

**COLLECTED
PAPERS OF THE MEMBERS
OF THE
INTERNATIONAL COLLEGE OF APPLIED KINESIOLOGY**

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PRESENTED JUNE 3 THROUGH JUNE 5, 1987

INTRODUCTION

David S. Walther, D.C.
Chairman, Education Committee

This twenty-third collection of papers of members of the International College of Applied Kinesiology contains fifty-eight papers by forty-three authors. The papers will be presented by the authors to the general membership at the Summer Meeting of the ICAK in Washington, DC, June 3-6, 1987. The authors welcome comments and further ideas on their findings. You may talk with them at the meeting or write them directly; addresses are given on the Table of Contents page.

The manuscripts are published by the ICAK as presented by the authors. There has been no effort to edit them in any way; however, they have been reviewed by members of the Education Committee for originality and to determine that they follow the "Instructions to Authors of Collected Papers" published by the ICAK. The primary purpose of the ICAK in publishing the Collected Papers is to provide an interchange of ideas to stimulate improved examination and therapeutic methods in applied kinesiology.

Neither the International College of Applied Kinesiology, nor the Executive Board, nor the Examining Board necessarily endorses, approves of, or vouches for the originality or authenticity of any statements of fact or opinion in the papers. The opinions and positions stated are those of the authors and not by act of publication necessarily those of the International Board of Applied Kinesiology, the Executive Board, or the Examining Board.

MESSAGE FROM THE CHAIRMAN

The International College of Applied Kinesiology continues to flourish as a forum in which doctors in the healing professions can present their ideas and their research. By contributing to the collected papers, members have the opportunity to be heard and to be guided in their further efforts through the feedback of their colleagues.

The collected papers include a compilation of research reports, validation studies, case reports and intellectual discourses on various aspects of Applied Kinesiology. Some of the papers represent "seeds" which will grow into powerful diagnostic and therapeutic procedures.

The members of the International College of Applied Kinesiology are to be congratulated, not only for contributing to this collection of papers, but for receiving them, studying them and assisting their authors in the further development of their ideas, concepts and procedures. Through the synergistic effects of helping ourselves and each other to grow, we become a more powerful team, and our contribution to the healing arts and to the health of the world's people multiplies in an exponential manner.

*Diplomates

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Instructions to Authors of Collected Papers

The *Collected Papers of the Members of the ICAK* are published twice annually, at the summer and winter meetings. Manuscripts are reviewed for format, originality, and quality for reproduction. There is no review for authenticity of material. The ICAK recognizes that the usual procedure for selection of scientific papers is a blind review. The purpose of the *Collected Papers of the Members of the ICAK* is to stimulate creative thinking among its members. These papers are distributed only to the members of the ICAK for general evaluation and for the members to place into perspective the validity of the described approach. The purpose is to place before the membership primary observations which may lead to scientific investigations, new areas of research, and in-depth study, inspiring progress in the field of applied kinesiology.

Statements and opinions expressed in the articles and communications in the *Collected Papers of the Members of the ICAK* are those of the author(s); the editor(s) and the ICAK disclaim any responsibility or liability for such material.

Manuscripts are accepted by the ICAK for consideration to publish, with the understanding that they represent original unpublished work. Acceptance of the manuscript by the ICAK does not necessarily imply acceptance to publish. The author may appeal any paper rejected to a committee composed of members of the Education and Research Advisory Committees. The decision of this committee on publishing the paper will be final.

Following are the current requirements which will be applied to the Summer 1987 papers which are due March 15, 1987:

1. The paper must be an original work and deal specifically with applied kinesiology examination and/or treatment techniques. Various techniques may be discussed if they are correlated with applied kinesiology manual muscle testing examination.

2. The paper must begin with the title, author's name, and an abstract. The abstract should be a brief description of the content of the article.

3. The body of the article is to follow the abstract and include an introduction, discussion, research procedure, and discussion of findings. Any or all of these topics may need to be addressed, depending upon each paper.

4. The paper is to end with a short summary of the author's conclusions.

5. Quotes should be short, usually no longer than three lines, and should be referenced, giving credit to the original author. All referenced articles, books, or persons other than the author must be properly

referenced at the end of the paper; for example, David S. Walther, *Applied Kinesiology, Volume I — Basic Procedures and Muscle Testing* (Pueblo, CO: Systems DC, 1981). If an article in a journal is referenced, the notation should read as follows: Walter Schmitt, Jr., "Fundamentals of Fatty Acid Metabolism — Part II," *The Digest of Chiropractic Economics*, Vol. 28, No. 2 (Sept/Oct 1985).

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8. Terminology or procedures that might be unfamiliar to some readers should be referenced at the end of the paper.

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10. The body of the article should be double-spaced on plain paper. No papers typed on office letterhead will be accepted. The manuscript must be clear copy with dark print to ensure adequate reproduction in the *Collected Papers*. The margin on both sides of the paper must be a minimum of $\frac{3}{4}$ ", and the top and bottom margins $\frac{3}{4}$ " when relating to $8\frac{1}{2}$ " x 11" letter-size paper. European authors should make note of the copy height of the American standard 11" paper size, which relates to approximately 28 cm.

11. Manuscripts that do not meet the above qualifications will be returned to the author, with recommendations for bringing the paper into ICAK guidelines for possible future publication.

12. Currently the articles to be published should be sent to the Education Committee Chairman in triplicate. The Education Committee Chairman is David S. Walther, D.C., 275 West Abriendo Avenue, Pueblo, CO 81004.

It is planned to establish a Publications Committee in the near future to review all ICAK publications.

A FUNCTIONAL NEUROLOGICAL LOOK AT
SPACE MOTION SICKNESS (SMS)

by

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

ABSTRACT

The purpose of this paper is to present some of the possible physiological causes of the space motion sickness (SMS) syndrome, and present a possible technique for its evaluation and treatment using functional neurology and applied kinesiological procedures. A considerable amount of contemporary research findings support the ideas presented herein. NASA research has been directed toward the vestibular mechanism as a source of "sensory conflict". This paper will discuss tonic neck receptors and tonic labyrinthine reflexes as the etiological factor, and present techniques for their correction.

INTRODUCTION

As we experience it on Earth, motion sickness begins with stomach discomfort, nausea, vomiting, pallor cold sweating, and other autonomic manifestations. Virtually everyone is susceptible if stimulated in the right way for long enough.

Apparently, motion sickness results whenever the central nervous system receives, for long enough, information about the orientation or movement of the body which is unexpected or unfamiliar compared with previous sensory-motor experience. This is generally referred to as the "sensory conflict theory".

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The muscle receptors, muscle spindle afferents, and golgi tendon organs, once believed to play no role in proprioception or kinesthesia, are now generally acknowledged to be of importance in determining limb position and human spatial orientation." (1)

Attempts to predict who would experience space sickness, based on who got sick during tests on the ground, have thus far failed. This led some physiologists to conclude that space sickness must somehow be fundamentally different from motion sickness.

All special sense organs have a dual function. The ears are necessary for hearing and vestibular function; the nose is responsible for smell and breathing; the skin is a third kidney as well as a huge sensory receptor; the tongue provides speech as well as taste. The eyes, however, have the distinction of being the most neurologically important special sense organs in the human body.

Not only are the eyes important for giving sight, but they are also important for categorizing and storing sensory input data into, and accessing appropriate motor response data from the central nervous system. They are never still. They constantly twitch and move in response to their environment. In short, your eyes are to your body what a hard disk is to a computer.

The most generally accepted current theory of motion sickness genesis is the "sensory conflict" hypothesis. (2) According to this theory, motion

sickness is the result of conflict between spatial orientation signals coming from two or more different sources.

In response to sensory conflict, a temporary state of involuntary eye movement is induced. This is called nystagmus. Nystagmus is one of the several symptoms of space motion sickness.

Nystagmus can be temporarily induced by slowly pulling the tape from a tape measure while the subject watches the inches come out of the roller. This technique briefly takes the eyes out of sensory conflict with the ears in general, and the tonic labyrinthine reflexes in specific. Inducing this state puts the nystagmus "on display". From there, the phenomenon can be observed relative to the rest of the body.

The vestibular system functions upon the integrity of the tonic neck receptors and tonic labyrinthine reflexes (TNR/TLRs). The condition of the later dictates the function of the former. Both are primitive and complex, but one is the medium for the other. The TLRs are a higher priority than the TNRs. The space motion sickness (SMS) syndrome is a syndrome of sensory conflict and rearrangement. It is caused by TNR/TLR dyspoenesis relating to, but not caused by vestibular -- and other -- imbalances.

Until now, the principal research has only been directed toward the vestibular system as it related to SMS. The results have been minimal in their prediction of susceptibility to SMS symptoms, however. It is

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for this reason that the author feels a fresh new look must be taken toward SMS, and discuss and observe it in light of more basic, yet advanced TNR/TLR "functional neurology". (3)

SMS is more than just a syndrome. A syndrome, by medical standards, is a collection of signs and symptoms found in a diseased state. SMS is actually a functional neurophysiological dysfunction. If we can understand it on a functional level, it can be treated on that level to remove the adaptation causing the dysfunction and re-establish the systemic resistance necessary to produce functional neurophysiology. SMS is not a pathological condition. It cannot be successfully treated with medications. It is a functional dysfunction. In order to fix it, it must first be evaluated with the correct perspective.

Some astronauts get SMS and others do not. This shows it is abnormal. More properly, SMS is a normal functional state given the level of adaptation of the subject's nervous system. But the fact remains that the system is not neurology functioning at its optimal level. It may be optimal for its present functional state, but not optimal for health.

By medical standards, these astronauts are healthy people. Each astronaut candidate competes against every other astronaut candidate in the areas of health and physical fitness. (4) The standards were published in 1977 in the Medical Evaluation and Standards for Astronaut Selection: NASA Class I -- Pilot Astronaut, and NASA Class II -- Mission Specialist. By functional neurological standards there were dispoenetic

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signals causing a syndrome with specific symptoms.

The nervous system will do everything necessary to adapt in order to survive. It will make optimal changes relative to its level of adaptation, and available choices to meet its goals of homeostasis. Its ability to choose mechanisms of adaptation are extraordinary and its options to do so are countless. It does its best at the time, but the results of that action may lead to further adaptation and peripheral stress.

SMS must be solved, Time seems to relieve the symptoms of SMS, but time is not a cure; it is the substrate upon which the nervous system carefully chooses its options of adaptation.

Space Medicine Today

A brief review of American and Soviet space travel is helpful in understanding and controlling the physiological changes produced by exposure to weightlessness. Dietlein and Johnson (5) developed a list of biomedical problems that were significant over the last 20 years of manned space travel. The space motion sickness (SMS) syndrome was first in the list of priority problems.

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DISCUSSION

Two of the biggest medical obstacles facing those who travel through outer space are SMS, and the demineralization of bone. Since SMS is a syndrome, it has signs and symptoms that can be treated if we can properly identify them and correct their aberrant display (i.e., remove the adaptation and re-establish resistance to the nervous system and tissues).

American Manned Space Program

During the 17 missions of the Mercury and Gemini programs, we found out that man can live in space for extended periods of time. Many experiments were designed and successfully carried out to allow the Apollo program to lead us to the moon.

For the first time in the United States' space effort, Apollo astronauts showed specific vestibular disturbances incident to space flight. (6) With the exception of the Soviet cosmonauts (Titov on Vostok 2, 1961), there was no record of any motion sickness symptoms prior to the Apollo missions. This problem gained swift attention during the Apollo missions and was labeled "space motion sickness" (SMS). "In Apollo 8 and 9 flights, five of the six crewmen suffered some degree of motion sickness, ranging from stomach awareness in three to actual sickness in two others. In one case, the severity of the vestibular disturbance required a postponement of inflight completion of some parts of the flight plan." (7)

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Project Skylab

Skylab was the first opportunity to study problems of habitability and physiological adaptation in space over an extended period of time. The missions were of significantly longer duration than ever before.

Skylabs 2, 3 and 4 lasted 28, 59 and 84 days respectively. This meant that the physiological changes recorded in earlier flights could be studied in greater detail. It was now possible to detail the process of physiological adaptation to the weightless environment of space.

None of the astronauts became space sick during the first Skylab mission. They were closely monitored for the signs and symptoms without result. However, one of the astronauts did take some medication immediately after entry into orbit.

There were severe motion sickness symptoms noted in the second Skylab crew. "In one case, the motion sickness appeared within an hour after insertion into orbit while the crew member was in the act of removing his space suit. This is the [quickest] appearance of motion sickness in orbital flight on record". (8)

Since SMS created such a problem for Skylab 2, special precautions were taken by the third Skylab crew. They tried routines from flying aerobatic maneuvers on the day prior to the mission, to following a planned schedule for anti-motion sickness medication during the early

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days of the mission. Two of the crew members experienced motion sickness, with symptoms from one astronaut persisting well into the fourth day of the mission. (9)

The members of the three Skylab crews gave their subjective reports of inflight vestibular experiments. It was concluded that SMS, (1) remains a problem, (2) is not predictable by the usual Earth-bound tests, and (3) can be alleviated somewhat by the prophylactic administration of medications.

The Space Transportation System (Space Shuttle; STS)

The first successful orbital flight of the Space Shuttle was on April 12, 1981. Biomedical information obtained from the early test flights of the Space Shuttle (STS 1, 2, 3, and 4) substantiated earlier findings of the incidence of space motion sickness.

Soviet Manned Space Program

Vostok Program

Yuri Gagarin was the first man to reach outer space. His historic flight took place on August 12, 1961, completing one orbit in 108 minutes. All Gagarin's psychological and physiological functions were normal during his short ride. Nearly four months later, Air

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Force Major Gherman Titov completed 17 orbits in Vostok 2. This flight took one day. The cosmonaut experienced symptoms of spatial disorientation and motion sickness. This was the first indication of what was to be the most important and persistent problem to face space travelers.

The Weightless Environment

Understand the human physiological response to weightlessness requires knowledge of the basic mechanisms. This can only come from observing an unspoiled environment; true observation without intervention. This then leads to the application of what is learned. Observation alone is difficult since the crewmember's health is the responsibility of the medical personnel.

Occasionally medical intervention is required, which further complicates the research process.

By virtue of their inflight duration, the Skylab and Salyut missions generated a wealth of biomedical information that indicate definite trends and allow certain hypothesis regarding the acute reaction to a zero gravity environment.

The data accumulated during pre-flight, beginning of the flight (one gravity set point), inflight and post-flight operations, has been considered to be at homeostasis in the one-gravity environment.

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For example, neurovestibular symptoms are absent in pre-flight operations, still absent at the one gravity set point, and are most likely to occur during the first few days in orbit. Changes in red blood cell (RBC) mass are detected only after a period of subclinical latency and peak at 60 days inflight. Other physiological functions are not as acutely noticeable, but occur more gradually with progressive changes. Some good examples are calcium loss from bone, loss of lean body mass, and possible accumulative effects of radiation. These all appear to increase continually. Neither the duration of the flight nor the level of acclimation achieved by other body systems seem to change the results of these progressive problems. (10)

The Neurovestibular System

We should all be familiar with the anatomy of the vestibular system. The neurovestibular system provides information relative to the net gravitational and inertial forces exerted upon the body. It provides information necessary for equilibrium and spatial orientation. During space flight, the gravitational component is neutralized leading to the need for physiological realignment of specific neurologic mechanisms with other sensory systems, leading to an array of clinical symptoms. The most important physiological disturbance associated with space flight is SMS.

The otolith organs provide information about gravity and linear acceleration, while the semicircular canals provide information about the angular acceleration of the head.

The two components of the vestibular system function individually with respect to orientation, but not entirely independent of each other or of certain other body systems.

According to Guedry (11), the semicircular canals localize the angular acceleration vector relative to the head during head movement and contribute to sensory inputs for (1) appropriate reflex action relative to an anatomical axis and (2) perception of angular velocity about that axis.

The perception of orientation with respect to a terrestrial environment depends upon the sensory input from the otolith and somatosensory systems. The otoliths provide both static and dynamic orientation information (relative to gravity) and contribute to the perception of tilt.

Space Motion Sickness

Vestibular side effects associated with space flight can be divided into two categories:

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- (1) Immediate reflex motor responses, which include postural illusions, sensations of rotation, nystagmus, dizziness, and vertigo
- (2) Space motion sickness (12)

Symptoms

There are several clinical symptoms and biochemical changes associated with motion sickness. Not necessarily are the symptoms of "sea-sickness" the same as those of SMS. Table I is a comparison of those symptoms normally found with motion sickness versus those normally found during spaceflight.

In general, the progressive cardinal symptoms consist of pallor, cold sweating, nausea and vomiting. For the most part, the symptoms of SMS and sea sickness are similar. However, there are cases where vomiting occurred suddenly in space without prior occurrence of pallor and nausea. (13)

Incidence

Between 40 and 50 percent of all the astronauts and cosmonauts who travel in space have experienced at least some symptoms of SMS which range from mild dizziness and epigastric awareness to nausea and vomiting or retching. However, since many crewmembers took anti-motion sickness drugs prophylactically, it is possible that

the symptoms of SMS could have been much worse than those reported.

By the end of the Apollo program, 29 astronauts had participated and 12 of them spent time on the lunar surface. Interestingly, of the 12 who walked on the moon, only three reported mild space sickness symptoms. They mentioned generalized stomach awareness or loss of appetite, prior to their moon walk. None of them reported any related symptoms while on the lunar surface. In no instances were symptoms noted upon their return trip to earth.

Several techniques have been developed and used over the years to elicit motion sickness symptomatology in susceptible subjects. While these tests have been helpful to predicting motion sickness in a one-gravity environment, they have not been successful in predicting susceptibility to SMS. Further, even if a person did show a susceptibility to motion sickness, they did not necessarily exhibit SMS in flight.

Two primary reasons are presented which seem to explain why the prediction tests have failed. First, individuals seem to respond to different one-gravity environments differently, and it is common for a person to be susceptible to one motion condition while they are not bothered by a different motion environment. Second, the susceptibility to SMS probably involves one or more of the following three major features:

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1. Initial 'susceptibility' to specific motion tests
2. Rate of adaptation
3. Degree of adaptation

Most of the tests used to measure susceptibility to SMS only measure the first component. The ability for an individual to adjust to a new motion environment may be more important than his initial susceptibility to an acute motion stimulus.

There are other variables which may effect the predictive accuracy of the tests. They are:

1. The use of prophylactic anti-motion sickness remedies
2. The use of therapeutic anti-motion sickness remedies
3. The limited number of test subjects

Period of Adaptation

As we have mentioned, the susceptibility to SMS varies from person to person. It also varies within the same individual over a period of time. Astronauts and cosmonauts who have been in space two or more times are less likely to exhibit and experience symptoms of SMS. On the other hand, first time crewmembers who are susceptible seem to exhibit symptoms early after insertion into orbit. Their symptoms are aggravated by head and body movements, especially if the eyes are open. In most cases, the

symptoms seem to abate in two to four days and do not recur for the remainder of the flight. Yakovleva et al. (1980) have reported that "adaptation occurs in one of three patterns: (1) very little or no sensory discomfort, (2) intense discomfort for a short period, or (3) prolonged adaptation without severe symptoms". (14)

Once acclimatized to stressful motion environments -- rotating in a litter chair and executing specific head movements with the eyes covered -- the susceptibility to inflight motion sickness decreased significantly during the inflight provocative tests. This 'immunity' to symptoms continued for a week or more postflight. (15)

It has been observed that there appears to be a period of vestibular readaptation to a one-gravity environment postflight, particularly for one Apollo crewmember, and all the Skylab crews. (16) Postural susceptibility seems to return to normal within ten days. Generally, their symptoms seem to include dizziness and lightheadedness, vertigo during rapid head movements and difficulty in turning corners.

The Soviets have detailed more pronounced postflight vestibular disturbances. They include lasting postural instability, sweating while walking, dizziness, nausea, and vomiting, particularly during head movements. (17) One member of a 175-day Salyut

mission had all the above symptoms as well as long-lasting postural difficulties. He experienced pronounced postflight autokinetic illusions during fixation. (18) Upon comparison with other Salyut missions, it was concluded that the degree of symptoms was proportional to mission length.

Underlying Space Motion Sickness Mechanisms

There have been three theories presented to explain the phenomenon of SMS. They are:

1. Sensory conflict or "sensory rearrangement" theory
2. Fluid shift hypothesis
3. Otolith asymmetry

Sensory Conflict Theory

The sensory conflict or "sensory rearrangement" theory seems to be NASA's most likely explanation for the onset of SMS, and motion sickness in general. Simply stated, "when the motion environment is altered in such a way that the information from the body sensory systems is not compatible and/or does not match previously stored neural patterns, motion sickness results". (19) Two different types of sensory rearrangements were distinguished by Reason and Brand (20). They are:

1. Visual-inertial rearrangement, in which the sensory conflict arises between input from the visual system and vestibular apparatus.
2. Canal-otolith rearrangement, in which the conflict is between the input from the semicircular canals and the otolith organ. (21)

Fluid Shift Hypothesis

The fluid shift hypothesis reasons that, "the cephalad fluid shifts accompanying weightlessness might produce concomitant changes in cranial pressure, thereby altering the response properties of vestibular receptors". (22)

This hypothesis has not been favored according to Parker and Money. (23) No increased susceptibility to provocative motion stimulation during head-down tilt could be found by Graybiel and Lackner. (24)

Otolith Asymmetry

This idea, as proposed by Von Baumgarten and Thumler (1979), compliments the sensory conflict theory. They suggest that the central nervous system adjusts to an anatomical difference in the weights of the right and left otoconial membranes by increasing the neural stimuli to the lighter side until the two sides are

even. This compensation is unnecessary in zero gravity since the weight differential is nullified. The result is an imbalance producing rotary vertigo, eye movements, and posture changes until the central 'compensating centers' adjust to the new situation.

