal manipulation is the forceful passive movement of the

vertebral joints beyond their active limits of motion. Spinal adjusting is the realignment of the vertebral joints, to arrange them as they were architecturally designed to be. This art is not performed solely by the hands. The tool in adjusting is the adjuster's body, and his/her bodily movements must conform to the relevant principles of physics, mechanics, and kinesiology as dictated by the x-ray analysis. In manipulation, the movement is toward the abnormal position; in adjusting the movement is from the abnormal to the normal position. As the vertebral segments are already abnormally positioned, adjusting would seem the logical course to pursue.

Manipulation is reputed to have existed for centuries as a sort of folk-lore "medicine," chiefly among the Bohemian people. It was known in this country before the discovery of chiropractic by Daniel David Palmer in 1895. Palmer was aware of manipulation and rejected it as a spinal therapy. In his writings he states that "Chiropractic is the adjustment of vertebrae. "Spinal adjustments," he states, "replace vertebrae into line."<sup>1</sup> Palmer defines the word "adjustment" as the replacement of displaced vertebrae, not the forceful passive movement of vertebral points.

In his book, *The Science, Art and Philosophy of Chiropractic*, Palmer comments on manipulation of the spine by some Paris doctors and says: "I do not manipulate any portion of it."<sup>2</sup> From this statement of D.D. Palmer, one can deduce his preference between the two systems of spinal therapy. On page 42 on the same book, Palmer reiterates: "Remember, adjustments are only made when a vertebra is returned to its normal position."

B.J. Palmer, son of the discoverer of chiropractic, wrote in reference to displacements of articular joints and their causes: "No matter how they are displaced, the chiropractor sees fit to replace them in their normal position." On page 89, B.J. states: "The words 'operate,' 'manipulate' and 'treat' are allopathic, or more correctly speaking, are old school signboards. For a chiropractor to use them would be to mislead and deceive the public, our patients and ourselves. They do not express the chiropractic sentiments." In the following paragraph, B.J. continues with these words: "Chiropractic, rightly understood and practiced, does not need assistance from any of the methods which treat, manipulate or operate."

These excerpts from the writings of D.D. Palmer and B.J. Palmer leave no doubt as to their position regarding manipulation and adjusting of displaced spinal vertebrae; their position is very clear; they adjusted, they did not manipulate. Further, it is clear that the intention of D.D. Palmer was that chiropractic procedure was for chiropractors to employ adjustments to correct displaced spinal vertebrae, not manipulate them. The Palmers fully endorsed the principle of restoration—the re-setting of the subluxation's misalignment factors so they were in proper apposition to adjacent vertebrae.



The manipulation of spinal vertebrae, however, soon crept into chiropractic. A contemporary of D.D. Palmer, Alva A. Gregory, M.D., rejected Palmer's vertebral replacement theory and defined the vertebral subluxation as a lesion, "a deviation from the normal approximation of adjacent vertebrae."<sup>6</sup> Gregory viewed the adjustment as a "relaxation of the spinal ligaments."<sup>7</sup> His procedures indicated that he was a manipulator, and today we find in our colleges and among our practitioners the teaching and practice of similar manipulative methods, which are open to, or soon will be, to all health care providers at the expense of chiropractic.

Today it is simply a matter of proof, supported by before and after x-ray analysis, anatometer readings, and other tests that vertebrae of the cervical spine, at least, do assume abnormal positions with articular separations. Movements of vertebrae of the cervical spine beyond their normal ranges of motion do not require further abnormal movement, but need correction to normal position. Both the abnormal vertebral movements and their correction by the adjustment are measurable. Modern NUCCA chiropractic validates the replacement theories of the Palmers.

Some may dispute that so-called chiropractic techniques that incorporate mechanically inept moves in an attempt to correct spinal subluxation are manipulation. Any form of chiropractic, however, that aims solely to alleviate a patient's symptoms without regard to the biomechanical consequences can only be classified as a form of manipulation. When using manipulation on the spine, one is not concerned with biomechanical correction or restoration. When the adjustment is based upon the correct x-ray analysis and utilizes control of the adjustic forces along the exact direction required to re-set the misalignment factors of the subluxation, one is applying science because the end result of the procedure can be predicted with accuracy. The time has arrived in chiropractic to get rid of these manipulative techniques that are so easy to compete with, and the bad adjusting, and to utilize the sound and proven techniques that can restore chiropractic to the teachings of the Palmers, and will establish chiropractic as a truly separate and distinct science.