(25)

Prevention and Treatment of SMS

Although considerable effort has been directed toward SMS, only limited success have been achieved to date. This problem has limited the duration of space flight missions, and in some cases even curtailed some inflight activities. The search for the answer has lead researchers to a variety of approaches to prevent of control this malady.

Training

Training an astronaut to withstand the effects of SMS has been based upon the physiological principle that increasing levels of stress will lead to a heightened level of adaptation. The problem is that the training for a zero-gravity condition must be performed in a one-gravity environment, with recognition that the training effect may not last until the transfer to the space environment.

There are no control groups used to evaluate training procedures. Therefore, there is no baseline against which to measure any changes in performance.

Pharmacological Countermeasures

The fact that drug therapy offers some relief to many motion sickness individuals has been known for years. Graybiel et al. (1975) reported that "a fixed-dose combination of promethazine hydrochloride and ephedrine sulfate (25 mg each) proved to be outstanding as this combination exhibited a supra-summation effect". (26) However, there was substantial individual difference in response to the drugs. After much research, it was concluded that the individuals may vary both in with regard to the choice of drug and to the amount administered.

NASA's current procedure for prevention of SMS is to administer scopolamine (0.4 mg) and dextroamphetamine (5.0 mg) orally to those individuals about to fly for the first time in space and to those who have flown previously and experienced motion sickness.

Biofeedback Procedures

The Air Force has used autogenic biofeedback techniques to train pilots to control the symptoms of SMS. The premise is that the symptoms (pallor, cold sweating, stomach awareness, nausea, etc.)

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are an autonomic nervous system response, This response should be able to be interrupted through voluntary control of the autonomic nervous system. This technique has received some noteworthy attention since it restored some crewmen to flight status. However, the effectiveness of biofeedback techniques in preventing motion sickness under operational conditions remains to be determined.

Mechanical Devices

The SMS research has shown that symptoms are aggravated by movement of the body and, in particular, the head and neck. The Soviets have developed an elaborate restraint mechanism designed to restrict head tilt. The device is called "A Neck Pneumatic Shock Absorber". (27) "The device supplies a controlled load of known force to the cervical vertebrae and neck anti-gravitational muscles and restricts head movements during adaptation to weightlessness." (28) The head restraint cap device was tested during several Salyut missions. It was found to be of benefit in controlling the development of SMS symptomatology. Matsnev concludes that "the benefit of this head restraint system may be a result of its control of the vestibulo-cervical reflex, known to involve the labyrinth (semicircular canals and otolith organs) as a receptor and neck muscles as effectors." (29)

RESEARCH PROCEDURE

The Research

Three people are required for the test. One is the patient, the second is the examiner, and the third is the assistant who stands at the foot of the examining table.

The patient should be supine. Eyes open. The examiner tests the patient to determine the presence of gamma 1 and gamma 2 muscle weaknesses. We are looking for patterns of "sensory conflict" (or aberrant sensory barrage) originating in the TNR and/or TLR. The assistant records the data as well as the direction toward which the patient must rotate his head to gain maximum facilitation of previously inhibited muscles. Further, the assistant records any muscle strength changes while therapy localizing C7 (or T1). Test the patient with eyes both open and closed.

Before proceeding further, correct any muscles which are not associated with the TNR and/or TLR. The absence of any positive TNR/TLR findings suggests that the patient may be "immune" to SMS symptoms. Conversely, any findings left uncorrected tend to confuse the fundamental nature of this examination.

While standing at the patient's right side, the examiner holds a tape measure in his right hand. Be sure that the numbers face the

patient. Hold it above the area of the globella at a distance that the patient can easily see the numbers without any eye strain. The examiner next grasps the loose end of the tape with his left hand and instructs the patient to look at the numbers as they emerge from the roller. Pull the loose end of the tape away from the roller at the rate of approximately six inches per second. Note that the roller is to be held stationary and the loose end is to be pulled from the roller toward the patient's right.

As the patient watches the numbers emerge from the roller, the examiner should watch to see that a state of nystagmus is produced in the patient's eyes. Once the nystagmus is present, the examiner continues to pull the tape at the proper rate of speed and instructs the assistant to advance and lock the legs to hold the data on display.

The advance and lock technique (31) is done by grasping the planter surface of the patient's feet with the thumbs on the medial aspect of the feet and the index (and other) fingers on the lateral aspect of the feet. The assistant then externally rotates his hands (and therefore the patient's feet) simultaneously. Next, simultaneously abduct the patient's legs approximately 20 degrees from the midline. This maneuver should take about one to two seconds maximum.

If done correctly, this maneuver should produce a state of inhibition in any indicator muscle (or group of muscles).

Next pull the tape in the opposite direction. Have the examiner switch hands and pull the tape outward toward the left side of the patient at the same rate of speed as above. Again watch for the nystagmus. At the appropriate time, the assistant is instructed to advance and lock the legs. This maneuver should now cause the previously inhibited muscle (or group of muscles) to become facilitated.

Again test the patient for the presence of gamma 1 and gamma 2 muscle involvement.

Next, have the patient rotate his head toward one side. Note the character of muscle strength change in each muscle. Under proper conditions, only those muscles related to TNR and/or TLR should be on display. There will be facilitation of all flexors and inhibition of all extensors on the side opposite of head rotation (or tilt), and facilitation of all the extensors and inhibition of all flexors on the side toward which the head is rotated (or tilted). (32) This characteristic muscle pattern is normal for TNR and/or TLR involvement, but it is the source of the neurovestibular sensory conflict which sets up the SMS syndrome. This patient is a candidate for producing the symptoms of SMS.

The Treatment

Ask the patient to therapy localize the area of C7 (or T1) with one hand, with the head in the center. If the muscle inhibition is from gamma 1 sources, this should cause all the muscle weaknesses associated with a TNR problem to strengthen. As pointed out by Schmitt, (33) it is important to adjust the effected segment into strength, that is with the head rotated toward the side of extensor weakness and away from flexor weakness, regardless of the direction and side of contact on C7.

If the source of inhibition is a gamma 2 weakness, then look for the dyspoenesis according to Schmitt, with the first priority being the "tilt" technique, then the temporal bone, and next the TMJ. (34) Once all the gamma 2 muscle weaknesses have been corrected, rotating the head in either direction will not induce any further gamma 2 weaknesses.

Gamma 1 weaknesses can exist even though the gamma 2 problems have been corrected. These can be elicited by having the patient rotate the head to either side. These, then can be corrected by adjusting C7 (or T1). Once proper gamma 1 treatment has been given the head rotation will no longer have any effect on the gamma 1 muscle testing. That is, all muscles will be strong despite the direction of head rotation. This person should no longer be susceptible to SMS symptoms.

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If both the gamma 1 and gamma 2 weaknesses are found simultaneously, the gamma 2 weaknesses must be corrected first as they are of a higher neurologic priority than the gamma 1 weaknesses. (35)

After all gamma 1 and gamma 2 problems have been corrected, return the patient to the start by bringing the legs back together.

Repeat the tape measure procedure on both sides, with the advance and lock. Nystagmus should now show no signs of muscle weakness in either the clear, gamma 1 or gamma 2 muscle testing procedures. The SMS has been corrected.

DISCUSSION OF FINDINGS

The symptoms of SMS are not like those of regular motion sickness. Each person exhibits a different set of symptoms unique to that individual. Predictions of susceptibility to SMS have failed, making this malady the most mysterious in the field of space biomedical research.

The symptoms of SMS were first recognised by the Soviets, but first appeared in the American space effort during the Apollo era. This lead researchers to investigate the vestibular system as a possible cause of the problem.

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SMS is a functional dysfunction of the nervous system which leads to a conflict in the sensory system requiring recalibration of the patient's response to a new environment. By medical standards, the astronauts are very healthy. Therefore, this condition cannot be termed a pathological one; the symptoms last only about four days at the most. It must not be mistaken for, nor treated like a disease.

Treating the sensory conflict by training the astronaut to build a tolerance to increasingly intense periods of the stressor has yielded fair results. This technique, however, can lead to deeper levels of adaptation (i.e., switching) and further functional neurologic problems.

The key to treating the syndrome is to find and correct the adaptation and build tissue resistance to its recurrence. Using medication will only create further problems producing unknown side effects and peripheral stress.

It is very difficult to do quality research without a control group against which to test the research group. The reason there can be no control group is that facilities available for their space flight are limited. Only a few people can go into space at a time.

The head restraint system developed by the Soviets, has been shown to be effective in alleviating the symptoms of SMS. It increases the stability of the "vestibulo-cervical reflexes" discussed by Matsnev. This is exactly what we are saying when we talk about the TNR/TLRs. However, instead of wearing a bulky head harness and shoulder straps, this author is suggesting the correction of the causative factor of SMS -- namely, a functional dysfunction of the neurovestibular system -- using functional neurological diagnosis and applied kinesiological treatment.

The results seen by biofeedback are thought to be through the astronaut's heightened level of control of the autonomic nervous system. This same standard can be used to monitor the treatment results.

The procedure presented herein using functional neurology as a monitor, will allow true observation without intervention of any kind. Predicting who will exhibit SMS symptoms, and why, is possible, even in a zero-gravity environment. The equipment necessary for testing and treatment are minimal, and the facilities necessary for transport to space are slight. Best of all, the techniques are available, without the production of confusing side effects.

CONCLUSION

Researchers have been struggling with the problem of SMS for over 20 years. It is not a pathological problem needing medications for treatment. It is this author's contention that research directed toward the vestibular system has yielded partial results because it is but a part of the larger picture -- functional neurology and the TNR/TLR. The more efficient way to correct the problem is via the physiological wave of the future -- Functional Neurology and Applied Kinesiology.

We stand on the precipice of a new age in space biomedical research. The arrival of functional neurology will open doors which have been locked for decades and shed new light on the field of space physiology and medicine. Applied kinesiology has met its maturity.

TABLE I

INFLIGHT EVALUATION OF MOTION SICKNESS SYMPTOMS

MOTION SICKNESS	SPACEFLIGHT
Alterations in respiration rate	Not measured
Inhibition of gastric intestinal tone and secretions	"
Salivation	Reported
Gas or belching	"
Epigastric discomfort or awareness	"
Sudden relief from symptoms after vomiting	"
Decreased body temperature	Not measured
Coldness of extremities	"
Ocular imbalance	Not observed
Dilated pupils during emesis	"
Small pupils	"
Apathy, lethargy, sleepiness, fatigue, weakness	Reported
Depression and/or anxiety	"
Headache, especially frontal headache	"
Decreased muscular coordination and psychomotor performance	"
Decreased time estimation	"
Decreased motivation	"
Anorexia, unusual sensitivity to repulsive sights or odors, or excessive discomfort from previously tolerable stimuli such as heat, cold, or tightness of clothing	"
Mental confusion, spatial disorientation, dizziness, giddiness	Variable

(30)

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PHYSICS, VEDIC SCIENCE AND VIBRATION

By: John Andre, D.C.

ABSTRACT

Unified Field based therapeutics are discussed from the standpoint of modern Physics and ancient Vedic Science, an extension upon the science of Applied Kinesiology (A.K.).

Something old, something new, something borrowed and something blue. The marriage of modern Physics and Vedic Science comes with a sense of excitement and promises to be of great significance to all physician Kinesiologists.

Unified Field

Without question, physics is the most conceptually advanced of the western sciences today. Through the recent development of completely unified field theories of all the fundamental forces and particles of nature, we are well on our way to the complete mastery of Natural Law.

Wisdom

India blesses us with the Veda, the most ancient and sublime tradition of knowledge on earth today. As such, it covers all areas of life. The Rig-Veda speaks to the structure of creation. The Ayur-Veda is concerned with perfect health, the microcosm within the macrocosm.

Both India and China are rich in ancient lore. The Chinese appear to have imported the basic healing arts knowledge found in the Veda, and in turn expanded upon it. The science of meridian therapy (acupuncture) and the use of herbs are traceably over 5,000 years old in China. A.K. doctors have clearly recognized the value of Chinese Medicine, integrating it deeply into the knowledge base of A.K.

Eclectic

Western holistic health care practitioners have been incorporating this knowledge from China for over 100 years. Naturalist physicians have been appropriately attuned to the best of the old and the best of the new. The borrowed knowledge has helped many patients...

The Bible assures us that in these "end times", as we close out The Age of Ignorance and move solidly into The Age of Enlightenment, that all knowledge will be revealed. Toffler, in his book Future Shock, elaborated well upon the effects of the knowledge explosion in all areas of life.

One of the visible results to date has been the ascending cacophony as each one, in his area of specialized interest shouts: I have THE answer. A modern Tower of Babel is in the making, unless we begin to actively seek the commonality at the basis of all this expanded diversity.

Core Level

Physics has progressed its understanding of the structure of life to the point of final abstraction: Space-Time compactification of ten dimensional superstrings into three-plus-one dimensional supergravity -- the super-unification

of Natural Law, thereby establishing the existence of the Unified Field of All the Laws of Nature. If ever there was to be a scientific definition of God, we have it in the Unified Field.

One Into Three

For the first time in recorded history we have all the theoretical tools at our fingertips necessary to have a complete understanding of the structure of Mother Nature herself.

The Veda tells us that the Unified Field first manifests itself, through its own selfinteracting dynamics, into Rishi, Devata, and Chandas--or Knower, Process of Knowing and Known (or doctor, practice, and patient). The Veda further elaborates upon the structure of the universe: space, air, fire, water and earth, the five Mahabhutas.

These Mahabhutas appear in the philosophic roots of Chinese Medicine as the Law of Five Elements, namely: fire, earth, metal, water and wood.

When doing a critical analysis of the truth inherent within the two above systems we find a perfect commonality of structure: space is wood, fire, earth, metal is air, and water. A tree is emblematic of wood reaching up into space, while metal acted upon by fire in ko cycle mechanics becomes gas (air).

The twelve astrological signs are broken down as follows: Air holds Gemini, Libra and Aquarius; Fire holds Aries, Leo and Sagittarius; Water holds Cancer, Scorpio and Pisces;

Earth holds Taurus, Virgo and Capricorn. The space element represents "the fullness of emptiness"--all potential.

Images

The Chinese Five Element Law functions through a pentagonal relationship structure (see Figure 1). This mandala holds within itself the power, through imagery, via the Law of Name and Form, of creation itself. Both White and Black Magic access this pentagram.

Chinese Medicine's central focus is the twelve primary meridians, these are clearly structured within this pentagram (see Figure 1). The Luo point mechanism, the mechanism whereby energy transfers between adjacent meridians, is likewise demonstrated by the arrows between the two halves of each element (see Figure 2). Those elements on the inner side of the great circle are "yin" elements (feminine) those on the outer side are "yang" elements (masculine); the respective left and right halves of the pentagram are accessed through the left and right radial pulses respectively for diagnostic purposes. The very center point of the structure calls to mind the associated effect point of each meridian, which lies along the spine as points on the Bladder Meridian.

Mechanics

Chinese Medicine speaks to the mechanics of primary energy (chi) movement being broken down into: 1) shin cycle (see directional flow arrows on the great circle in Figure 2), ko cycle (see directional flow arrows inside the pentagram between the five elements in Figure 2), and

reverse ko cycle (see directional flow arrows inside the pentagram between the five elements in Figure 3). A.K. doctors continually access the knowledge available, through understanding the functionally Dynamical Laws of Chinese Medicine expressed via the symbology inherent within this elemental pentagram.

Diagnostically, we can never view the human physiological mechanisms in a comprehensive fashion unless one of our points of perspective is that vision available to those with an in depth knowledge of Meridian Therapy, often improperly called the science of acupuncture. Acupuncture, i.e., the puncturing of an acupoint with a needle, is but one method available to us for point stimulation and treatment.

The fathers of A.K. mapped out, early on, the relationships between specific muscle pairs and their associated organs and tissues, and therefore their related meridians.

Reliably, for example, the typical hypoadrenic patient presents posterally hypokinetic sartorius muscles, which can be observed via posture analysis as a pair of flared (Internal) Iliums with a pair of medially deviated knees. This of course must be correlated with said patients symptomatology and other exam findings, prior to having a complete diagnosis of hypoadrenia.

Spin Your Partners

On a relatively superficial level, modern science identifies five basic states of matter: solid, liquid, plasma, gaseous and space which correlate in an obvious way with earth, water, fire, air, and space. On a much more

profound level, relativistic quantum field theory also establishes that there are precisely five fundamental categories of matter and energy: spin-0, spin- $\frac{1}{2}$, spin-1, spin- $1\frac{1}{2}$, and spin-2. Close examination reveals that these spin types correlate with the five elements (Mahabhutas) of Vedic Science in the following straightforward way: Spin-2 is the field of gravity -- the curvature of space-time geometry -- and corresponds to the Vedic concept of space -- space-time as a dynamical medium. Spin- $1\frac{1}{2}$ is known as the gravitino, which dynamically upholds the unity of the various spin types, and corresponds to air. Spin-1 fields are the fundamental force fields (eg., electromagnetism responsible for the chemical transformation and light), and corresponds to fire. Spin- $\frac{1}{2}$ fields comprise the fundamental matter fields (i.e., leptons and quarks) and corresponds to water. And finally, spin-0 represents the most inert category of matter and corresponds to earth. Collectively the integral spin types (i.e., spin-0, 1, and 2) are called "Bosons" and half-integral spin types (i.e., spin- $\frac{1}{2}$ and $1\frac{1}{2}$) are called "Fermions." The Bosons are force fields and represent the intelligence or "Rishi" aspect of the unified field, the Fermions are matter fields and represent the material or "Chandas" aspect, and the "Devata" aspect can be seen in the supersymmetric relationship between the two.

The Gunas

The fundamental three-fold structure of the Unified Field of Vedic Science, described above in terms of Rishi, Devata and Chandas, are more commonly known as the primary

modifications of nature -- the three "gunas": Sattva (Rishi), Rajas (Devata) and Tamas (Chandas). Sattva-Guna is the creative (reverse ko cycle), Rajo-Guna is the maintainer/nourisher (shin cycle) and Tamo-Guna is the destructive one (ko cycle). (Remember, the old pattern must of necessity be broken up before the new pattern can be brought into being).

Ayur-Veda speaks to this primary manifestation of the One into the Three in terms of the three doshas. Each of which addresses a specific morphologic type: Vata is the unification of the air and space elements, Pitta is fire and Kapha is composed of the water and earth elements. As such, each dosha holds within it four of the twelve primary meridians. These doshas only generally appear to be analogous to the more familiar western morphologic typing: ectomorph (Vata), mesomorph (Pitta) and endomorph (Kapha).

Subsequent to commentary on the Veda by his Holiness Maharishi Mahesh Yogi, we now understand that in physiologic terms the doshas give rise, via the tanmantras and Mahabhutas, to the elementals and their respective meridians. Previously, it was thought that the elementals came first, later giving rise to the doshas. This elaboration may well prove to be of profound significance relative to the treatment of patient concerns. One's point of perspective...frame of reference... is fundamental to how one views the patient and therefore what treatment one decides to render. A physician limited to one narrow viewpoint of one therapeutic agent usually produces limited results for those in his or her care.

Obviously, which came first, dosha or meridian, would tend to color one's perspective. Ironically, however, many dosha level problems are best treated at the composite meridian level, using whatever treatment procedures are indicated by the then current level of body priority dictates.

Centered

The associated effect point in the center of the great circle (see Figure 1) is coincident with the navel of Leonardo Da Vinci's Vitruvian Man (see Figure 4). This point is found to be emblematic of wholeness.

Horary Point

There is an exciting parallel easily drawn between the concept/function of supersymmetry and the Chinese "Horary Point". Knowledgeable authorities place the Horary Point, sometimes improperly called the "now" point, tangential to the great circle between the space/wood element and the fire element (see Figure 3). As such, it is ideally placed to act as a modifier on the process of creation as the unmanifest Akasha (space) is transformed into the rest of creation. Here is the primordial seat of supersymmetry breaking whereby the One (Unified Field) becomes three: force fields (Rishi), matter fields (Chandas) and the supersymmetric relationship between the two (Devata). The Horary Point is that point on a given meridian which is best stimulated during the phase of circadian rhythms wherein the magnetic wave of focus is centered within its given meridian on the meridian clock (we could easily call it the Self Referral Point of the meridian).

Devas and Gems

In Jyotish, the Indian Astrological science, knowledge of the specific gemstone correlates exists: Ketu = Cat's Eye; Rahu = Hessonite Garnet; Akasha = Blue Topaz; Agni = Red Coral and Red Ruby; Prithivi = Green Emerald; Vayu = Violet Sapphire; Varuna = Diamond and Pearl.