Is there any acceptable proof — x-ray or otherwise — that will show conclusively that manipulation re-establishes a normally structured and functioning spine or if chiropractic techniques that use disproportionate and uncontrolled force and considerable depth restore displaced cervical vertebrae to their normal positions? The only criteria that seems to prevail in these techniques is whether the patient symptomatically responds and that is not acceptable as a test.

The reasons why manipulation is being substituted for adjusting in chiropractic are numerous. Some of the reasons are to be found in the teaching of chiropractic in our colleges, the greater skill required to do adjusting of the cervical spine, the adoption of some of the cast-off osteopathic techniques, statements by some chiropractic authorities that it is not necessary or essential to replace misaligned vertebrae, too little previous education in the physical sciences, biomechanics and kinesiology, and a lack

of adequate research of the subluxation and its effects on the human body.

If research of the subluxation and the effects of its correction on the human body is to progress in a satisfactory manner, it would seem reasonable to assume that misaligned vertebrae affecting nervous tissues must be replaced. To subluxate, a vertebra must first misalign; it moves beyond its normal range of motion and becomes fixed in an abnormal position. If it is not re-positioned by the adjustment, or its misalignments are increased, how does the researcher correlate the subluxation to the patient's complaints? Or to his/her recovery or failure to recover? To increase the vertebral misalignments is to increase the subluxation, and cause eventual increased detriment to the patient. If, however, the misaligned vertebra or vertebrae are realigned, the chiropractor has rendered a service to the patient regardless of the patient's response. A basis has been laid for research.

If the purpose of chiropractic practice is to change the position of a displaced vertebra, some type of force must be used. Both manipulation and adjusting employ force to change vertebral position. If subluxations are not the result of misaligned vertebrae, why employ force? A non-misaligned vertebra requires no force to treat it; it is the fact of misalignment that necessitates the force. If one, therefore, is to apply force, why not apply a corrective force? What logic lies in not correcting, or in increasing, the misalignments of a subluxation?

Occasionally seen are cases in which the misalignments have been increased by inept techniques, accidents, or changes in subluxation patterns from over-adjusting or from wrong adjusting postures. A slight error in computing a vector can produce increased misalignments in the Atlas Subluxation Complex. These cases show evidence in a short time of increased nervous detriment, increased measurable distortions in the body, and either increased symptoms or a failure to favorably respond. Pre-x-rays of these cases locate the problem in the subluxation's misalignment factors, and with new and properly established vectors, the adjustment then corrects the subluxation. This has been the clinical experience among those who have used the NUCCA technique.

This paper expresses some thoughts about today's chiropractic. Some chiropractors may agree; more probably will not. Whichever may be the case, it is to be hoped that a dialogue will ensue.

#### References:

- <sup>1</sup>Palmer, D.D.: *The Chiropractor*. Beacon Light Printing Co., 1914, pg. 96, Los Angeles, California.
- <sup>2</sup>Palmer, D.D.: *Science, Art and Philosophy of Chiropractic*, Portland Printing House Co., 1910, pg. 14, Portland, Oregon.
- <sup>3</sup>*Ibid.*, pg. 42.
- <sup>4</sup>Palmer, B.J., *Science of Chiropractic*, Vol. 1, 1920, Palmer School of Chiropractic, pg. 33, Davenport, Iowa.
- <sup>5</sup>*Ibid.*, pg. 89.
- <sup>6</sup>Gregory, A.A.: *Spinal Treatment, Science, and Technique*, Palmer-Gregory College, 1912, pg. 129, Oklahoma City, Oklahoma.
- <sup>7</sup>*Ibid.*, pg. 437.

# NUCCA's Twentieth Anniversary Banquet

The French-Italian Inn of Monroe, Michigan was the scene of NUCCA's twentieth Anniversary banquet. Chiropractors and students took pause from a strenuous NUCCA Seminar on the evening of May 6, 1986, to enjoy an evening of festivity. Present also were a few wives and guests. Mrs. Keith Denton had worked assiduously making the arrangements, and the success of the evening was largely due to her efforts. Dr. A. A. Berti was Master of Ceremonies.