This synthesis allows: A) specific gem therapy for elemental clock block problems, B) the construction of the basis for a master power symbol (Mandala), and potentially an accurate filter mechanism for the Vega Test Machine, and C) the subsequent use of said symbol therapeutically and/or as a direct challenge mechanism to allow entry into the biocomputer at that level.

Navaratnam

Nine gemstones fit neatly into place on the Five Element Diagram (see Figure 1). Wood (space) = Blue Topaz; Yang Fire (outer) = Red Coral; Yin Fire (inner) = Red Ruby; Earth = Green Emerald; Metal (air) = Violet Sapphire; Yang Water = Pearl; Yin Water = Diamond. The associated effect point = Cat's Eye. And, the horary point = Hessonite Garnet.

Together, these nine gemstones comprise the famous Navaratnam which is spoken to in Vedic Science.

It is your writer's opinion that this is the first exposition wherein the positional relevance of these nine gemstones is described, thus accessing the Law of Name and Form to fully empower this famous gemstone mandala of ancient Vedic lore.

Our research has found four additional gems to be positionally relevant. In a future paper we shall discuss in detail these findings.

The Chakras

The Veda refers to seven major chakras, as does Chinese Medicine. These are energy centers which are said to link up the subtle levels of the physiology with the gross physical body. These correspond to glands, blood and nerve centers shown in our modern physiology texts. These chakras are like flowers, having their base/root in the spine and/or glands. The actual flower portion is positioned either anteriorly, superiorly or inferiorly on the body. There is much confusion in the literature relative to these structures.

The gemstones previously mentioned above relate therapeutically to the seven major chakras. Clinically, it has been found that the Cat's Eye relates to the lower girdle (the vector of relationship between the navel and the Microscopic zorbex gland, seat of Kundalini, within the Ganglion Impar); the Hessonite Garnet relates to the upper girdle (the vector of relationship between the glabella and the medulla oblongata).

Each chakra exerts a significant element of control over all the associated structures connected thereto. Often, for example, we Applied Kinesiologists treat that particular patient who is obviously left with the scars from the trauma of a broken heart. We find upon examination of said patient a nasty subluxation complex involving D-2 and 3. It will typically be very resistant to correction. This

patient will usually display a thymus compression posture, as if someone stepped on their heart (magnetic center -- chakra).

Portals

Spleen-21 is an acupoint known as the great luo point. The left SP-21 point is also the portal of entry for the fire element. It has been stated that this is a point on the human body where the "seven rayed rainbow of light" enters us to feed our physiology. Further, these seven primary colors are split by the spleen and from there go to each of the seven major chakras in order to provide a very basic kind of nourishment to them.

The Kidney-1 points on the bottom of the feet are the entry and exhaust points for the earth elements energy, left and right respectively. Inherent within the teachings of "polarity therapy" is the understanding that a major bioenergetic inflow enters the left foot and exits the right... after mixing with other various energies in the abdomen.

These folks similarly refer to an important bio-energetic inflow entering the left palm and exiting the right palm, after mixing with various energies in the chest and throat areas. Our research has found this (left palm) to be the portal of entry for the water element.

The Medulla oblongata, at the base of the occiput is the portal for the space/wood elemental energies. This area has been discussed by others relative to its role in the process of spiritual inspiration.

Clinically, it has proven of value to watch for an

overlapping of affectation in these areas. For example, a kidney problem which refers to (sends "sparks" to) the Ki-1 acupoint...thereby effecting that point's ability to act as the portal for the earth energies...in turn causing an energy starvation to the spleen and stomach meridians along with those specific organs and the pancreas (which is on the spleen meridian, also).

Capacitor Mechanism

As an overview it can be said that Human (Hu/man = God/man) Beings were designed to stand with their feet upon the earth and their head in the heavens. And, as such, pull into them the energy of the earth and the energy of the sky. Then...through their volition (purposeful action)... they project the blending of these three energies into their environment for the good of all.

In this way, the purpose of life is accomplished: the projection of happiness (Divinity) more deeply into matter. This is a capacitor discharge mechanism not at all unlike that with which the electrical engineer works each day.

Causation

Those clinicians using Applied Kinesiology in their practices have been at the forefront of our profession speaking to the need, and teaching the methods, whereby the cause of the subluxation can be addressed. Muscles are guywires that help to position bones, control their position. Anything that affects a muscle, causing hyper or hypotonus will in turn effect boney juxtapositions. And, anything which affects the integrity and normalcy of that

"circuit" in the body will effect the tonus of those associated muscles.

Therapy

Doing the right thing for the right patient in the right way at the right time for the right reason will always bring about the right results.

If we have enough tools in our tool bag (thank you, Dr. J. Clay Thompson), and appropriate analysis/diagnostic skills, then we are in a position to make those necessary decisions which allow our treatment to be both purposeful and productive.

Treating at the deepest level of abstraction wherein the biocomputer of the human body will give permission to treat, is not only most productive, but most fun too. Dr. Alan Beardall taught me that.

All therapies work some of the time. All tools are needed in our tool bags. Music therapy, light therapy and color therapy work through vibration. So does ultrasound. So do gemstones, and so too the "Harmonics" invented by Dr. M.L. Rees as an extension on Sacro-Occipital Technique.

Rebirth

Interestingly, the original knowledge obviously came from India and was maintained at a high level in China. Currently, Ayur-Veda is being reborn in India and America. With the recent inauguration and founding of Maharishi Vedic University of Washington, D.C., we can look forward to increasing activity in the rebirth of Ayur-Veda here in America. The area of eclectic interface between these

two Asian giants is a fertile field for truthseeking naturally oriented physicians today, bearing in mind that Truth is that which never contradicts itself.

Responsibility

It is no longer adequate for the chiropractor to adjust subluxations and say: "I'm done". We are responsible for the level of etiology. We must look for the cause of the subluxation. To continue to readjust the same subluxation without a concern for the cause of it is surely a moral crime.

New News

As Toffler pointed out so well, it is indeed one of the greatest challenges/tests we face on a daily basis ... keeping our minds open to that which is new and valuable. It is tempting for each of us to shut down our sensors, due to shock of sensory overload -- too much new data -- not enough core storage.

The Onus

However, it is incumbent upon us as professionals to stay open, stay alert to that which is fresher and more powerful.

It is imperative that we remember, as we help our patients to unpeel their onions of stored physiological stress -- physician heal thyself -- take the responsibility to seek out a colleague and get treated. Value the Golden Goose that lays the golden eggs.

In these days of exploding new discoveries and the subsequent synergistic understandings brought about by the

correlative integration of adjacent knowledge systems, we see the potential for creating heaven on earth ... a world free from suffering, peopled by an enlightened populus living in accord with All the Laws of Nature.

The basic truth that "knowledge is structured in consciousness", along with the breakthrough by modern physics uncovering the existence of the Unified Field (consciousness) as the basis of all creation, brings us to the doorstep of a very exciting future. The ancient wisdom of the Veda and modern science are joining hands, counterpointing each other, giving us a richness of dual perspective. Thus, the subsequent advent of integrated practice technologies promises the greatest of blessings to all mankind.

Acknowledgement

We owe an extreme debt of thanks to John Hagelin, Ph.D. for his enlightened knowledge and guidance in the presentation of the above information.

Dr. John Hagelin is Professor of Physics, Chairman of the Department of Physics, and Director of the Doctoral Program in Physics at Maharishi International University in Fairfield, Iowa, and Chairman of the Department of Modern Science and Trustee at Maharishi Vedic University in Washington D.C.

Dr. Hagelin is a leading authority in the area of unified quantum field theories. He received his doctorate in theoretical physics from Harvard University and joined the Theoretical Physics Group at the European Laboratory for

Particle Physics (CERN) in Geneva, Switzerland, and at the Stanford Linear Accelerator Center (SLAC) in California, where many of the most important breakthroughs of modern physics have taken place. In the last two years, Dr. Hagelin has published over 40 papers on various aspects of unified field theory in the leading technical journals.

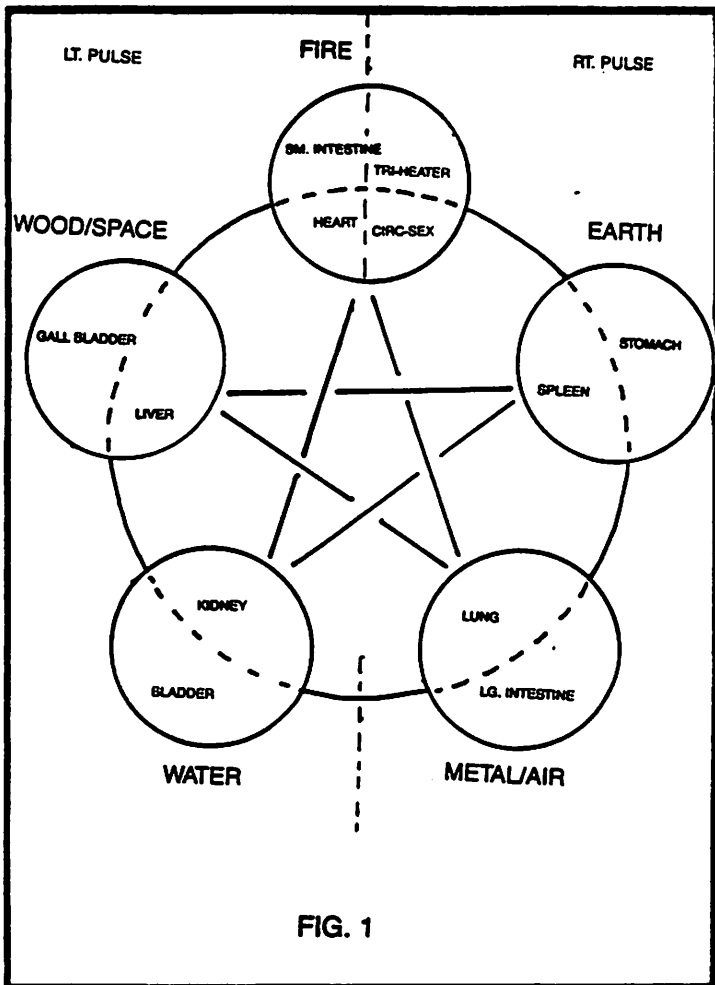


FIG. 1

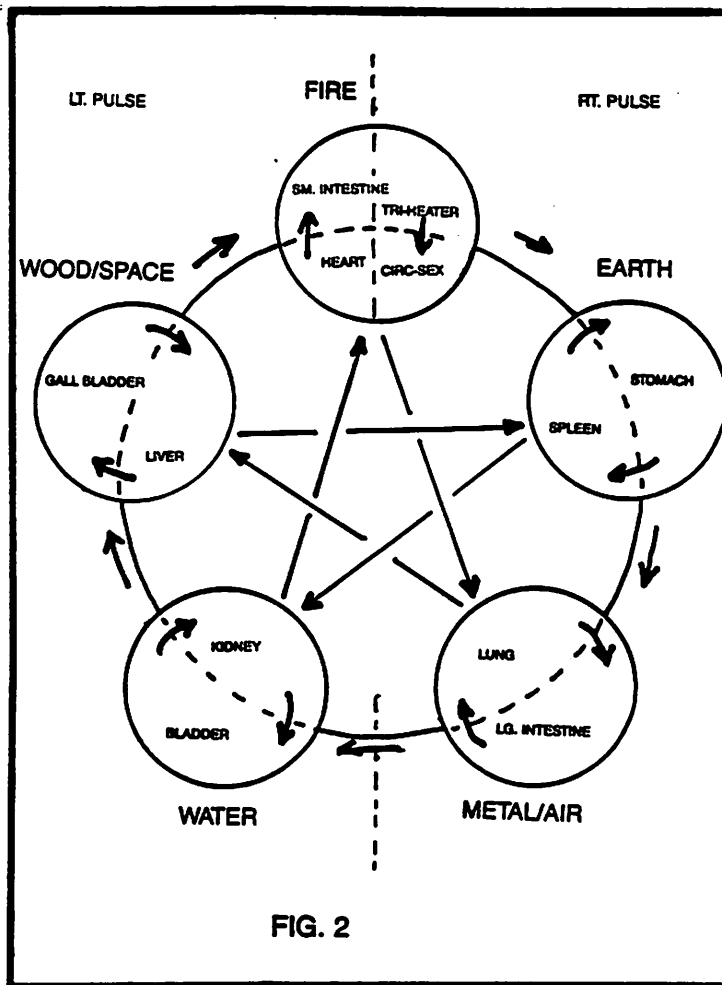


FIG. 2

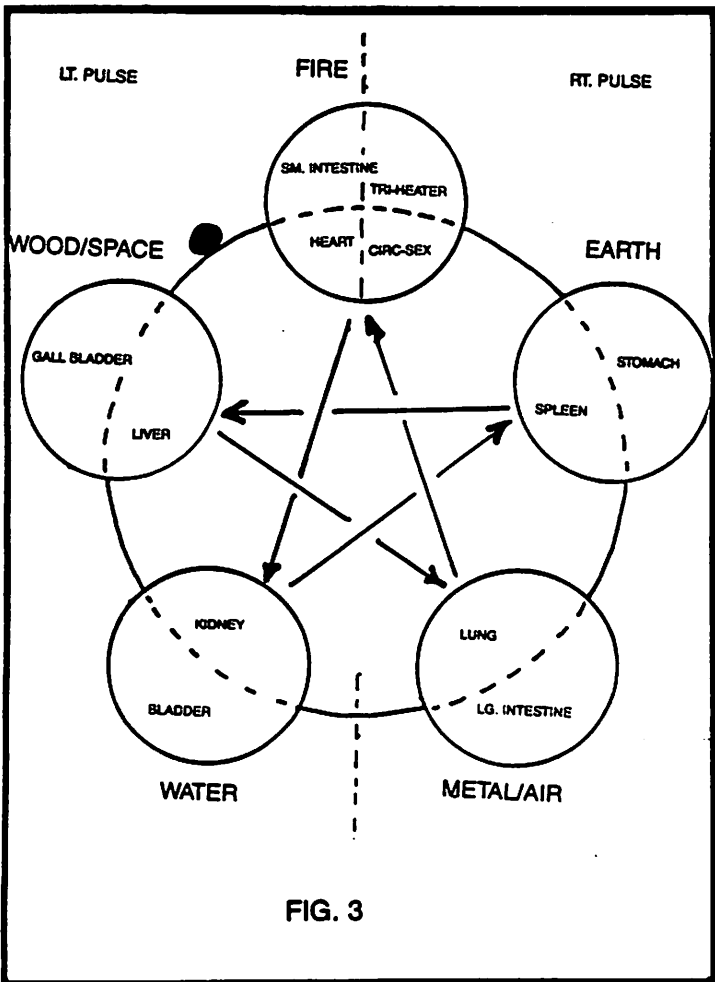


FIG. 3

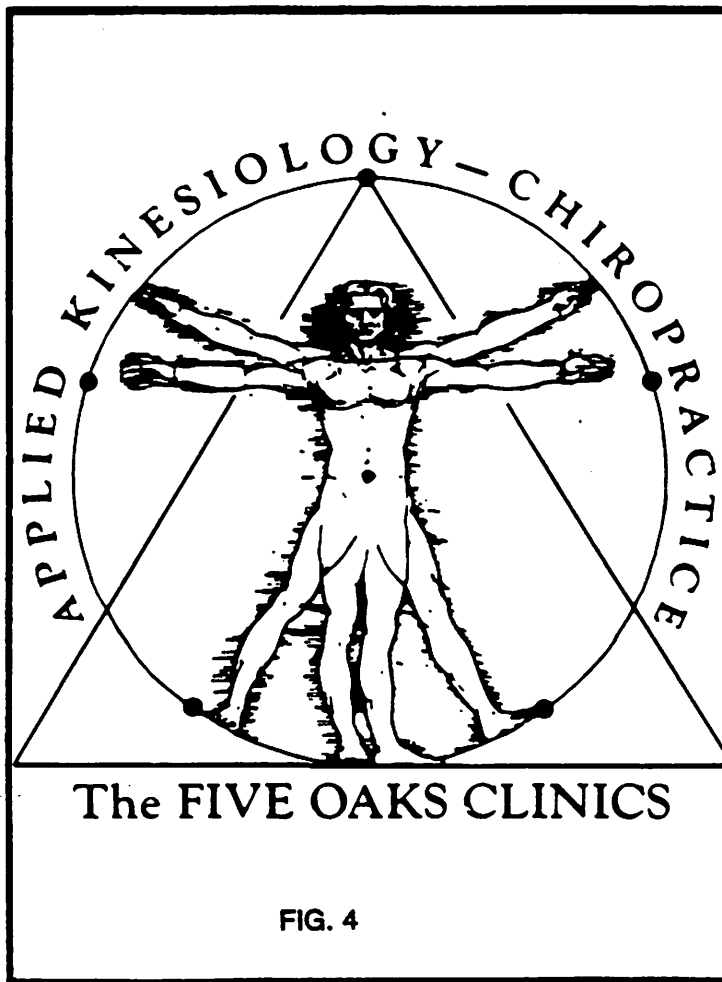


FIG. 4

ROCK MUSIC - AN ENVIRONMENTAL STRESSOR

Bryan Baughman, D.C.

Abstract: This paper presents and discusses the results of a pilot study on the effects of "ROCK TYPE MUSIC" on the human body/mind using manual muscle testing. The control group had no response to the measured parameters, while the group given the music had varying combinations of neurological disorganization, emotional response, and right/left brain disorganization.

INTRODUCTION : Over the years I have done sporadic testing of people's response to music. This was usually done with "rock" music while testing bilateral PMCs. If this testing was done with a patient it was usually with earphones and because I suspected that a certain type of music was complicating a pre-existing problem. Occasionally some testing was done in AK demonstration for the public. None of this testing was quantified in any way and was quite susceptible to operator bias. So, I designed a brief experiment to see if certain music has a measurable effect using AK parameters.

METHODS: The testee was brought into the treating room. I pretested all of the following factors:

1. BILATERAL PMC Both pectoralis major clavicular muscles were tested simultaneously in the supine position.
2. ENV Emotional Neurovascular These were tested by therapy localization (TL) to the stomach neurovasculars and testing an intact indicator muscle.
3. OCULAR LOCK This was tested in an abbreviated version by having the testee follow my finger with his eyes in a clockwise direction and testing an intact indicator muscle. This was then repeated in a counter-clockwise direction.
4. SWITCHING Tested by TL to CV 27, then TL to CV 24.
5. RIGHT AND LEFT BRAIN ACTIVITY The testee was asked to hum in a

in a random manner (right brain activity) as an indicator muscle was tested. He was then asked to do simple multiplication (left brain activity) as an indicator muscle was tested.

If all factors 1-5 were clear I would leave the building so that I would not be able to hear what was taking place in the room. My assistant would then go into the room and generate a random number on a calculator. If the number was even, a preselected piece of rock music was played. If the number was odd, the control was played.

The music was a piece called Sweet Leaf by Black Sabbath. There were no words in this section of music. The control was a babbling brook that was used as white noise. Both the control and music were played at the same volume. The duration of both was two minutes.

I then came back into the room not knowing which had been played and proceeded to test the 5 factors listed above. If the PMC had been weakened, I would test muscles until I found one strong in the clear and would then test factors 2-5. The results were recorded and the testee was asked what he had heard. It is important to note that since this type of test cannot be performed in a true double blind fashion, the testee was not informed in any way what type of response might be expected.

Any testees in the waiting room that hadn't been tested were temporarily ushered out of the office so that they would not be pre-exposed to the music or control. After the test was over they were asked to fill out a form on demographics, music preference, and recreational drug usage.

RESULTS: In the control group (N=7) there was no response to the sound. In the music group (N=12), 2 of the people (17%) had no response to the music, while 10 (83%) showed a response to two or more of the tested factors. The results are summarized in the following chart:

1. Bilateral PMC weakness	50%	N=6
2. Emotional Neurovascular	67%	N=8
3. GV 27 and CV 24	50%	N=6
4. Ocular lock	83%	N=10
5. Right brain dysfunction	67%	N=8
Left Brain dysfunction	25%	N=3

I was unable to observe any concrete relationships between the observed responses and sex, age, music like or dislike, daily time spent listening to music, or drug usage past or present. It is interesting to note that the two people that didn't respond to the music had no history of drug usage.

DISCUSSION: In this section I will try to briefly explain some of the neurological significance of the parameters tested. The Bilateral PMC is a muscle group that appears to indicate some type of emotional disturbance.¹ This particular piece of music was able to disturb this function in one half of the people tested. The ENV is the neurovascular reflex found in AK to correlate with the PMC muscle and is also known as Bennett's "emotional reflex".² By therapy localization we may be finding a negative emotional response that is one level more subtle than immediate bilateral PMC weakness. This again implies that this piece of music is creating emotional imbalance.

Walther states that "Ocular Lock tested by either AK method suggests that there is poor neurological organization at the mid-brain level."³ This may imply that the music caused a lack of effectiveness of bilateral visual function. Granted there are other factors that may cause ocular lock e.g. Cranial respiratory mechanism dysfunction or pelvic and sacral dysfunction. If the music is disturbing to these last two mechanisms this may have significant implications.

GV27/CV24 switching is sometimes correlated with lack of communication between energy patterns of the governing vessel and the conception vessel.⁴ These are the two energy storage meridians. The conception vessel is anter-

ior and the governing vessel is primarily posterior. Walther suggests that once switching is corrected it should not return unless the individual experiences structural, chemical, or mental trauma. This music appears to be a trauma of one of these types.

The right brain is considered tonal and spatial, while the left brain is mathematical and linear. As walther says, "It seems reasonable that the well organized individual has effective use of both sides of the brain and the body with effective interplay, neither side being dominant, neither side being ineffective. There is significant evidence that each side plays a dominant role during different types of thinking.⁵ It is also interesting to note that positive affirmations appear to influence the intuitive aspect of the right brain and diminish the logical negative influence of learning of the left brain. This implies that music that disrupts right brain function, as shown in the experiment, may have inhibitory effects on learning.

CONCLUSION: With such a limited study and so many variables it is difficult to draw nay concrete conclusions at this time. Though, we can safely say that even this short duration of exposure produced definite signs of emotional stress, neurological disorganization, and right/left brain imbalance in most people tested. Anyone familiar with AK and the subtleties of the nervous system can began to speculate on the effect this could have on both children and adults.. What this is appearing to affect is our basic functional neurology. What are the long term affects? No one seems to know at this point.

John Diamond, M.D. sums thing up well when he points out that, "repeated exposure to it [rock music] causes one to seek it. It becomes the beat of choice..... It is as if the body no longer can distinguish what is beneficial and what is harmful. In fact, his body actually chooses that which is distructive over that which is therapeutic. In this light consider the millions

of people who are exposed hour after hour to rock music and are continually switched and stressed.⁶ I would venture to guess that disco type music, a great deal of jazz, and some modern orchestral cacophonies would produce similar effects.

The idea that music has both positive and negative effects is not new.

...The extraordinary possibilities of music for developing good and bad character were recognized by Plato, who established rules for them that today may appear odd, but were completely logical within his philosophical thinking. Since such demoniac powers were attributed to music that all thoughts and actions of mankind were believed to be held in its sway, music had to be considered as one of the guiding principles of public life, especially in education.⁷

In 1924 Dr. Seville said in regard to music,

...Those who revel in emotional excess, who feelings are encouraged to be intense, and undisciplined by the control of the intellect, develop in time innumerable maladies of those regions of the body which are influenced by the sympathetic nervous system. Their involuntary muscles cease to function normally and the circulation plays strange tricks. In time, with deficient healthy exercise and intervals for repose, chronic illness sets in; permanent abnormal conditions of the body develop.⁸

Seville goes on to say:

Just as certainly as great music is Wholesome for the body and the spirit, so a certain type of music promotes unhealthy functioning of the body and disturbance of the mind. On theoretical grounds it is highly probable that such prolonged and frequent courses of such music can provoke a serious degree of mental instability.⁹

It appears that rhythm "the beat" affects us physically and the melody works on us psychologically.¹⁰ This leaves us a lot of food for thought.

As physicians we are concerned about eliminating environmental influences that may have a negative effect on the holding power of our therapeutic corrections. As surely as we would consider eliminating toxic metals, food allergins, insecticides, or problem drugs, I believe we should now give strong consideration to inharmonious music. What effect does the does the music have on people in their aerobic classes? What mental and

physical effects do rock concerts and their associated radio stations have on the young? What negative effects does music have on learning disabled people? At times when stress syndrome is so prevalent can we afford to overlook disharmonious music as a major stressor? I don't have full answers to these and many other questions regarding music in its many forms. Instead I appeal to you, my colleagues, to expand my research and draw your own conclusions.

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	C/M	PMC	ENV	CV24	GV27	OL	RB	LB	SEX	AGE	M/L	M/D	T	D/N	D/P
1	C	o	o	o	o	o	o	o	M	26-35	R	J	5-8	M	C
2	C	o	o	o	o	o	o	o	F	26-35	R	Cl	1-2	∅	MH
3	C	o	o	o	o	o	o	o	F	26-35	CL	RJCw	0-1	∅	∅
4	C	o	o	o	o	o	o	o	F	Lt18	R	ClJF	1-2	∅	∅
5	C	o	o	o	o	o	o	o	M	36-44	Cl	RJ	2-4	∅	∅
6	C	o	o	o	o	o	o	o	M	Lt18	CL	R	0-1	∅	∅
7	C	o	o	o	o	o	o	o	F	26-35	J	none	1-2	∅	MC
8	M	o	o	+	+	+	+	o	F	26-35	Cw	none	0-1	∅	MH
9	M	o	+	o	o	+	+	o	M	26-35	P	RJ	2-4	∅	MH
10	M	+	+	o	o	+	+	+	M	26-35	P	FCw	2-4	∅	MHPc
11	M	o	o	o	o	o	o	o	M	19-25	Cl	PCw	1-2	∅	∅
12	M	+	+	o	o	+	+	o	F	60+	Cl	R	1-2	∅	∅
13	M	+	+	o	o	+	+	o	M	36-44	Cl	Cw	0-1	∅	MPyL
14	M	+	+	+	+	+	N/A	N/A	M	26-35	P	FCw	1-2	∅	∅
15	M	+	+	+	+	+	+	o	F	26-35	R	JF	2-4	∅	MHC
16	M	o	+	+	+	+	+	+	F	19-25	Cl	J	1-2	M	M
17	M	o	o	o	o	o	o	o	F	Lt18	R	JF	1-2	∅	∅
18	M	+	+	+	+	+	+	+	M	26-35	R	none	0-1	N/A	N/A
19	M	o	o	+	+	+	o	o	M	26-35	R	Op	0-1	∅	MLS
8		50	67	50	50	83	67	25							

KEY TO APPENDIX !

C/M	Control or Music
PMC	Pectoralis Major Clavicular
OL	Ocular Lock
RB	Right Brain
LB	Left Brain
M/L	Music Liked
M/D	Music Disliked
J	Jazz
Cl	Classical
Cw	Country & Western
F	Folk
R	Rock
P	Popular - easy listening
Op	Opera
D/N	Drugs used presently
D/P	Drugs used in past
M	Marijuana
H	Hashish
C	Cocaine
L	LSD
Py	Peyote
Pc	PCP
S	Speed
o	No reaction to the music
+	Weakening of indicator muscle to music
%	Percentage of reaction of people in music group to each individual factor tested.

ONE-POINT MERIDIAN SEDATION TECHNIQUE

Louis C. Boven, D.C.

ABSTRACT: A useful approach to increasing effectiveness of acupuncture sedation therapy. The basic concept set forth is that if over-energy is manifested in one meridian, under-energy will manifest another. The procedure described hereafter will give the doctor a more accurate means to determine which meridian is deficient and to apply the minimum therapy necessary to correct meridian imbalance.

CASE: The patient entered the office with a complaint of an inability to catch her breath. History showed that six months prior, pneumonia had been contracted and lasted approximately a month. The patient then started working on a blueberry farm doing bookwork. The breathing problem began within a half week of starting work. Medically, upon examination, they determined that she had a rudimentary pocket filled with fluid in her lower, left lung lobe. The spirometer reading was 104 and the endocardiographic reading indicated greatly deficient second sound at the mitral and aortic valve while exaggerated at the tricuspid and pulmonary areas. All other physical findings were within normal limits. The patient was treated two times and it was found that the sartorius muscle would not sedate unless the Triple Warmer Luo point was therapy localized. Upon manual manipulation of these Luo points, the sartorius could be sedated and the patient began breathing much easier. The same pattern was exhibited by the patient on the third treatment. At which time, it was discovered that by therapy localizing the pulse points, one point would allow sedation and no

others would. Based on the pulse point, the appropriate alarm points were therapy localized and it was found that only therapy localization to one alarm point would allow sedation to occur in both sartorius muscles. The Luo point and stimulation point were then therapy localized individually against the sedation circuits and it showed out of the four possible points, only one allowed sedation of both sartorius muscles. If this pulse point, alarm point or Luo point were therapy localized against a previously intact muscle, no response was recorded. After long, hard stimulation of this point and the proper associated vertebrae adjustment, there was no longer a recurrence of the breathing problems. The author, and other doctors upon his suggestion, have tried the new analysis and therapy on several patients with excellent response.

PROCEDURE:

1. Find a muscle which will not sedate when the meridian sedation circuits are used, as set forth in A.K. literature.
2. Using this muscle, have the patient maintain a therapy localization to the pulse points on either wrist while the doctor touches the sedation circuits and then retests the muscle.
3. When the specific pulse point is found, which when touched, allows sedation of the muscle to occur; differentiate the coupled meridians represented at the pulse points, by having the patient maintain a therapy localization to the alarm point of each coupled meridian while the doctor touches the sedation circuits and then retests the muscle.

4. When the alarm point and thus the meridian is found, which allows sedation of the muscle, have the patient maintain a therapy localization, first to the Luo point and next the stimulation point, to determine which specific point will allow the sedation to occur. Either the Luo point or the stimulation point will need to be manipulated by long, heavy pressure.

5. After treatment, retest the muscle for sedation, it should sedate easily, if not, further stimulation will be necessary.

6. Locate the associated vertebrae of the meridian stimulated and treat as is indicated by challenge.

CONCLUSION:

One interesting concept emerged after reading literature and attending seminars on acupuncture...Master acupuncturists treat with only one needle while others less experienced would use two or more. Of significance in this therapy, is the fact that it narrows therapeutic treatment to one point which is consistent with what master acupuncturists wanted to achieve. It is in this author's opinion that this procedure will allow doctors using Applied Kinesiology to better and more completely balance meridian energy.

USOC - ICAK PILOT STUDY PROPOSAL

DR. LOUIS C. BOVEN

PURPOSE: A study to compare rehabilitation time of athletes who incur injuries, specifically knees, and are treated with Applied Kinesiology, A.K., with those times which are published in Medical and Para-Medical literature for similar reported injuries. If rehabilitation time for injuries treated by A.K. methodology can be shown to equal or better the times for rehabilitation of similar injuries recorded in literature, this would lend merit to and solidify the need for a more comprehensive evaluation of A.K.'s necessity and involvement in USOC programs as well as other athletic programs.

PROTOCOL

- I. Produce an acceptable design for the study which will:
 - A. Give a high quality study to precede further endeavors in this area.
 - B. Provide proper data necessary for comparison to that found in the literature.
- II. Choose Doctors with similar backgrounds, training, and ambition to carry out the study and therapy at different geographical areas, therefore, lending merit to reproducibility and also providing the numbers necessary for the pilot study.
- III. Incorporate a statistician to formulate and calculate results for comparison to literature.

DESIGN

Requirements for subjects to participate in study:

- I. Must be an individual, male or female, between the ages of fifteen and thirty years old.
- II. Must exhibit some symptomology of knee injury, such as: pain, swelling, weakness, aberrant movements, restricted range of motion, feeling of instability, etc.

EXCLUSION FROM TEST - This protocol will be less restrictive than the originally proposed protocol.

I. Pathology

- A. Frank endocrine pathologies of pancreatic, thyroid, adrenals, gonadal and pituitary, etc.
- B. Any generalized or localized infectious or necrotic process.
- C. Any neoplastic process or history of radiotherapy and chemotherapy.
- D. Any neurological pathology of the central nervous system, i.e., upper motor neuron lesion and or anterior, lateral sclerosis or peripheral nervous system, i.e., complete loss of nerve function due to systemic injury.
- E. Congenital and osseous conditions, marked leg length discrepancy, epiphyseal dysplasia of related joints (hip, knee, foot), fractures of related structures, actual joint pathology, i.e., synovial pathology or meniscus pathology.

SCREENING

- I. Orthopedic tests: To catagorize injuries in a manner which would be consistent with that published in the literature so that comparison of rehab times may be made.
- A. Mc Murray's Sign
 - B. Apley's Test
 - C. Steinman's Tenderness Displacement Sign
 - D. Hyperflexion Meniscus Test

- E. Draw Sign
- F. Valgus Stress Test
- G. Varus Stress Test
- H. Patella Femoral Grinding Test
- I. Apprehension Test for Patellar Dislocation
- J. Subjective Sprain Evaluation (Mild-Moderate-Severe)

II. Neurological Tests

- A. Tinels Sign
- B. Patellar Reflex
- C. Babinski's Test
- D. Oppenheim's Test

III. Chiropractic Evaluation: Subjective

- A. Visual Inspection
 - 1. Gait
 - 2. Valgus - Varus, etc.
 - 3. Symmetry: Patella, Quadriceps, etc.
 - 4. Swelling: Localized and generalized.
- B. Palpatory Inspection
 - 1. General muscle groups and their tendonous attachments.
 - 2. Meniscus
 - 3. Ligaments

IV. Chiropractic Evaluation: Objective

- A. Measure size of thighs and legs relaxed and flexed.
- B. Measure size of knee joint.
 - 1. Always measure from standardized point, i.e., five inches above superior border of patella.
- C. Range of Motion: Goniometer readings of both legs.
 - 1. Extension - 0°
 - 2. Flexion - 135°

3. Internal Rotation - 10°

D. Muscle test eccentric contraction as shown in Kendall and Kendall.

1. Quadriceps: Medial-Lateral-Group-Rectis Femoris
2. Hamstrings: Medial-Lateral-Group
3. Sartorius
4. Gracilis
5. Popliteus
6. Plantaris
7. Gastrocnemius and Soleus
8. Tensor Facia Lata
9. Adductors
10. General Muscle groups of involvement, i.e.,
Abdominals, Tibials, Peroneal Compartment, etc.

E. Time Performance Basis

1. Evaluate for performance improvement, i.e.,
sprinter improving time, high jumpers improving height.
 - a. These would be from time of evaluation to
time of dismissal repeated every week.

F. Comparative Muscle Testing or Cybex where available.

THERAPY ALLOWED FOR TREATMENTS

I. All tools and procedures used and described within materials published in ICAK literature.

A. Specifically:

1. Specific Osseous Adjusting
 - a. Tibia, Fibula, Femur, Patellar, specific bones of the feet as well as involved areas of the spine.

2. Balancing of muscles of the lower extremities specifically, but not exclusive of all others by way of techniques described in ICAK literature.

- a. Neurolymphatic Reflex
- b. Neurovascular Reflex
- c. Head, Hand and Foot Stress Receptors
- d. Origin, Insertion, Golgi Tendon, Muscle Spindle, Cell Manipulation
- e. Meridian Therapy
- f. Reactive Muscles
- g. Myo Interlink
- h. Ligament Interlink
- i. Fascial Flush-Spray and Stretch-Trigger Point
- j. Holographic
- k. Nutrition
- l. Etc.

B. All suggestions listed above are specific for therapy, but not exclusive of other therapies described within ICAK literature.

1. Examples:

- a. Neurological Tooth, T.M.J., Functional Endocrine Involvement, Cranial, Skin Receptors, etc.

II. Excluding:

- A. Heat.
- B. Cryotherapy, except Spray and Stretch.
- C. Salicylates and other medications (drugs).

- D. Physical modalities, i.e., ultra sound, diathermy whirlpool, generalized massage therapy.
- E. Local balms or similar agents.
- F. Acupuncture with needles or electrostim.
- G. Orthotics, unless already in use.
- H. Exercise and weight training.

END PART

I. Subjective Measures:

- A. Athletes' and coaches' perception of change.
- B. Performance Measure.
- C. Reduction of palpatory sensation previously found.
- D. Repeat orthopedic tests.
- E. Visual Inspection, Symmetry Varus-Valgus swelling.

II. Objective Measures:

- A. Measure of thigh, calf, and knee.
- B. Range of Motion.
- C. Muscle Testing - Cybex or Comparative Muscle Testing re-evaluation.

A TECHNIQUE FOR IDENTIFYING IMPINGEMENT OF THE RIGHT
LYMPHATIC DUCT

by

ANTHONY F. BREA D.C.

ABSTRACT: For those patients who test positive to retrograde positioning and/or exhibit recurrent neurolymphatic activity in singular or multiple areas, a challenge technique for determining disturbances in the flow of lymph towards the shoulder girdle in the thoracic and right lymphatic ducts is discussed. This method allows the operator to determine whether impediments in the flow of lymph exist individually in one duct or simultaneously in both. It also allows the operator the ability to better delineate lymphatic congestion of specific areas muscles and organs particularly the elements of those structures that are drained by the right lymphatic duct.

The current technique in Applied Kinesiology for determining an impediment in the normal flow of lymph in the two major ducts of the lymphatic system, the thoracic and right lymphatic ducts, involves muscle testing for the presence of singular and multiple muscle weaknesses created by placing a patient in a retrograde position. The weakness is caused by a disturbance in the normal orientation of the bony and soft tissue structures that make up the shoulder girdle, the primary involvement being a disturbance in the pectoralis minor (PM) muscle. Application of this technique in those who test positive reveal impingement of the thoracic duct 90% of the time. However,

the impingement rate for the right lymphatic duct as determined by this technique is approximately 10-20%.

Because a hi-lo table is not utilized in the office we have had to adapt a different method of testing for the lymphatic disturbance. The technique that we have been using involves having the supine patient lift both legs up to a 45° position with knees fully extended; the patient holds that position for approximately 4-5 secs. after which the legs are returned to the recumbent position. The patient is then tested to determine whether or not there is a weakening of previously strong muscles.

After doing this procedure for a short amount of time a peculiar pattern of muscle response was noted. It appeared that weakness in the muscles of the right upper trunk and shoulder would never occur when this procedure was utilized while weakness in the muscles of the rest of the body would. That is, I would find that the sartorius would often weaken bilaterally, and the tensor fascia lata and the adductors would weaken bilaterally but the muscles in the upper parts of the trunk, the pectoralis major clavicular, the pectoralis major sternal, the deltoids, teres minor and latissimus dorsi, all these muscles would weaken only on the left. This observation lead me to Gray's Anatomy.

Gray's Anatomy list the drainage areas of the thoracic duct which include the left side of the head, the left upper limb, the left thoracic wall and lung, the left heart, all of the abdomen and most

of its contents, and both lower limbs. On the other hand the drainage areas of the right lymphatic duct were listed as the right side of the head, neck and thoracic wall, the right side of the heart and lung, the right upper limb and part of the convex surface of the liver.

It appears that the bilateral lifting of both legs was stressing the drainage of lymph through the thoracic duct and for that reason only muscles drained by this duct would weaken. The muscles drained by the right lymphatic duct were not effected since this procedure had no direct effect on this duct.

A method of stressing the right lymphatic duct was devised as a result of these observations. By lifting the arm into a 90° position (right arm) while simultaneously flexing the head forward (chin to the chest) for approximately 4-5 secs. a selective weakness is produced in several muscles that are drained by the right lymphatic duct, that is the right PMS, PMC, teres minor and latissimus dorsi; the muscles of the rest of the body are not effected except for a few exceptions. Individually lifting the head or the right arm does not appear to produce enough of a stress on the right lymphatic duct to produce the same pattern of response.

Invariably I find that after correction of the PM weakness primarily by golgi tendon technique, the challenge to the ducts no longer causes the selective pattern of muscle weakness. 80% of the time when one side challenged positive the other did also.

10-20% of the time I find that only one or two muscles will weaken when a particular duct is stressed instead of a generalized weakness. I also find that often in an adrenal over achiever type of patient lifting both legs will cause bilateral weakening of the sartorius muscles without effecting any other muscles drained by the thoracic duct.

80-90% of patients screened by this method had some pattern of response. The number of patients that showed the presence of an impingement of the right lymphatic duct was much higher than the response achieved by placing a patient in the retrograde position, the rate of that approaching 80-90 %. The rate of recidivism monitored over a period of 8 weeks was less than 10%.

CONCLUSION

The right lymphatic duct and the thoracic duct can both be challenged individually by separate procedures. This mode of challenge allows for a more selective observation of the status of lymphatic flow in individual areas of the body as they relate to the integrity of these ducts in the vicinity of the shoulder girdle. Utilization of this technique also considerably increases the frequency with which right lymphatic duct problems are uncovered.

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ACCESSING THE BODY LANGUAGE BY MUSCLE TESTING

John W. Brimhall, B.A.,D.C.

ABSTRACT: We have been striving in applied kinesiology to dig deeper into the patients problem. We have done this with E.I.D., body in distortion, modes, etc. The body knows the problem all along. It is us trying to find the bottom line that creates this search. It is our contention that by testing a specific muscle or a reflex that ties in to the organ system, that the body will display the pathway for correction. Also putting the joint or painful area in the position that causes pain or limitation will elicit the problems and put them on display. This can be identified by muscle testing or nerve interference detection by instrumentation. We also observe that sometimes a two hand therapy localization is necessary so the right and left sides of the brain and hologram know the question and that some things are at least a two part or more question.

A specific example of many things on display but previously undetected could be an ileocecal valve that you therapy localize. You then correct all areas related to the five finger concept that we would normally correct such as the neuro lymphathic, zygomatic cranial, etc. Through investigation, we have found other subluxations or reflexes that now may be active that were not there before. They displayed as a direct result of therapy



localizing ileocecal valve and then test a specific muscle ingauges the bodies awareness. We therapy localize with both of patients hands to let both sides of the brain know the question.