Presented to each person attending the banquet was a beautiful blue pamphlet with the NUCCA logo imprinted on its cover which set forth NUCCA-NUCCRA Historical Highlights. The pamphlet was designed and prepared by Mrs. Keith Denton.

Plaques were awarded to doctors who had successfully completed the Three-Year NUCCA Certification program

qualifying them in the NUCCA Basic work which they are now competent to teach. Participants of the plaques were: Dr. Teresa A. Palmer, Dr. Keith E. Denton, Dr. Glenn Cripe, Dr. Albert A. Berti, Dr. Marshall Dickholtz, Sr., Dr. Edward J. Stein, Dr. Lloyd Pond, and Dr. Ralph R. Gregory.

Receiving a plaque for legal services rendered to NUCCA and NUCCRA as attorney and counselor over the past twenty years was Mr. Donald A. Miller.

A plaque was presented to Mr. Peter Benesh, certified engineer, for his years of support of and services to NUCCA-NUCCRA. Mr. Benesh's help was invaluable in designing and developing the Anatometer, of which he is co-inventor, as was his expertise in related matters.

Additional plaques were awarded to Dr. Marshall Dick-



*A toast at the NUCCA banquet.*



*NUCCA Doctors Enjoy Banquet*



*Mr. Donald A. Miller, NUCCA-NUCCRA attorney, receives plaque for twenty years of service from Dr. Lloyd Pond, NUCCA Director.*



*Mr. Peter Benesh, certified engineer, is awarded NUCCA-NUCCRA plaque from Dr. Keith E. Denton, Director, for years of service to NUCCA-NUCCRA.*

holtz, Sr. for his twenty years of service as treasurer of NUCCA and NUCCRA, and to Dr. Ralph R. Gregory for his years of leadership.

Highlighting the evening was a White House citation to NUCCRA and to Dr. Gregory from President Ronald Reagan for twenty years of research and dedication to the advancement of Chiropractic Science. The President's letter is printed below:

THE WHITE HOUSE  
WASHINGTON  
April 7, 1986

I am pleased to congratulate the members and friends of the National Upper Cervical Chiropractic Association on its 20th anniversary.

The Association's continuity and growth attest to its ability to serve the varied professional and educational needs of its members. Likewise, your own efforts to keep pace with progress in chiropractic care and your dedication to the improvement of chiropractic through research, thereby raising the quality of service, are commendable.

I cannot fail to mention the work of Dr. Ralph Gregory, who has contributed so substantially to the advance of chiropractic science.

Nancy joins me in wishing you continued success and every happiness. God bless you.

Ronald Reagan

An added and welcomed prominent event of the evening was the presentation by Dr. D. Gordon Hasick on behalf of Dr. Jerome F. McAndrews, President of the Palmer College of Chiropractic, of a beautiful silver plaque. The presentation read as follows:

RALPH R. GREGORY, D.C.  
May 6, 1986

I can personally well recall some of Dr. Gregory's efforts back through the years. It was perhaps in 1963 at Homecoming when I was the chairman of that part of the program presented by Dr. Gregory.

I have watched his steadfast commitment and effort to the National Upper Cervical Chiropractic Association since that time and know that he has always taken an unwavering, principled approach to his developmental efforts in our profession.

As a person who has worked at making research the number one priority of the Palmer College of Chiropractic, I am perhaps even more directly appreciative of Dr. Gregory's own orientation.

In any case, I hope that this formal gesture by Palmer College can, in some way, represent a large thank you from us, both to Dr. Gregory and to the National Upper Cervical Chiropractic Association.

Jerome F. McAndrews, D.C.  
President  
Palmer College of Chiropractic



*Presidential Citation award to NUCCRA and to Dr. Ralph R. Gregory for chiropractic research.*



*Dr. D. Gordon Hasick presents to Dr. Ralph R. Gregory the beautiful silver plaque awarded by the Palmer College of Chiropractic in recognition of chiropractic research at the request of Dr. J.F. McAndrews, President of the Palmer College of Chiropractic.*



*Dr. Gregory cuts the anniversary cake. The solitary Rose is in memory of Mrs. Ralph Gregory.*



*Dr. D. Gordon Hasick, Convention Chairman  
May, 1986 NUCCA Convention*

## The Twentieth Annual NUCCA Convention

The 1986 Annual NUCCA Convention and Educational Conference was held May 5th through May 8th at the Howard Johnson Motor Lodge in Monroe, Michigan. The convention room was filled to capacity with doctors and students from the United States and Canada.