Another example is a patient we have checked and cleared out everything we could find. We then challenge the hypoglycemic reflex as Victor Franks demonstrates it. All subluxations may have been cleared; catagories, reflexes, etc. If this reflex would show positive, after correcting it as Victor shows, many other things will go on display. Problems will therapy localize for subluxation correction such as a catagory II or a T 10 or a T 5, etc. A cranial may show up or many other possibilities. These areas will readily show up now with therapy localization or with instrumentation. Now we are asking the question after the positive therapy localization of the blood sugar reflex. These areas now showing up are in reference to that reflex or have opened a new level for correction once you cleared the other concern the body had.

If you were having a lung problem but couldn't get anything to therapy localize, you could challenge the area by inhalation of a perfume or something you may suspect may be aggerivating this patient. If a strong muscle then goes weak, you will find you have ingauged the computer or the holographic display monitor if you prefer. Multiple problems may surface that are now ready for correction which will help to solve the re-occurring lung situation.

Another way to have the body display is like a shoulder problem that is aggervated in certain positions. You can

previously screen, correct and find no further subluxations or any of the five I.V.S. factors. Once you put that shoulder or problem area in the position that elicits the pain, the problems will go on display. They now may be corrected with the extremity in the position of problem.

These areas will all therapy localize. I prefer screening with a radiation detector. That is to measure the emissions as they come off of our body. A normal nerve transmission was measured by Dr. Shu to look like  on an oscilloscope reading. He found nerve pressure to cause a total different reading which looks much hotter and sharper.  An irritated or inflamed nerve emits at a frequency of 69.5 GHz which is 69 billion 500 million cycles per second. The detector becomes hot and sticky when it is passed over an area emitting this frequency or harmonic thereof.

The skin also emits this physical finding by being hot and sticky. Dorlan's Dictionary states the term psauoscopy, to be the term describing physical examination being able to feel pathological area that causes a greater resistance of the skin and seems more tense and supple.

A radiation emissions detector enables you to take advantage of this physical finding quickly and accurately.

Measuring the bodies emissions lets you screen and identify very rapidly. This can be used in many other ways as well. Lets say that a person is clear by all standards of examination at this time. You then put them in one of Dr. Beardall's modes, which then puts on display candida. You then with the radiation detector determine areas of involvement. They would now go on display by

therapy localization or by radiation detection. Subluxations would also to on display for correction relating to the candida problem.

Its also been an observation that some of the questions we ask are two part questions. Lets say you therapy localize the pituitary reflex and it is negative. You also therapy localize the ovary reflex and it is negative, the patient's body is giving female symptoms but no therapy localization to your suspicions. You then have them two hand therapy localize. One on the pituitary and one on the ovary. Now you have a positive therapy localization. The adrenals and the thyroid may also therapy localize to the pituitary. Now you may test for nutrition, cranial and subluxation corrections, etc.

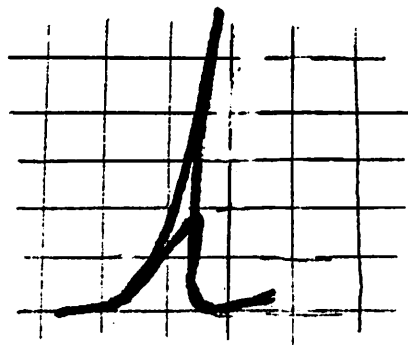
Another two part question that helps you to identify the spondylogenic reflex syndrome. This again is a two part question and must be ask by both hologram monitors (right and left hands.) You therapy localize the suspected major subluxation and the tovet reactive vertebrae. If they are your culprits you will immediately get your positive therapy locatization.

In summary, with specific areas tapped into that presents a problem, the body then puts on display other areas for correction. These areas of correction could be any of the five I.V.F. factors. These areas may be therapy localized or detected by instrumentation. This gives us a quick and accurate way of finding the problem and demonstrates the areas that need correction. We also have found some questions are two part or more part questions and will only therapy localize if you tie in all involved areas to get them to go on display.

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Dictionary, 24 Edition, 1967.

Figure 1



The Correction of Cranial Faults Using Magnetic Fields

Earl L. Colum D.C.

Correcting cranial faults by using the N or S magnetic pole of a magnet on specific points of the skull. A simple procedure that can be easily localized and challenged using the standard muscle testing of Applied Kinesiology. The use of magnets in therapy can be traced from ancient times to the present. However, when magnetic therapy is used with Applied Kinesiological procedures to determine specific points of treatment, the proper polarity to use, the direction of treatment, the phase of respiration involved and the correction accomplished, it becomes a tool with unlimited possibilities.

This is a continuation of the presentation made at the summer meeting of 1986. The basic formula for the use of magnets can be found in the collected papers of that meeting.

Point:

1-On the suture, just above the ear, anterior to where the suture starts to descend. Frequently a slight bulge with tenderness is found.

A Temporal bulge (pectoralis clavicular bilat). R 1 & opposite L 8 with inspiration.

B Parietal descent (pectoralis sternal bilat). L 1 & opposite R 8 with expiration. 1. Usually both sides are involved but at times only one of the two might be present. The temporal bulge is always corrected with S pole and inspiration and is more often seen on the patients R side. Treat as per challenge. If the points are involved and therapy localized, it will produce weakness in the respective pectoralis muscles which had tested strong in the clear...

2- Primary respiratory assist. From point 1, down and back to the asterion, over the suture.

A Treated with the S pole with inspiration, usually bilateral.

B The sacral portion of the primary respiratory fault is treated by using the S pole over the upper half of the SI joint on the same side with direction and respiration. Treat A & B simultaneously.

3- The asterion- the junction of occipital, parietal and temporal bones.

A Sphenobasilar Fault- points 5 & 3 on the same side with direction and respiration. To differentiate from a primary respiratory fault which will only therapy localize over point 2 (S pole inspiration assist) or over point 4 (N pole expiration assist). The sphenobasilar fault will therapy localize at point 5 and double therapy localize with 3 on the same side. An SI fault will be found on the same side. Challenge and correct. (as 2b inspiration S pole or 4b expiration N pole).

B Posterior Ischium- point three and the opposite SI. A double contact using the proper magnetic pole with its direction and respiration. A posterior Ischium with its associated weak tensor fascia lata can be strengthened by therapy localizing the opposite asterion (3) If positive and the muscle strengthens, hold the therapy localization and test an intact muscle to determine the respiratory assist. Inspiration assist indicates treating the involved SI and the opposite asterion with the south pole. Expiration assist would indicate using the N pole. Following the correction, the tensor fascia lata will be strong. The pelvis will straighten and the indicator pain on the lateral side of the leg will disappear. The right posterior Ischium tensor fascia lata weakness is most common and S pole used to treat. After making the above correction, therapy localize the right asterion and test an intact muscle. When positive, it is usually expiration assisted. This now causes the left tensor fascia lata to be weak with the lateral leg pain above the knee. Treat right asterion and left SI with the N pole to make a correction.

C. One-sided weakness- see 5c

4- Primary expiration assisted respiratory fault. Located over the suture between points 1 & 5. Treated with N pole with direction and expiration. Treat sacral portion of fault on the lower half of the SI joint on the same side.

5- Lateral wing of sphenoid-

A. Sphenobasilar fault- See 3a

B. Eye movement- Eyes up and to the side produces weakness. Treat 5 on the side to which the eyes have moved and the opposite 12. Also refer to point 12.

C. One sided weakness(not respiratory fault) either in the clear or weakness produced when the patient turns their head to the opposite side. Note- Pre or Post stroke. The sphenoid is involved on the side to which the head is turned. Whether the weakness is in the clear

or appears on head movement the correction is the same. Therapy localize involved sphenoid with N or S pole to find which produces strength. With the head in the position where weakness is evident have the patient therapy localize the involved sphenoid which should produce strength. The doctor then therapy localizes with the correct pole over the TMJ and asterion (side of weakness) to determine if one or both are involved. Treat with magnet simultaneously the opposite sphenoid and TMJ on the weak side with direction and respiration. If involved treat opposite sphenoid and asterion on weak side. After correction weakness should not be present with the head in any position. THESE CORRECTIONS HAVE BEEN MADE WITH THE PATIENT SEATED. Have the patient stand. Test a strong muscle on the side that was previously weak. When the patient turns their head to the treated sphenoid side the strong muscle will now weaken. Correction is now made at the TMJ and SI simultaneously on the side of weakness with the same pole just used with patient seated, using direction and respiration. Correction is now complete.

6. Frontal eminence over the eye. Associated with Medial Palm Test. Patient seated with the palm extended 90 degrees in front of the body with palm medial. The direction of testing is straight lateral. Note- the pectoralis muscles tested in the normal manner with the palm out will test strong. When this medial palm test is positive with a weak muscle the patient therapy localizing over the frontal eminence on the same side will produce strength, usually with a palmar contact. With the patient holding this contact the opposite asterion is also therapy localized by the doctor which will change the muscle strength again. Tapping on point 6 will determine which pole is to be used for treatment. The pole that weakens an intact muscle is used for correction. Treat 6 on the weak medial palm side and the opposite 3 simultaneously with direction and respiration. This will correct the medial palm weakness. Note- before any therapy localization is done, test for pain over the sartorius muscle on the lower inner thigh opposite the weak medial palm. Once the asterion has been therapy localized, sartorius pain will appear and the muscle will also be weak.

Cranial correction for the medial palm will remove all signs of weakness in the sartorius and medial palm. Could this combination be

7.7. Glabella and below the External Occipital Protuberance. The main contact is on the glabella

A. Total weakness- with the patient seated all the muscles test weak. Therapy localizing on the glabella will temporarily strengthen the weak muscles. The N & S poles are then therapy localized on the glabella to see which produces strength. The pole that produces strength must then be used to challenge for direction, either clockwise or counterclockwise. If the S pole is used in a clockwise direction in front, the posterior direction will also be clockwise looking at the patient from behind. Treat simultaneously for at least three inspiration phases with at least three circular revolutions on each point. The total weakness will now be eliminated.

B. Pituitary and Hormone balance- This condition is very common and should be checked on all patients. If the patient is strong in general and has a positive therapy localization to the glabella, the following muscles will become weak bilaterally. The supraspinatus (pituitary), the Teres minor (thyroid), the piriformis (sex glands) and the sartorius (adrenals), with medial thigh pain. The ingestion of pituitary tissue will strengthen all the weakened muscles.

The treatment is the same as above, 7a. It is important that following the glabella correction, the atlas is challenged and treated magnetically as a subluxation, using the same magnetic pole that was used on the glabella.

8. Junction of maxilla and frontal. See point 1.

9. At the caudal end of the suture. Associated with piriformis and neck muscle weakness. Treat 9 and the sacral contact on the same side simultaneously. The sacral contact is two thirds of the way down and lateral to the sacrum below the SI joint. Usually painful. If the piriformis weakness is hidden, it can be challenged by pushing caudal on the sacral part of the SI joint and cephalic on the illia simultaneously with the patient taking a breath in. Test intact muscle. If negative, challenge the SI joint in the opposite direction on exhalation. When the test is positive the piriformis and neck extensors will be weak. If 10 is present treat on the same visit.

10. Anterior to the external auditory meatus and behind the ear.

Used to treat the weakness produced on multiple muscle testing. With the patient seated, test the piriformis and the quadriceps for strength. The quadricep muscle is tested by pushing down on the knee which is bent and the foot off the floor. When the muscles are all strong, test the quadriceps with repetition at least six times on each leg. If weakness develops, retest the piriformis muscles. Weakness will now be found which will be found to respond to a respiratory assist. Usually it will be an expiration assist which would indicate using the N pole to treat points 10. Testing the neck flexors and extensors will show weakness. With direction and respiration, treat both points on the same side, simultaneously, with the magnetic pole determined by respiratory assist. All muscles should return to their original strength and the quadriceps will no longer weaken with multiple muscle testing. Treat R 10-10 and L 10-10 individually.

11. TMJ - A. The posterior innominate. Treat the SI joint and the TMJ on the same side. With the patient supine and the patient shows the signs of a posterior innominate by palpation, challenge, weak sartorius and medial thigh pain. Have the patient therapy localize the TMJ on the same side. If this strengthens the weak sartorius. Have the patient hold the TMJ contact and test an intact muscle. When the muscle weakens check for a respiratory assist. An inspiration assist is usually found with a left post. innominate. Treat with the S pole, direction and respiration, simultaneously, over the SI and TMJ. This will cause a change in position of the pelvis and strengthen the sartorius. Have the patient therapy localize the opposite TMJ and test an intact muscle. Frequently it will be positive and have a respiratory assist. If positive it will be expiration assisted and a weak sartorius with medial thigh pain will be present. Treat the TMJ and the SI joint on the same side as therapy localization with direction, respiration and the N pole. It is not uncommon to find that after the sartorius correction challenging the pelvis or in the clear, a posterior ischium correction is needed.

B. One sided weakness - Treat 11 on the side of weakness and opposite side 5. Refer to 5C.

C. Ileocecal Valve - The TMJ points are treated simultaneously always with the S pole. Use correct direction with inspiration. When first therapy localizing the left TMJ a knuckle contact will be positive. This contact must be changed to a palmar contact by treating it with the asterion. Use two sets of magnets (NS & NS), one set on each point. The specific location of asterion contact can be double therapy localized with the TMJ. Use NS contact on each point with direction and respiration. The left TMJ will challenge S and can now be treated with the right TMJ.

D. Eye Movement - Refer to 12.

12. Acupuncture Visual Center - One inch lateral and slightly below the EOP.

A. The patient is seated, with the head forward. Have the patient move their eyes up to the right and left and down to the right and left. With the eyes in each position, test an intact muscle. If the muscle weakens treatment is needed. Eyes up and lateral causing weakness needs treatment at 5 (sphenoid). Down and to the side treat the TMJ. It is common to find all eye positions positive. With the eyes right. Therapy localizing to 5, with eyes up and over the TMJ with eyes down will negate the weakened intact muscle, palmar contact. Points 5 & 11 on the left will therapy localize with a knuckle contact. Convert to palmar contact by using double sets of magnets. 5 & 12 same side and 11 & 12 same side. All points will now be S pole positive. Treat 5R with 12L, 11R with 12L, 5L with 12R and 11L with 12R. With patient seated eye movement will not produce weakness. Have patient stand. Test intact muscle with eyes to the right and then to the left, head straight. Eyes left producing weakness treat 11 and SI on the same side using S pole. Treat eyes right weakness at right 11 and SI.

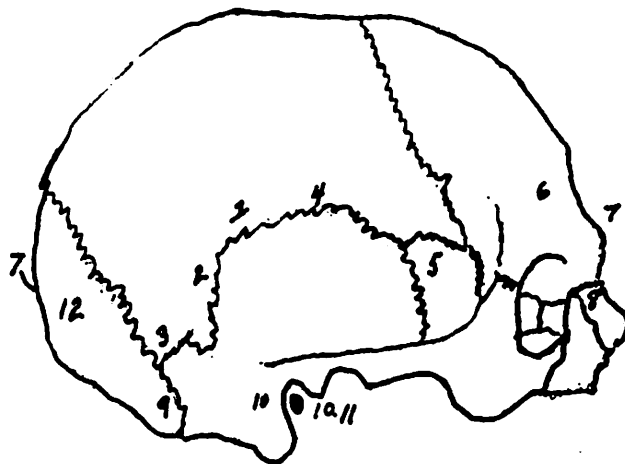
B. Patient seated. With the left eye closed or covered patient looks laterally up and down to each side. Close right eye and do eye movements. Test intact muscle with all eye positions. When present the usual pattern found is lateral movement of the open eye to the same side. Usually found only on one side. Therapy localize 5 (eye up) with N or S and 11 (eye down) with N & S. Treat 11 & 12 and 5 & 12 on

the same side towards which the eye was turned. Use the magnetic pole determined by therapy localization to treat with direction and respiration. If the open eye is positive when turned to the closed eye side. Therapy localize the closed eye side 5 & 11 magnetically with open eye turned medial up and down. Usually these contacts will be N pole positive. Treat as per findings with 12 on the closed eye side. Again with the one eye open test you may find both eyes involved but only showing weakness when each eye is down and out. Any combination is possible.

C. Patient seated. Note - All eye contacts will be on the eye ball itself not on the bones adjacent. Have the patient look down and therapy localize the top of the eye balls, one at a time. First with the pad of a finger and then with a knuckle. When present the findings will be that the top of the left eye is positive with the pad of the finger and the left eye positive will be positive with a knuckle contact. With the patient looking up Therapy localize the bottom of the eye ball, pad and knuckle. The bottom of the left eye will show positive knuckle and the right eye positive pad. The knuckle contacts have to be changed to palmar. With double magnets challenge for direction and respiration. Each eye contact goes with 12 on the opposite side. Treat. These points will now be S pole positive. Double therapy localization will show that the original pad contacts will go with 12 on their respective sides. The area of knuckle contacts, now S will match with the opposite 12. Treat the matched points, direction and respiration.

The material presented may be overwhelming when taken as a whole. All the presented conditions exist and the correction points work. Many of the points may be a knuckle contacts will have to be double therapy localized with the double magnets, challenged and treated before final correction can be made. Without Applied Kinesiology these conditions and their corrections would still be lost.

CONTACTS FOR CRANIAL CORRECTION - Dr. Earl Colver



1. On the suture, just above the ear, post. of external aud. meatus.
Temporal bulge (pec. clavicular bilateral) R1 & L8 with insp..
Parietal descent (pec. sternal bilat.) L1 & R8 with expir..
2. Between 1 & 3 over the suture, insp. assist (upper $\frac{1}{2}$ SI joint ss)
3. Asterion, junction of 3 cranial bones.
Sphenobasilar fault, 3 & 5.
Post. ischium, 3 & opp. sacroiliac.
One sided weakness, 3 & opp. 5.
4. Between 1 & 5 over the suture. Expir. assist (lower $\frac{1}{2}$ SI joint ss)
5. Sphenoid. 5 & 3 spheno basilar fault.
5 & 12 eye movement (with 11 & 12 ss) with opp. 12.
5 with opp. 11 & 3 one sided weakness.
6. Frontal eminence. 6 & opp. 3 medial palm test (sartorius pain)
7. Glabella and below EOP. Pituitary, hormone balance and total weakness.
8. Junction of maxilla and frontal. See #1
9. End of suture. Piriformis and neck weakness. 9 & below SI ss.
10. A & P to meatus. Fe deficiency related to multiple muscle test
producing weakness. (piriformis indicator).
11. TMJ. Ileocecal, 11 bilaterally.
One sided weakness, 11 & opp. 5.
Posterior innominate, 11 & sacroiliac ss.
Eye movement. See 12.
12. Acupuncture visual center. One inch lat. & slightly below EOP.
12 with 5 & 11 on opp. side.
12 with 5 & 11 on same side.
12 with eye ball same side and opp. side.

ARM MODING FOR THE DETECTION OF MUSCLE HYPERTONICITY.

by

Richard L. Cook, D.C.

ABSTRACT: Arm positions appear to have a specific input of information into the body bio-computer. It is believed that an hitherto undiscovered "arm mode" has been determined and used successfully in every day practice for detecting the presence of muscle hypertonicity.

INTRODUCTION: Arm modes (after Beardall)¹, serve as a useful entry system into the body bio-computer. The three major categories - chemical, structural and electro-magnetic - form the basis of the 'Health Triad', and although the system is empirical it is nevertheless valid.

Therapeutic hand modes² work by utilising the skin as a display mechanism for the central processing unit (brain). Arm modes use the joint position sensitive proprioceptors as a means of cueing in information about the body.

ARM POSITION #4: We already are aware of the three principal areas of bodily disfunction which are exhibited using the three arm positions. (see fig. 1.).

These are :- #1...chemical
 #2...structural
 #3...electro-magnetic
 and now #4...hypertonic muscle systems error

The Three Arm Mode Positions (after Beardall).

ELECTRO-MAGNETIC

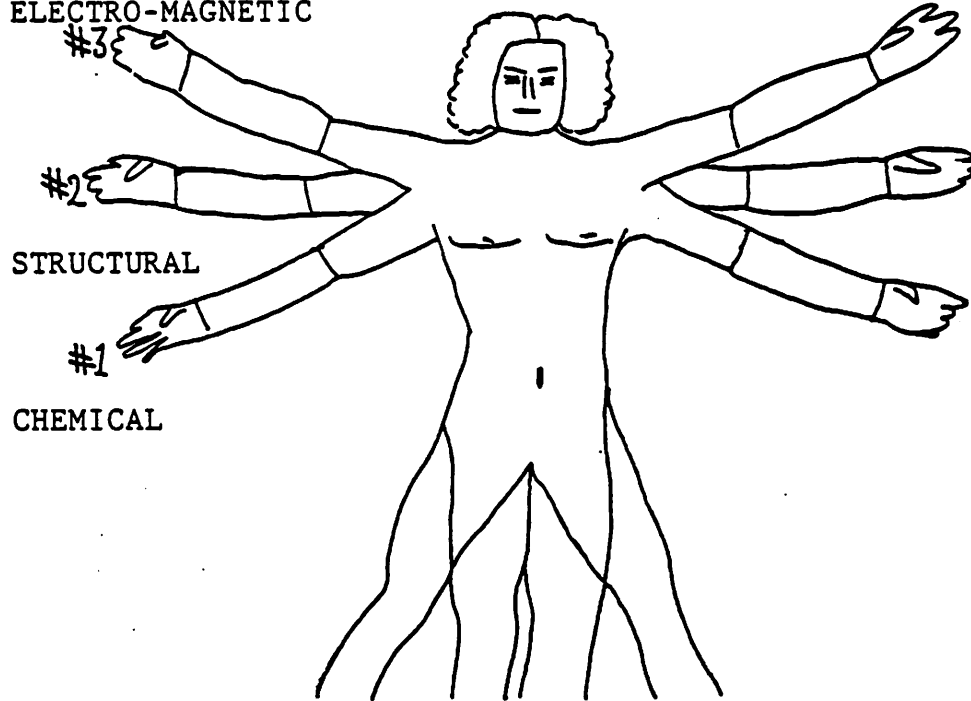


fig.1.

The Hypertonic Muscle Arm Mode (with apologies to da Vinci)

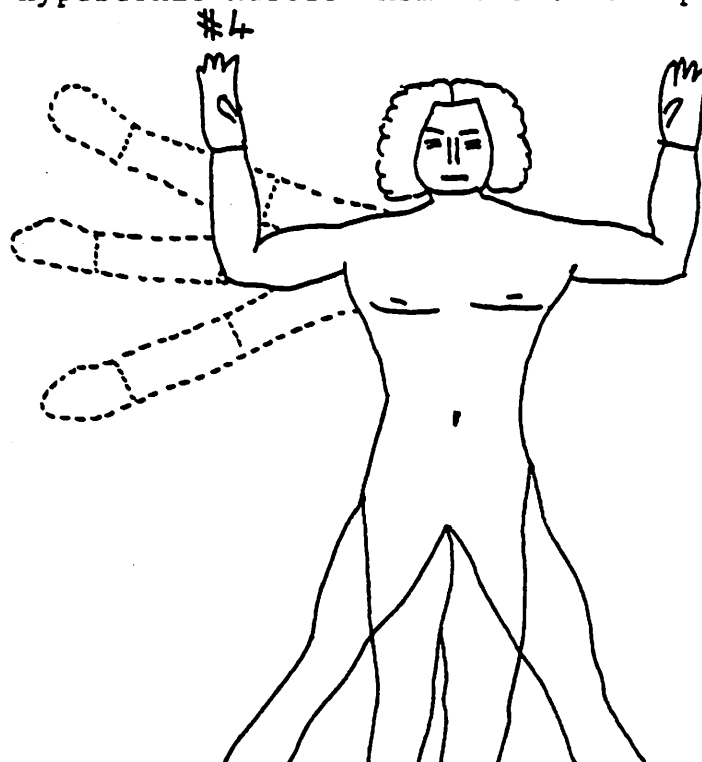


fig.2.

It has already been noticed in practice that one arm in one of the four positions will indicate an odd number of problems, in that system. Whereas, both arms in the same position signifies an even number. As one locates and subsequently clears the faults the positive response using muscle testing procedures will alternate, between 1 or 2 arms accordingly; until such time that there are no further priority problems in that particular mode.³ The notable exception to this rule is the hypertonic diaphragm - which shows up in single and bilateral arm mode! For this reason the diaphragm should be screened out and eliminated first. This is probably because the diaphragm musculature crosses the mid-line of the body, but is only a single muscle unit, and the importance of the diaphragm cannot be overstated.

The new arm position which I have designated as arm position #4 is shown in fig.2., with its relationship to the other three arm modes. As one can observe, it falls approximately midway between modes #2 and #3, with the upper arm pointing away from the trunk at right angles and the elbow angled at 90 degrees upward. The reasons for this unique placement are outlined more fully in the discussion (see page 6.)

HYPERTONIC MUSCLES: I was privileged to attend a seminar taught by Frank Mahony (738, W. Mariposa Avenue, El Segundo, CA 90245. (213) 322-3425.) last June 1986, during which I was first exposed to the concept of "Hypertonic muscle diagnosis and correction".⁴ It is not my intention to provide detailed data on the subject, and should the reader require further information I would urge him or her to contact Mr. Mahony direct.

The typical symptoms of hypertonicity are many and varied including - learning disabilities, poor co-ordination, fatigue, mental confusion, restricted ranges of mobility and of course pain. The causes are again wide ranging from birth trauma, emotional stress, physical injury, poor diet, bad posture, habitual misuse to food intolerance. It is technically possible for any skeletal muscle to enter the hypertonic state but, in practice, there are some which become more frequently involved than others:-
The primary ones to consider are:

DIAPHRAGM
FLEXOR HALLUCIS LONGUS
FLEXOR DIGITORUM BREVIS
GASTROCNEMIUS
SOLEUS
HAMSTRINGS
GLUTEUS MAXIMUS
UPPER TRAPEZIUS

Also worthy of note would be:

QUADRICEPS
PIRIFORMIS
GLUTEUS MEDIUS
PSOAS
ABDOMINALS
SACROSPINALIS
STERNO-CLEIDO-MASTOID

It will be noticed that most of these muscles are important for the maintenance of the cranio-sacral respiratory mechanism, which is why the symptoms are so involved and their correction paramount.

To determine the presence of a muscle which is hypertonic is relatively simple. Initially one would choose a convenient indicator muscle, (such as the anterior deltoid) having first checked that muscle for reliability under test conditions. Then to ascertain whether another muscle is hypertonic, merely extend that muscle slowly to its maximum whilst testing the indicator. If there is pain, restriction or limitation of movement in a muscle this may be for a variety of reasons but, if the indicator 'blows' whilst the suspect muscle is being extended this would be diagnostic for muscle hypertonicity.

Once a particular muscle, or group of muscles, is found to be hypertonic correction can be applied. However, rather than randomly testing every muscle on the preceding list, we can use the alarm points of the acupuncture meridian system to narrow down the field.⁵ As we know, all the muscles

are associated with one of the 14 major meridians (12 paired plus central and governing vessels). By therapy localising the appropriate alarm points one can observe which produces a positive response, and thus narrow down the muscles necessary to test and evaluate.

Once determined, the hypertonic muscle is reset using the correction technique. This is basically placing the muscle into maximal comfortable extension and holding it there, whilst the patient brings isometric pressure to bear and slowly breathing out for 5 - 8 seconds. It is crucial to hold the limb gently but firmly, so no movement occurs (patients have a tendency to push too hard, breathe out too rapidly or lock the respiration and fail to maintain a steady and even pressure. However, a few words of explanation from the experienced practitioner will soon result in co-operation).

Now the muscle is reset, it tests strong, the indicators will be abolished, the alarm point will not therapy localise and the arm mode #4 will no longer be positive.

DISCUSSION: The natural question is why should this particular arm mode have validity? In my estimation, because of the special nature of muscle hypertonicity, the position falls approximately mid-way between the structural and the electro-magnetic modes. The reason behind this seems to be as the problem is partly a structural muscle complex aberration and secondly as

there is an acupuncture involvement - the use of alarm points to locate the muscles. Thus it would be logical to expect some overlap of possibilities.

Many of the hand and arm modes have deep-rooted mystical significance. In fact, according to John Diamond M.D.^{6,7,8} and others the origins of many signs and sounds and the subsequent development of language is due to the fact that they have tonifying effects on certain meridians! This particular arm position is a universal gesture for peace; and we might speculate that someone who 'comes in peace' would not exhibit hypertonic muscles, and be relaxed and at ease.

There may be more to arm mode than joint positional sensations being relayed to the ultimate computer - our brain. There may be long forgotten secrets which were known to the ancients but, have been mislaid in the ravages of time. Only now, with the precision of applied kinesiology, are we able to open up 'new' areas of interest and reactivate our dormant right hemispheres of the brain.

SUMMARY: The author introduces a new arm position to detect aberration in a particular body system - that is muscle hypertonicity. The paper goes on to outline the concept of arm modes and continues by explaining briefly muscle hypertonicity. The method of determining which muscle or group of muscles is explained, as well as the treatment protocol. In conclusion, some not so fanciful speculation is brought to the readers' attention to provoke a degree of cogitation.

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FIVE ELEMENT MASTER CHART PROCEDURE FOR
ACUPUNCTURE TECHNIQUE TAUGHT BY DC SEMINARS

PART III: HORARY EFFECT, KO CYCLE AND DOUBLE KO CYCLE

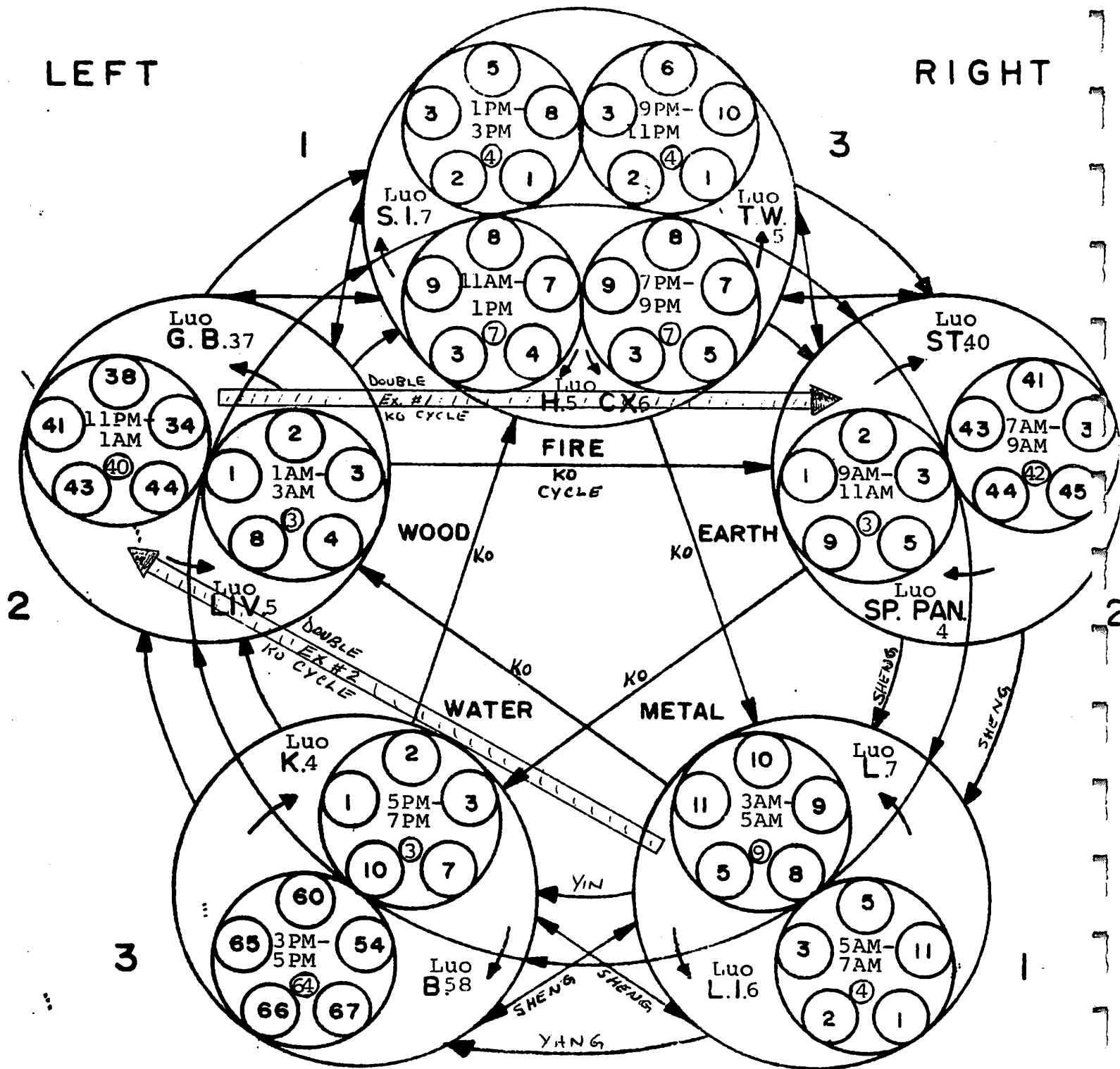
by

SALVATORE V. CORDARO D.C.

ABSTRACT: To continue the information needed to make use of the Five Element Circular Master Chart, remembering that Part I was presented in the Winter Book 1985, page 31 and Part II was in the Summer Book 1986, page 57. These two articles contained how to apply the tonification and sedation points found in charts with supporting formula plus Sheng Cycle, Source Points and Luo Points, again with supporting formulas. This third presentation is to explain more of the Ko Cycle, Double Ko Cycle and Horary Points on the chart.

INTRODUCTION: It is well known the effects of acupuncture contain a veil of mystery which shrouds our knowledge, as to effects, philosophical concepts and its laws. Some masters contend that the laws are proper and must be applied in their just manner, while others say it can and may work in opposition to its laws and possibly a law of deficiencies may apply and reign supreme in a given case. This paper will deal with proper application of given laws written in the below referenced books, but being aware that other possibilities exist.

DC SEMINARS



MASTER CHART

- Part I: Stimulation and Sedation
- Part II: Sheng Cycle, Source Points and Luo Points
- Part III: Horary Effect, Ko Cycle, and Double Ko Cycle

LAW OF THE FIVE ELEMENTS

Let us start with some known facts. The chart shows five circles on a ring, each circle containing two or more smaller rings, each containing five smaller rings containing numbers or Command Points. The inner circle is yin and is considered solid organs whose function is continual. The outer circle is yang or hollow organs which are associated with digestion and elimination. The arrows indicate the flow of energy (chi). Deficiencies may cause a reversal of these natural flow processes. The nature of the Five Element Laws is the flowing of energy from excess to deficiency while using the deficient meridian to do this technique, using the listed Command Points.

LAW OF HORARY EFFECT: The Horary Effect is characterized by a surging increase in energy to its maximum two hour period listed in the center of each small element circle. This time can be noted in the well circulated 24 Hour Clock listed in the reference. Taking 12 hours to build to its peak, it takes another 12 hours to reach its low ebb. It has been written that this energy has some affiliation with the tides and geographical locations. Noting that as a patient's moving to different locals may affect the speed of this flow of energy by speeding up or slowing down, many masters use it in the treatment of so called Jet Lag associated with flying. To use the Points of Command at the given times (Horary Time) would richly enhance the effects obtained. As with many Command Points these may be used for symptomatic, local disturbances and of course with the

application of Mid-day and Mid-nite 24 Hour Treatment Plans.

The points to use are the five element numbers in each of the small rings of 5 circles which is associated with its own element. For example, Metal meridians are Lung and Large Intestine. Its element number is Lung 8 at 3 A.M.-5 A.M. and the Large Intestine is Large Intestine 1 at 5 A.M.-7 A.M. Another example is Water element containing Kidney and Bladder. Using its Water Command Point is Kidney 10 and Bladder 66. The stimulation of these points using acupuncture techniques at its appropriate time will strengthen the weakened involved muscle, and of course the meridian.

KO CYCLE: The Law of the Ko Cycle is the transfer of energy of a deficient Servant meridian from its Master meridian. This is shown by the straight single line inner 5 arrows, denoting flow of energy. Start at Fire going to Metal, from there to Wood, from there to Earth, from there to Water and back to Fire again. When this flow is aberrated it can be destructive in nature, so called a destructive cycle. For example, a toxic or irritated Wood meridian, Liver or Gall Bladder, can irritate the Spleen and/or Stomach. Here again the laws conflict. The law states the flow should go from inner (yin) to outer (yang) or from outer to inner. The technique given will take care of both situations. For example, Kidney (water) is deficient and its Master should be Stomach (earth) in excess. If this be the case, go to Kidney Earth Point, Kidney 3. Use this point until

the associated weakened Kidney muscle is strengthened. Another non-typical case is Kidney deficient and the Spleen is in excess. Using Kidney Earth Point, K3 does not strengthen the weak associated Kidney muscle. Go to the Luo Point of the Stomach, Stomach 40. This draws excess from Spleen to Stomach. Now using K3 point will allow Kidney related muscle to recover and strengthen. Here you have examples of both sides of the coin or law.

DOUBLE KO CYCLE: The Double Ko Cycle is used when the transfer of energy is disturbed in a clockwise direction and can't flow from Mother to Child when Mother is deficient. Recall that energy flows in a clockwise direction on the inner and outer circle. For example, Stomach (earth) Mother to Child, Large Intestine (metal) and Large Intestine (metal) Mother to Bladder (water) Child. This flow is interrupted when Mother is deficient and can not receive from its parent and its Child is in excess. So an intermediate is used. The chart shows the double line arrows to represent the Double Ko Cycle. For example, Spleen (earth) is deficient Mother to Lung (metal) which is in excess. In the Double Ko Cycle the energy is pulled from Gall-Bladder, the intermediate by using Wood Point Spleen 1 until the weakened Spleen muscle is strengthened. This leaves the Gall Bladder in a deficient state. Go now to Gall Bladder Metal Point, GB 44 and the excess Child Lung will now strengthen the weakened Gall Bladder muscle and the transfer will be complete.

It is hoped that these presentations will make the use of this Master Chart easier.

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and Dr. Gordon D. Heuser

"Acupuncture Therapy" by Dr. Mary Austin

ADDITIONAL HELP FOR LEVATOR SCAPULA &
TIGHT SHOULDER/NECK SYNDROMES

BRENT W. DAVIS, D.C.

Doctors providing care for musculoskeletal conditions, and the lay public alike, are all too familiar with the complaint of chronic neck/shoulder tension that may improve with treatment and for a short period of time thereafter, but which returns in the long run. Shoulder/neck tightness is particularly prevalent in high stress, sedentary jobs such as typing, and now more commonly, data processing.

The Applied Kinesiological discovery of the levator scapula/parathyroid connection(1) did much to direct the practitioner in more effectively treating recurring tight shoulder/neck syndromes in that it enabled him to diminish aberrant viscerosomatic reflexes by giving specific nutritional support in the form of parathyroid substance. More recently, the discovery of the strain/couterstrain structural correction has improved therapeutic results even more.

There would seem to be no reason for trying to substitute other procedures in place of proven A.K. methods of mechanically restoring a malfunctioning muscle to its normal state. In other words, if mechanical dysfunction of the levator scapula or other structural faults exist, they are most efficiently corrected by established A.K. procedures.

In my clinical experience, however, there is nutritional support for the parathyroid/levator scapula which in most cases is more efficient than the use of supplements containing parathyroid tissue - namely the medicinal plant,

Scutellaria laterifolia* (2), commonly known as Scullcap. Scutellaria lat. is dramatically helpful in resolving long standing tight shoulder/neck syndrome with levator scapula involvement (often associated with headaches), and also with possible involvement of weak rhomboids. There is a rhomboid/levator scap. connection (or I should say a liver/parathyroid connection) I will describe shortly which sheds light on why Scutellaria works so well. First, a bit of background on Scullcap.

Scullcap has a history of extensive use by eclectic and homeopathic physicians from the mid nineteenth to the early twentieth centuries. Traditionally it was described as a nervine, tonic and antispasmodic. It was claimed by some very reputable physicians to diminish the severity of epileptiform convulsions. This was disputed by others who could not reproduce the anticonvulsive therapeutic effects. Very possibly, physicians at that time were working with both the real and with falsely labelled Scutellaria - some working well, and some not. At any rate, it is well accepted that Scutellaria lat. is very effective in functional disorders of the nervous system with muscle spasms.

For many years I read about the uses of Scullcap as a sedative, muscular relaxant and seemingly paradoxically, a tonic. I made a highly bioactive extract of true Scullcap (prepared by me from fresh herb grown in a pristine habitat in the Eastern U.S.), and oddly enough, it sat around my office without much use until I appreciated the levator scap/parathyroid relationship. Then I started screening plants to abolish a dysfunctional levator scap., and Scutellaria came out tops. (As a general sedative/anxiolytic I find the fresh herb extract of Passiflora/Valerian in the product Flora-Calm to be more broadly effective (3).)

* Poor clinical results will frequently be obtained by using herbal products that say they contain Scullcap/Scutellaria. What is being labelled and sold as Scutellaria to manufacturers is any one of several other plants that are adulterants. At my request, a major European medicinal plant research center has begun screening herbal products that say they contain Scullcap, to demonstrate by sophisticated chemical analysis the problem of false labeling.

In patients that have increased neuromuscular excitability in the Levator scap. (excess taughtness - an overactive muscle testing weak with continuous pressure), or weakness of the muscle in-the-clear, Scutellaria works exceptionally well in normalizing its function, easing "tight shoulders", reducing active emotional neuro-vasculars, and at the same time supporting the adrenals. As with anything else, phytotherapy* is most effective when used specifically. With its specific use, though, one gets lots of extra therapeutic benefits. In many instances, Scullcap also strengthens weak-in-the-clear rhomboids because it is a liver drainage (or detoxifying) remedy to some extent also - though not as much as Liver Phytocomplex (4).