Dr. D. Gordon Hasick of Calgary, Alberta, Canada served as convention chairman. Dr. Hasick opened the convention with the welcoming address during which he reviewed by video-tape a brief history of NUCCA and the early Grostic days. The presentation was excellently done and interspersed with humor.

The educational conference was supervised by Dr. Daniel C. Seemann from the University of Toledo and Executive Director of NUCCA. He was assisted by Drs. Teresa A. Palmer, Keith E. Denton, Albert A. Berti, Marshall Dickholtz, Sr., Lloyd and Lonnie Pond, Glenn Cripe, L. Schrock, and Ralph R. Gregory.

The educational program was a "hands on" program. Participants were divided into groups, color coded, and rotated from one station to another at specified periods for exercises in such subjects as x-ray films analysis, leg checking, patient placement on adjusting tables according to C1 subluxations, adjusting, spinal biomechanics, patient placement for x-ray, and related subjects. Previously prepared video-tapes from the NUCCA Library were presented. Video-tape was also used as a training tool so participants could observe their adjusting procedures.

Highlights of the educational conference were the presentations by James F. Palmer, M.S., University of Toledo, and Daniel C. Seemann, Ph.D. Dr. Seemann discussed the Notch-Transverse Resultant or Reduction Pathway concept. (See *Adjusting: The Human Component* elsewhere in this issue of *Monograph*.) Mr. Palmer explained one of the new NUCCA research projects (also included in this issue).

The educational conference was approved in several states and provinces of Canada for license-renewal credit.

## Donors to NUCCRA Research

The expansion of NUCCRA research has necessitated the financial assistance of many contributors. At the present time, many thousands of dollars need to be raised. NUCCA doctors, students, and lay persons have recently come forward in support of NUCCRA and generously donated to aid the extremely expensive program. At the present time, three major projects are planned and underway, two of which have been already farmed out to people with the needed expertise.

Contributors wishing to financially assist may contribute directly to NUCCRA or to the Ruth O. Gregory Memorial Fund. This Fund was set up by the NUCCA Directive Board after her death four years ago and is to exist as long as the organizations (NUCCA-NUCCRA) exist. It is in memory of Ruth O. Gregory who devoted her 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. The contributions are tax deductible.

Listed below are the recent donations to NUCCRA and to the Ruth O. Gregory Memorial Fund for research purposes. NUCCRA wishes to again thank the persons listed below. In addition to those listed below, many have pledged.

Dr. Edward J. Stein	Washington
Dr. Glenn Cripe	California
Dr. D. Gordon Hasick	Alberta, Canada
Dr. L. D. Vinson	Alabama
Dr. Charles Hough	California
Dr. Eloise A. Chambers	Washington
Drs. James & Lauren Downes	California
Dr. Marshall Dickholtz	Illinois
Dr. Albert Berti	B. C., Canada
Dr. Ralph R. Gregory	Michigan
Dr. Lloyd Pond	New Mexico
Dr. Lonnie L. Pond	New Mexico
Pond Chiropractic Clinic	New Mexico
Mr. Bert Kizer	Illinois
Drs. Kenny & AnneMarie Sheppard	California
Mr. Marquard Anderson	Ohio
Dr. R. H. Danek	Washington
Dr. Donald Moon	Ohio

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## Change of Address

MONOGRAPHS, booklets, pamphlets, 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.

## 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.

## Thanks from NUCCA

NUCCA expresses its thanks to the Canadian NUCCA doctors for the beautiful posters of the distortion effects of the Atlas Subluxation Complex on the spinal column and body. The artist was Marianne Wunderli.

The size of the posters is approximately 17 inches by 24 inches, and are suitable for framing and hanging in the office for explanatory purposes.

Special thanks go to Dr. C. Dwain Ingram of Nanaimo, B.C., Canada for his part in the project.

The posters were donated to NUCCA for sale to interested doctors. Each poster sells for \$20.00 and can be ordered from NUCCA Headquarters, 217 West Second Street, Monroe, Michigan 48161.

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## MONOGRAPH

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EDITOR:

Dr. Ralph R. Gregory  
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## 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 cor-

rection 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 adjustor'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.

BASF 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.

## 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.