The following thoughts occurred to me in trying to understand the clinical picture of the patient with recurrent posterior neck/shoulder tightness and headaches in relationship to levator scap dysfunction (overfascilitation or weakness-in-the-clear.) This type of patient generally has:

1. very tense levator scapulas (band-like to palpation) which test weak after a short period of continuous pressure, similar to the overactive muscle which fatigues with continuous pressure. (One would assume that this is not truly an overactive muscle, because that would correlate with a hyperparathyroid condition which would not tend to benefit as these patients do from increased calcium, or better calcium absorption, unless it were a parathyroid condition acting like secondary hyperparathyroidism analagous to functional hyperadrenalism before the final stage of adrenal exhaustion and hypofunction in G.A.S.) Also the Levator scap. may be weak-in-the-clear.

* Phyto-, [from Gr. phyton, a plant.] Phytotherapy is a useful word of European origin, meaning the therapeutic application of medicinal plants. Unlike the term, "herbology", which unfortunately lacks credibility (since it has been viewed as simple folklore), phytotherapy is based on scientific and empirical/clinical validation.

2. Weak-in-the-clear rhomboids.

How do these two findings fit together?

The concentration of extracellular calcium ion is the major regulator of parathyroid hormone (PTH), which is released from the parathyroid gland in response to decreases in the plasma calcium ion. PTH then acts on the kidneys (relating to final activation of vitamin D) and bone, and indirectly on the intestines to increase and restore the proper calcium ion balance. Before the final activation of vit. D in the kidneys, the 25-hydroxylation of vit.D must first occur in the liver. Vit. D is more important to calcium balance than PTH (5), and due to relatively large amounts of vit. D₂ added to milk products, and the presence of considerable levator scap. problems in sunny California, a vit. D deficiency may be occurring not from dietary insufficiency or failure of skin production, but from **defective liver and kidney enzymatic conversion of vit. D**. A low calcium level would result and the parathyroids would continue trying to put out PTH to increase Ca levels by acting on the bone directly and on the liver and kidneys to increase 1,25(OH)₂-D₃ which increases Ca absorption from the gut.

Other than dietary deficiency, conditions causing low Ca levels may not be obvious, such as temporal bone faults. What may be less known is that functional hypoparathyroidism can occur from hypomagnesemia due to deficiency or intestinal malabsorption of Mg. This results in low serum PTH and hypocalcemia(6).

It is interesting then to consider the following possible scenario for a patient with measurable or subclinical hypocalcemia and a propensity to muscle spasm (particularly in the parathyroid-related levator scap., which is often a taught "fifty-one percenter.") Supposing that the Ca level is low due to poor absorption or deficiency of Ca or Mg. The body may then constantly request of the parathyroid

to try to increase Ca. In effect, this is not a parathyroid gland problem. It is a body problem from a combination of areas, resulting from a failure of sufficient Ca to pass through the intestines. So the parathyroids constantly are trying to increase Ca levels and in a sense they are overworked, but are not actually hyperactive. By being overburdened they may actually be approaching exhaustion but continue an effort to increase PTH production to increase Ca. This would enable parathyroid substance supplements to in some ways ease the parathyroid strain. But since the herb, *Scutellaria*, drains and activates the liver, might it not very likely help the liver better produce 25OHD₃, and by acting as an adrenal/kidney tonic, influence better renal production of 1 α hydroxylase for the conversion to the active D₃; and due to general lymphatic drainage capabilities which are generally high among medicinal plants, might it not increase Ca and Mg absorption thru the gut? In so doing, we would be far closer to therapeutically supporting the real cause of the problem, which may not be a frank parathyroid/levator scap. problem at all.

Whatever the case, *Scutellaria laterifolia* is remarkable in the management of weak and paradoxically spastic/weak levator scap muscles and weak rhomboids, which contribute greatly to chronic tight shoulder/neck syndromes, and which are often associated with recalcitrant headaches.

Medicinal plants are far from folklore if one takes the time to understand them, and equally important, use them.

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ANOTHER ADDITION TO A.K.
FROM THE WORK OF DR. T.J. BENNETT?

BRENT W. DAVIS, D.C.

In a class on Bennett technique which I took many years ago from Dr. Ralph Martin, a procedure was described to treat what Dr. Bennett called "shock reflex." The shock reflex is to be treated after any trauma - emotional or physical - and can be of enormous value, especially in cervical hyperextension/flexion injuries, and in conditions where there has been very high emotional distress. The procedure is as follows:

Patient supine, doctor seated near head of table on patient's right side; his left hand reaching under the patient's neck, his middle finger contacting the tip of the sixth cervical vertebra on the left; his right thumb and index fingers contacting the anterior portion of the pubic bone, 1 inch lateral to the pubic symphysis, right and left. Doctor's index and middle fingers of right hand apply firm tugging pressure by approximating one another (kind of a pinching grasp.) Hold the contact until pain over pubes and tightness of cervical muscles leave. Generally 1-3 minutes - occasionally as long as 6 minutes.

The depth of therapeutic benefits of this technique has surprised me on numerous occasions. One might imagine that the technique accomplishes a balancing between aberrant neck righting and cloacal reflexes. On several occasions, treatment of this reflex has removed multiple cranial faults. It is also a remarkable emotional stress reducer, especially for unresolved hidden events from the past, and can abolish limbic system reflexes. Presence of the need for treatment is revealed by the patient's TL of the treatment points. I recommend that this be considered for evaluation as an official A.K. procedure.

FINE TUNING THE ACUPUNCTURE SYSTEM

By

Sheldon C. Deal, D.C., N.D.

ABSTRACT: Herein is a method of fine tuning the acupuncture system that allows you to balance every acupuncture point on the entire meridian. In the past we have been missing alot of individual acupuncture points in lesion due to the muscle indicator for the meridian testing strong if 51% of the acupuncture points were in homeostatis.

BACKGROUND: It has long been established by Dr. Ralph Sierra and Dr. George Goodheart that the body possesses magnetic polarity.⁽¹⁾ The right half of the front of the body is positive while the left half of the front of the body is negative. The right half of the back of the body is negative and the left half of the back of the body is positive. These differences are relative to one another. The entire front of the body is positive when compared to the rear of the body. Since opposite poles attract and like poles repel, this explains why it feel better to place your left palm on ones' forehead as opposed to using the right palm which would be positive on positive.⁽²⁾ Due to the same reasoning the right palm feels better when placed on the base of the occiput as opposed to using the left palm.

An extension of the polarity differences in the body is seen in the individual fingers. On the right hand the index finger is positive, the middle finger is negative, the ring finger is positive, the little finger is negative and the thumb is neutral. This distinction is reversed on the left hand with the index finger being negative, the middle finger is positive, the ring finger is negative, the little finger is positive and the thumb is neutral. This can be verified by testing a strong indicator muscle while placing one

finger at a time on the North or South pole of a magnet. Like polarities producing a weak indicator muscle and opposite polarities producing a strong indicator muscle. For our purposes here we call North pole negative and South pole positive.

APPLICATION: This finger distinction can be used when performing therapy localization. By placing one finger on top of the next finger and then doing our therapy localization, which makes for a neutral contact, we avoid either sedating or tonifying our point of therapy localization and therefore avoid asking the body too many questions at one time.

METHOD: If a neutral finger therapy localization placed on top of an acupuncture point allows the indicator muscle to remain unchanged we say that acupuncture point is in homeostatis. If however, our neutral contact causes the indicator muscle to change then we say that acupuncture point is in lesion. The next step is to identify which type of lesion it is. Now therapy localize with one finger only. If a negative finger causes a change in the indicator muscle then the lesion can be said to be hypo because the North pole further sedated it, or exaggerated a previous existing lesion. If a positive finger causes a change in the indicator muscle the lesion can be said to be hyper because the South pole further tonified it, or exaggerated a previous existing lesion.

CORRECTION: One method to correct hypo or hyper acupuncture points is to shine a light through the center of a round magnet that has a hole in the center, with the light hitting the acupuncture point. Use the North pole against the skin if the acupuncture point is hyper and use the South pole against the skin if the acupuncture point is hypo. (3)

SHORT CUT: A fast convenient method of telling whether a meridian has any of its points in lesion or not is to run the meridian backwards. If running your hand along the meridian from the end point to the beginning point changes the indicator muscle then that meridian is said to be a 49 percenter. Assuming that the indicator muscle was strong to start with. If running the meridian backwards does not change the indicator muscle then you do not need to check the individual points on that meridian. If it does change the indicator muscle, then you need to stop and check the individual acupuncture points by the method and correction outlined above. You may stop at any point and rerun the meridian backwards to see if there are any addition points to be corrected or if you may move on the next meridian.

ADDITIONAL FACTORS: Occassionally you will find a meridian that changes the indicator muscle when run backwards but it will not show any hypo or hyper points. This is due to acupuncture points that may be hypo frozen or hyper frozen. This is based on the same concept that was presented in St. Louis that a muscle may be found in one of seven different conditions.⁽⁴⁾ A hypo frozen acupuncture point is found by placing a metal probe or a neutral finger through the center of the magnet and touching the acupuncture point with the North pole facing the skin, which changes the indicator muscle. A hyper frozen acupuncture point is found by placing the South pole of the magnet against the skin using the above procedure.

FROZEN CORRECTIONS: The correction for the frozen condition is quite different from the ordinary hypo or hyper point. If you have a helium neon laser you may shine the laser through the center of the magnet with the North pole against the skin for a hyper frozen

condition. Conversely you put the South pole against the skin for the hypo frozen condition. If you do not have access to a laser, you may put the frozen condition on pause lock by having the patient spread their legs as they are therapy localizing the acupuncture point. This is called advancing and locking the computer by Dr. Alan Beardall.⁽⁵⁾ It is likened to putting your VCR on pause to hold one frame only on the screen as long as it remains on pause. We believe this to be due to the large number of rufinni end organs that are located and therefore activated in the acetabulum. In this case the frozen acupuncture point is now on any indicator muscle due to the pause lock.

The procedure is now to look for what correction the body wants to clear this frozen lesion. Our experience has shown us that it could require any correction to clear it from a subluxation to a cranial fault to a nutrient to an ilio cecal valve. In other words, it could be anything. One method that speeds up this search is to use the arm modes for structural, chemical and electromagnetic as taught by Dr. Alan Beardall.⁽⁶⁾ Successful correction is indicated by the binary computer changing the indicator muscle, the pause lock can now be undone or released and finally the running of the meridian backwards no longer changes the strength of the indicator muscle.

CONCLUSION: This method allows the physician to more thoroughly balance the acupuncture system. Whereas previously, a strong indicator muscle only meant that 51% of the acupuncture points were in homeostatis and the physician was missing the 49% meridians. By this method we have been able to help conditions we previously could not, such as chronic intestinal inflammation. We have also noted that our corrections are lasting much longer.

Fine Tuning the Acupuncture System
Sheldon C. Deal, D.C., N.D.

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HOLO-LINGUISTIC LOCALIZATION
by Gerald Deutsch, D.C.

ABSTRACT: It has been the ambition of all industries to create the magic umbilical connection to the computer to get the read out as to what's wrong with the machine. This knowledge should always give information to identify and to help fix the part involved.

Gertrude Stein on her deathbed has been reputed to say "What is the answer?". No one, of course, could give her the "answer". She then said "Since no one can give me the answer, then what is the question?". (1)

The following discovery may be attributed to various people. About one year ago, Dr. James Durlacher of Primghar, Iowa reviewed some of Roger Callahan's 5 Minute Phobia Cure (2) work with me. When I started utilizing this wonderful work I found that there were problems not solvable using just Callahan's methods. There were patients who were more resistant toward recovery than would be reasonable with a seemingly simple phobia. This led me to think of alternatives and I located a single ear acupuncture point, the Limbic-Hypothalamic(LH) point, which was the answer to my problem.

Auriculotherapy has always given interesting results that correlate with our Applied Kinesiology findings. The LH point is the single ear point that aids in helping to neutralize the points that Callahan found. This point seems to neutralize phobias in the same manner that Callahan has found. Instead of tapping the spot and "flooding" the brain with the thought of the phobia, I use a 7 frequency lazer (3) to neutralize the phobia while the patient thinks of the problem. This is what Callahan

HOLO-LINGUISTIC LOCALIZATION

refers to as "flooding". In order to cover all bases I follow through with the Callahan technique. The results have been more satisfying using this technique. To further help stimulate this point, a semi-permanent needle in the LH Point is used. (See Figure 1).

This was not the only discovery I alluded to. I think this point may be the link with the brain to create a phenomenon that equals the discovery of therapy localization (TL), eyes into distortion (EID), body into distortion (BID), tapping the affected area, scratching and anything else we use to get the brain's attentions to the part involved.

I believe that all these techniques do the same thing. That is, they get the brain's attention to the part involved and once found, cause temporary muscular weakness. There have been many attempts to explain the pathways of TL (4,5) and why the temporary depression of muscular strength. Many of these pathways ultimately are handled in the Limbic-Hypothalamic System (LH). This pea sized area is the monitor to the higher cortical centers. It executes commands that control efferent and afferent information that ultimately takes care of enzymatic and peptide messengers of the brain to all cells of the body. In essence, it is the brain's brain.

Neurotransmitters are messenger molecules that signal the tissues of the body's vital organs. Many people believe that the mind can modulate cellular functions through the autonomic nervous system. Thoughts and images (neural impulses) are generated in the frontal cortex, filter through various states of learning and memory and then into the Limbic-Hypothalamus System (LH)(6). Here they are transduced into

HOLO-LINGUISTIC LOCALIZATION

neurotransmitters that regulate the organs of the autonomic nervous system. Norepinephrine is usually produced by nerve endings of the sympathetic system terminal nerve endings which activate the receptors of the organs they modulate (heart, lungs, pancreas, intestines etc.). Parasympathetic nerve endings produce acetylcholine which processes information transduction from thoughts, images, emotions of mind to biochemical responses to all tissues and organs of the body. These neurotransmitters only touch the surface of the most complex system of neurotransmission and reception. We have receptors in the cell membranes that are activated by adenylyclase. This initiates the formation of adenosine triphosphate (ATP) and finally cyclic adenosine monophosphate (cAMP), the so called second messenger system, which energizes the specific metabolism of each cell. We must not forget the ionic changes that occur with the receptors altering the electrical properties (sodium, potassium, calcium etc.) of each cell. Now, even the newest recognition of peptide neurotransmitters are modulated by the LH system. These chemical changes can be placed and documented in many volumes and probably we could not relate the thousands of functions of these chemoreceptors. The main point is that brain modulation through the Limbic-Hypothalamic system is such that this power can change and control healing, growth, immunity and generally all physiology at any level in the body. (7,8)

Consider the Limbic-Hypothalamic system (LHS) as the central modulator for transduction of mind-body information. The Limbic-Hypothalamic system modulates the four main systems of mind-body information: autonomic, endocrine, immune and the neuropeptide systems.

HOLO-LINGUISTIC LOCALIZATION

It seems that we now have the ability to diagnose from the outside inwards. Now, if we could develop the ability to diagnose from inside to the outside and to stimulate the healing enzymes going outward, that would be ideal.

To summarize: the cortical-limbic-hypothalamic-autonomic function can influence all cells and tissues in the body.

The anatomy of the hypothalamus seems evasive and each author seems to picture something different, depending on which function is being discussed and which methods are being used. It is not easily identifiable as the cerebral hemispheres or other nuclei in the brain. (9) The hypothalamus is a locus of tissues with seemingly vague boundaries at the base of the forebrain, but made of many important nuclei or centers of mind body transduction and regulation. For the approximate anatomy we see the boundaries of the limbic-system above and the pituitary below surrounded by the suprachiasmatic nucleus, arcuate nucleus, supraoptic nucleus. These nuclei possess endocrine function. Also, in close proximity to the hypothalamus are the dorsomedial nucleus and the paraventricular nucleus which regulates autonomic function. The ventromedial nucleus is near the center and provides functions for the immune system. In the center, the anterior and posterior hypothalamus providing the messenger service for all the above functions. All these nuclei thrown together, seemingly very random, are assuredly one of nature's best designs.

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When under hypnosis it was found that immune responses can be improved and there have been documented cases where hypnotic suggestion worded properly could cure cancer (10). This is accomplished with a well integrated response of the limbic hypothalamic system utilizing an encoded psychotherapeutic and psychological approach that activates the proper endocrine, immune reaction with the activation of the neural messengers of whatever enzymatic and peptidal response that is necessary. Miraculous healings, faith healings, "nature medicine" and anecdotal evidences of so called miracle cures have been reported through the ages. What happens with the laying on of hands? I'll address this question later on. Mind modulation seems to be the answer to these occurrences. The question is: How can we control this response on purpose? Can we get better results than one in a row? Years ago I asked Dr. George Goodheart how to bring back a paralyzed muscle. This happened to be very personal. It was my muscles paralyzed by poliomyelitis. His answer was "Change your mind!" That was wonderful! He is absolutely right, but how do you change your mind? When Dr. Goodheart discovered therapy localization he remarked "We've been asking the body what's wrong." Now, he said, "You've got to ask the body to ask the body." At that moment the greatest discovery in chiropractic was born. Now, in the shadow of this great discovery, a question came to my mind, "Why not ask the brain to ask the body?" This is when Holo-Linguistic Localization (HLL) was born. The modus operandi is the same. We still have the muscle system to answer the question. Hence, "What is the question?". This is the most important aspect of HLL. The first part of the question is, "Think of -----".

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Now, remember when I found the entry point of the Limbic-Hypothalamus on the ear. (Note point in figure 1). This is the point where I use the lazer to cause responses with phobic patients. I found that this point is the most powerful point on the skin of the body. This point is the computer connector, the plug-in point for the body computer. The muscle system is the screen, the readout system. If we would liken this whole system to the computer as Dr. Alan Beardall does, I would call the hypothalamus the Read Only Memory (RAM), cortex the memory storage and the medulla the random access memory (RAM). The spinal cord may be the cable to the peripherals which, of course, would be the body and all cells. This idea may oversimplify things but may give better overview of the whole system. I have stated in the past (11) that there is a difference between doctor TL and patient TL, and there is, utilizing our present system and acupuncture points. Now, I'm happy to say, using HLL there seems to be no difference. The doctor and the patient can equally and effectively access the brain through the LH point on the ear and TL body parts.

Usually the left ear may be considered the dominant ear in a right handed person. In a sequence with approximately 800 patients I've found that handedness and "switching" really didn't make that much difference and very rarely did I have to use the right ear to access the LH area. Once in a while with a left handed patient TL I found that they had to TL the right lobe, and/or they could TL either lobe. In reality we could use both ears but Nogier (12) in his book on Auriculomedicine indicates shifting of the zone of diagnosis on the right ear. In order to locate the hypothalamic points in the proper phase on the left ear it would take more than the few

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pages that I have devoted to this. If this concept interests you, please refer to his treatise on Auriculomedicine. Suffice it to say, one may use a single ear if one finds the precise point. The phases we are using are as follows: the lobe of the ear represents ectodermal tissue; the conchae represents the endodermal tissue layers and the upper ear containing the triangular fossae represents the mesodermal layers. The back of the ear represents all three phases. So, for all intents and purposes, when we hold the lobe between our thumb and forefinger we are actually influencing all three layers.

The technique utilized and the ramifications will be discussed in case history form with questions and responses. The results and findings will be amazing. Your results and responses will be in proportion to your creativity in question and combinations of TL. We have asked the brain all kinds of questions from what vertebra to what allergy do you have. Sounds amazing? I have been consumed with the possibilities.

First, let us list some of the questions we have posed and the technique used in some of the problem cases we have found.

While either doctor or patient holds the LH point (Fig. 1) between thumb and forefinger (It doesn't make any difference which side of the table or with which hand you access the LH point) question the patient and muscle test at the same time.

- 1. Think of the 5th lumbar.*
- 2. Think of the lumbar spine.*

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- 3. Think of your ovary.*
- 4. Think of you gall bladder.*
- 5. Think of your prostate.*
- 6. Think of the cervical spine, think of the right side.*
- 7. Think of the cervical spine, left side.*
- 8. Think of the first cervical right, second cervical right etc.*
- 9. Think of the third cervical inferior on the right.*
- 10. Think of a tumor on your left ovary.*
- 11. Think of a malignant tumor on your left ovary.*
- 12. Think of allergies.*
- 13. Think of your cranium.*
- 14. Think of beef (or any food).*
- 15. Think of your skin.*
- 16. Think of your disc. (state which disc)*
- 17. Think of your colon.*
- 18. Think of your Ileo-cecal valve.*
- 19. Think of bacteria (Staph, Strep etc.)*
- 20. Think of (whatever you think is wrong)*

A positive response will elicit a weak muscle.

While asking the patient to think of the problem or part, we thought that it was our mind or our mind projecting our influences to cause a muscle weakness. To test this phenomena we had the patient think of the specific problem in a random order. In other words, let's suppose the problem was a subluxation of C3. We would have the patient randomly think of all the cervical vertebrae. Each time the patient thought of C3 the tested muscle would weaken. The contact on the LH point must be maintained, of course.

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When we worked with children or people who did not know the anatomy or what in the world a sacrum or a diaphragm was, the thought of the part still weakened the tested muscle. Obviously, the brain knew. I speculate the brain could analyse the word like a computer bar code. We were trying to solve a very difficult problem with a Korean lady who did not communicate very well. When I asked her to think of the sacro-iliac joint, she asked, "What is saclo-iriac mean?". Evidently she didn't know. A hidden Category II was uncovered, corrected and a dramatic recovery resulted a short time thereafter, despite the inability to recognize the anatomy.

These findings do not preclude finding the problems with normal challenging, EID, or whatever techniques we've used before. What this technique does is simply indicate what is there without doing other procedures such as TL, EID or BID to uncover a problem. The key is to ask the right question. Clear a patient's problems using the present techniques. Then use the LH technique. You'll be amazed at how many sublaxations and problems you have missed.

This technique, with surrogate testing, is superb. It is done, as before, by a surrogate touching a body part of the patient. The doctor holds the LH point of patient and asks patient to "think of" whatever the point you suspect to be a problem. Test the surrogate and weakness would indicate a problem with that part. The next thing would be to go to the vertebra, organ reflex, NL, NV or acupuncture point and correct it. We also did a double blind study with this technique. We use the same procedure as we

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did before, having the patient think of the cervicals. Each time the patient thought of the problem the surrogate's muscle weakened. Here again, with children or babies, they certainly don't know the body part or how it works and HLL still works.

Auxillary points may also be used instead of the ear points. Dr. Reinhold Voll's (13) points for the hypothalamus and limbic point may be contacted either by the patient or the doctor. The ear point is probably better because the contact covers more of the brain points because of their closer proximity. For experimental use to determine whether the function is limbic or hypothalamic, these facial acupuncture points may be used. These points are TW20 for the hypothalamus and GV23-2 for the limbic point. (See Fig. 2) Another place I found where contacts can be made is on the nasal bone bilaterally. (See Fig. 2) These points are located laterally on the nasal bone about 1/3 up from the proximal end of the bone toward the distal attachment. The finger placement here is more critical though. It is as if you have to find two pin heads to contact. Once the determination of what you're looking for is made you go to the structure or organ reflex to make corrections. For identification you may call it the Nasal LH Center. There seems to be no references to these points or what they are, and they do not appear on any acupuncture circuits. I have noticed that when these are massaged, the LH points cannot be located or TL temporarily. I have not investigated this effect yet. If anything develops with these points, my findings or yours, there will be a future research paper.

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The next phase, after HLL, is to go to the part to be tested. Here we have many options which must be considered. I'll try to discern the different directions with the concept of correction we must take.

You will find that with proper questioning procedures, you may also pick priorities for your adjusting procedures. Let us suppose that after her regular care you check a female patient with HLL(LHL) and you find fifth lumbar. I have found that many times after the adjustment there are many points that do not respond to tapping, TL or challenging. Usually we'd be done with that area but HLL may bring out a specific bone sublaxation you thought you fixed. The next question could be now (doctor or patient now contacting the fifth lumbar) "Think of the fifth lumbar." At this time there may be no response to that question (Remember you found it with HLL); now ask "Think of the right (or left) ovary (or uterus, or colon etc.)." Now the tested muscle weakens. This means there is an ovarian reflex (or whatever you found positive with, "Think of...") which is checked over on the organ point and/or fixing the sublaxation you found. After the adjustment ask the patient to think of the problem that triggered the response. Now this opens another door to determine what organ is influencing what vertebra. This time look for the Lovett Reactors. You'll find them easily by asking the patient to think of the 5th lumbar or the organ reflex that was positive while contacting the atlas. Doctor or patient TL on one side or the other will indicate which side to adjust the vertebra on, and also which direction to adjust into. Another variation when you check Lovett Reactor is to ask the patient to "Think of -----" (organ or part). An example is to have the patient think of colon for a

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specific cervical vertebra or possibly think of knee (specify right or left knee) to uncover a lower cervical fix. Some oddities I have also found to identify a specific vertebra when therapy localizing a specific vertebra are by merely asking the patient to think of the specific vertebra the tested muscle will not weaken if you are off the vertebra. Another interesting thing happens when organ reflexes are present. When palpating the area found, the tension of this area changes when the patient thinks of the part. Simply palpate the area of the vertebra that responds to HLL and deeply palpate. You will notice that while palpating the area the tension increases almost immediately upon asking the patient to think of the part. Many times when you deeply palpate and activate HLL response pain will also be increased. Priorities are handled by asking the patient to think of a specific problem in the order of priority. An example may be "Think of 5th lumbar, then think of 1st cervical" or "Think of 1st cervical, the fifth lumbar". Thinking of the problem in one direction will elicit weakness. Whichever combination of vertebrae that causes the weakness would be the direction of the priority of adjusting. You will find as you work with HLL the question of what and where to fix a part will make more sense. The knowledge of how to fix something will be easier because you can check the body utilizing the knowledge that you possess at the present time. Be aware that HLL may be done with acupuncture points or alarm points. If there is a positive weakening on the source points, Voll CMP Points (13) or alarm points, you may then find specific points by asking the patient to think of whatever elicited the weakness on the original points, such as the alarm point.

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It appears that the LH knows more than we think we can ask. Allergies, for example, seem to be a prime problem to diagnose. When I first started to ask the patient to "Think of allergies", a weak muscle response was elicited by the patient, much to my surprise. When specifics such as "Think of beef", elicited a weak muscle, that was even more of a surprise. After finding this response we had the patient bring some samples of beef and with oral testing confirmed the allergenic response with a massive failure of the muscle system upon testing. We asked other questions that seem more "experimental" than even holding bottles to the body (11). I have gone as far as asking the patient to think of and also having them look at a selection of 5 vitamin pills and select one that was incompatible with their body chemistry. However, I haven't tried to give or test something that wasn't part of their chemistry. It seems, once again, the question is the key. I'm still having trouble believing when I get a positive response to questions about the environment even though some of them have been confirmed by checking the offending substance. For example, having a patient "think of oleander" and getting a positive response is a little mind blowing. Some of these are easy to prove though by having the patient merely sniff the blooms. This confirms the allergy. Getting the positive muscle response though is proof enough. Non-invasive allergy testing seems easy now. This certainly will need a lot more testing than I've been able to do.

Some more evasive problems are being solved in seconds, such as, TL-ing the cranium and asking the patient to "Think of the cranium". A positive response will allow you an immediate search of all bones in the skull by

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either contacting the bone or suture and asking to "Think of this bone" or "Think of this suture". This is done by either the doctor or patient TL the bone or suture or just asking them to "Think of....".

Some case histories include such varied findings as the following:

1. A 25 year old Caucasian woman with post operative hysterectomy 3 months prior. Complaints were vague abdominal pains centered over the approximate area of the left ovary, intermittent headaches throughout the day relieved by aspirin and pain over and around the left 4th and 5th lumbar. Correction of the 5th lumbar and associate vertebra relieved back pain and headaches. Abdominal pain was relieved but returned by the next morning. The surgeon states that the pain and tenderness were normal for this type of operation and would clear in the next few weeks. The surgeon place her on hormonal replacement tablets, Estruse and Provera. When adjusting the patient, only one day's relief was provided. When the patient stated the headaches were intractable and aspirin or analgesics were not helping, I decided to use HLL. While holding the LH point I asked the question "Think of the drugs the surgeon gave you". There was an immediate weakening of the tested muscle, much to the patient's surprise (and mine). Placing one tablet of either one between teeth proved with a muscle weakness that Estrase was the product that was causing the headaches. The Estrase was replaced with Premarin and the headaches were eliminated. With contact to the LH point the next question was "Think of your left ovary". Although there was no ovary the patient weakened. Next question "Think of your 5th lumbar" also weakened the muscle. The next thing I did was place my hand over the left ovarian area and asked the same questions. The response here

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was slightly different. The weakness only was positive when asking "Think of your colon and think of your ovary". Turning the patient over prone and placing my hand over the 5th lumbar, again asking to "Think of the 5th lumbar". This time a negative response. The next question revealed the problem and it was "Think of the ovary", this time with a positive response. Placing my hand or the patient's hand on the right side or the left revealed the side to adjust. Incidentally, the fifth lumbar did not challenge in any direction at all. In this case the direction that was positive was the left 5L inferior transverse. The adjustment was delivered and tenderness over the ovary disappeared. The colon was then positive with HLL and then a positive response with the question with TL over the descending colon near the splenic flexure, "Think of your lumbar". Next questions involved specifics such as: "Think of the 5th lumbar (4th, 3rd, 2nd, 1st) and a weakness was elicited at the first lumbar. So here is an example of finding the specific vertebra with an LH response localizing over the organ reflex. Adjusting the first lumbar changed the first lumbar positive HLL to the colon. Now, the area did not challenge with HLL on thinking of ovary or colon. When asked: "Think of a tumor" a positive response occurred. We recommended that she return to the gynecologist. Surgery was performed and a chocolate cyst had spread from the previous spot on the ovary to the descending colon. Successful removal of the cyst left no damage to the colon or surrounding tissues. This is one example of the dramatic findings.

Case History #2. A 47 year old male Caucasian with blood pressure 132/85, height 5 feet, 11 inches and weight of 223 pounds. His complaints were vague pains radiating into chest and mid back. History of gastric

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complaints from time to time. Complaints of radiating pain at left mid rhomboid radiating under left scapula and frequent shortness of breath. y. Adjusting and challenge revealed subluxations at L5 left, tenderness at lower ribs, T11, T12 and L1. I also found cervical distortion at right C3, right C6. Challenging for diaphragm was negative as was reflexes and TL to stomach, liver, pancreas and NL points. After correction the patient was challenge free. HLL activity at mid thoracic was positive to "Think of diaphragm". Previously when asked to "Think of stomach" (heart, spleen, liver, pancreas or spine) the response was negative. With the patient supine, with my hand contacting the epigastric area, I then asked the patient to "Think of diaphragm" and I immediately got a weak muscle response. Correction of the diaphragm and related vertebra according to HLL gave permanent symptomatic relief.

Case #3: A 14 year old male weighing 132 pounds was complaining of right anterior, medial shoulder pain, some evidence of posterior deltoid atrophy and a pain duration of approximately 8 years. Medical help and past chiropractic help was sought, but to no avail. Neurological tests proved negative. The order of questioning was as follows: (While patient was TL the shoulder)

- 1. "Think of right shoulder" - tested muscle weakened.*
- 2. "Think of cervical vertebrae" - tested muscle weakened.*
- 3. "Think of right side cervicals" - tested muscle weakened.*
- 4. "Think of left side cervicals" - tested muscle remained intact.*
- 5. "Think of your muscles" - tested muscle weakened.*
- 6. "Think of you shoulder joint - tested muscle weakened.*
- 7. "Think of lung" - tested muscle remained intact.*

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I then had the patient remove his hand from the shoulder and TL the left cervicals. No TL was evident. Then I had patient TL right lower cervicals which revealed no muscle weakness. Then I had patient TL right upper cervicals which revealed no muscle weakness. While the patient TL right lower cervicals I asked the patient to "Think of right shoulder" and the tested muscle was immediately weak. Testing the upper cervicals under the same conditions proved negative. While TL the right fifth cervical ask the patient to "Think of the shoulder" and got no response. TL the right sixth cervical and ask patient to "Think of shoulder" and I got an immediate muscle weakness. I asked the patient to "Think of shoulder" while TL the seventh cervical and I got no response. With the patient prone, I placed my finger lightly on the area of approximately C6. I then asked him to "Think of the shoulder". In this case, if I was on the sixth cervical with my finger I would get an immediate weak muscle response. Incidentally, if I was touching the fourth, fifth or seventh cervical and I asked him to "Think of the shoulder" I would get no response. This response will only work when the patient or the doctor is contacting the correct vertebra with the proper HLL response. Next the appropriate muscles and ligaments were found using the HLL response and one finger on each muscle or ligament attachment. The question would be "Think of this muscle" or "Think of this ligament". The appropriate muscle or ligament correction technique was employed. In this case, it was a strain-counterstrain and reactive muscle technique. Next, I challenged for a fifth lumbar problem. This challenged easily and I corrected it with normal challenge and adjusting procedures. Next question for response on HLL.

1. "Think of allergies". There was an immediate weak muscle response.

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2. *I placed my hand on the now "clear" low back and repeated "Think of allergies". A fifth lumbar challenge immediately occurred.*
3. *I place my hand on the patient's right shoulder and said "Think of allergies". An immediate weak response was noted.*

All these points were adjusted with the request that the patient "Think of allergies". It is a good idea to correct the problem while the patient thinks of whatever it is he was thinking about, that created the muscle weakness. All these points cleared for any challenge with any HLL challenge.

Back to the HLL Point:- I requested another "Think of allergies". Once again the muscle weakened. I asked the patient to "Think of beef, pizza, tomatoes, etc." There was a positive response to the nightshades, beef, grains and certain vegetables. We asked him to avoid these foods and bring in samples of those foods on the next visit. The foods proved to be allergenic. It was also determined that he had a candida infection. Although there was a positive HLL response to this, we tested him on a dermatron (13) to confirm this problem. He was placed on a homeopathic candida and a zinc tannate formula to control candidiasis. Pain disappeared by the fourth day. The candidiasis was under control in 2 months. His weight dropped to 110 pounds in that span of time. His vitality improved and he is now able to use his arm and start a weight lifting program for the atrophied muscles of the deltoid.

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What happens when a "religious healer" places his hands on an ailing part of a "believer" and tells him to "heal"? Does this person receive the healing from a higher power or does his belief cause an integrated action from the touch (HLL) to the LHS and the LH modulates an effective cure at that time? I'm not trying to destroy or change a belief system but certainly this gives us something to think about. Can we do this on purpose in our lifetime and enjoy the greatest benefit as healers as we ought to be. I think as time goes on we will learn how to utilize LH output to aid healing of the body. Right now we may be on the threshold of this goal or 100 years from it.

The allergy test seems remarkable but there was a point that I stopped questioning its validity. It will take a little time before you have the confidence to believe in what you hear and what you see. I could go on for case after case. There are just a few with some varied ideas. Watch the question, get creative and enjoy the increased diagnostic ability it affords. Remember, the body doesn't lie, and it won't, if we ask the right question.

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HYPOTHALAMUS POINTS

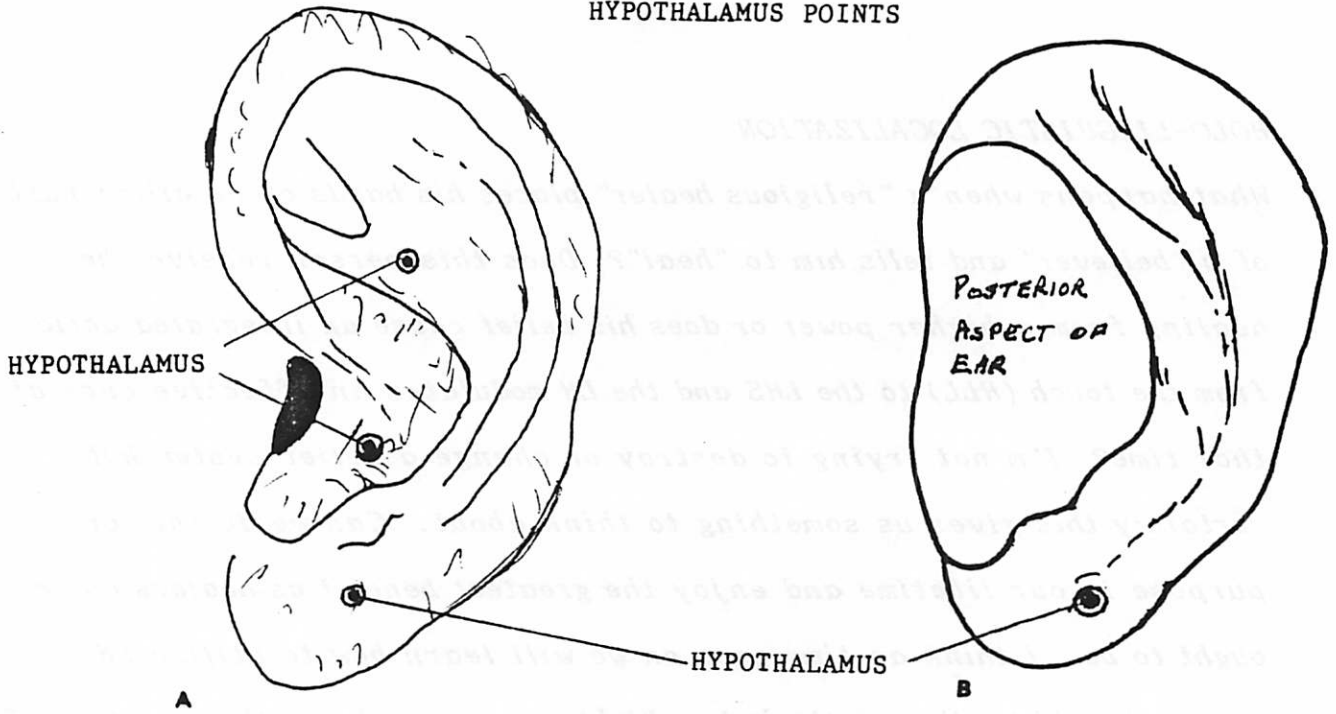


FIGURE 1

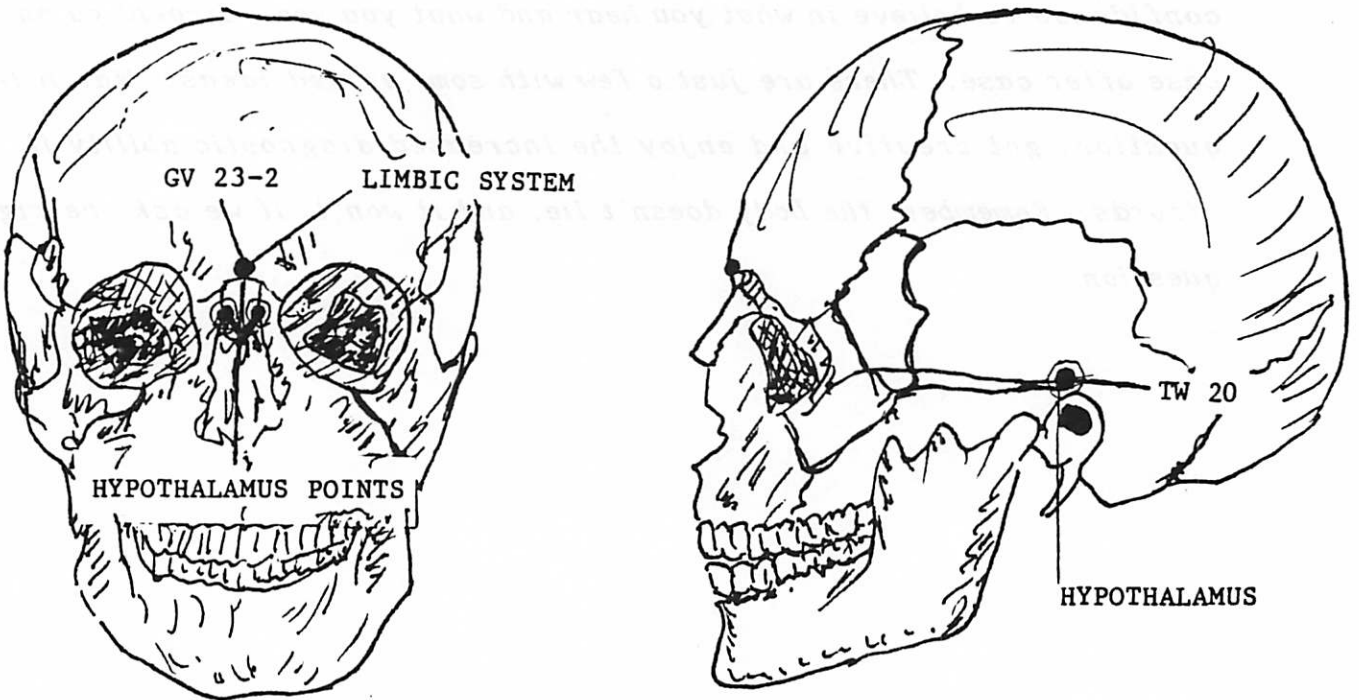


FIGURE 2

HOLO-LINGUISTIC LOCALIZATION

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THE CRAVING POINT
By Gerald Deutsch, D.C.

Abstract: This short article will direct you to an important point on the lobe of the ear known as the craving point or commonly known as the addiction point.

Many doctors treat obesity, alcoholism, smoking and possibly drug addiction. These are probably the four most addictive problems our society suffers from. When a doctor, utilizing acupuncture, tries to "cure" addiction, he naturally finds the points to balance the body's need for a particular substance, whether it is food or drugs. If this point can be neutralized, the body will be able to fight the need for the addictive substance.

In some of the literature and seminars I have attended, the addictive point was discussed and/or illustrated. I have yet to see some formal literature that fully describes where to place all the needles for smoking, for example. Figure 1 demonstrates one authors findings. (1) The location of the craving point is now found by simply using HLL Techniques. (2) A plastic T shaped black and white probe is used to mark the points. (3) Another good tool is an ordinary lead pencil with a fine point. This leaves an impression with a small circle that you may use as a guide to insert a needle. The technique is simplified now using HLL. Ask the patient to say "I crave cigarettes" while you search the upper points of the lobe with the probe. One point will cause a definite muscular weakness when testing an intact muscle for this response. Make an impression with the probe and place a semipermanant needle in the craving point.

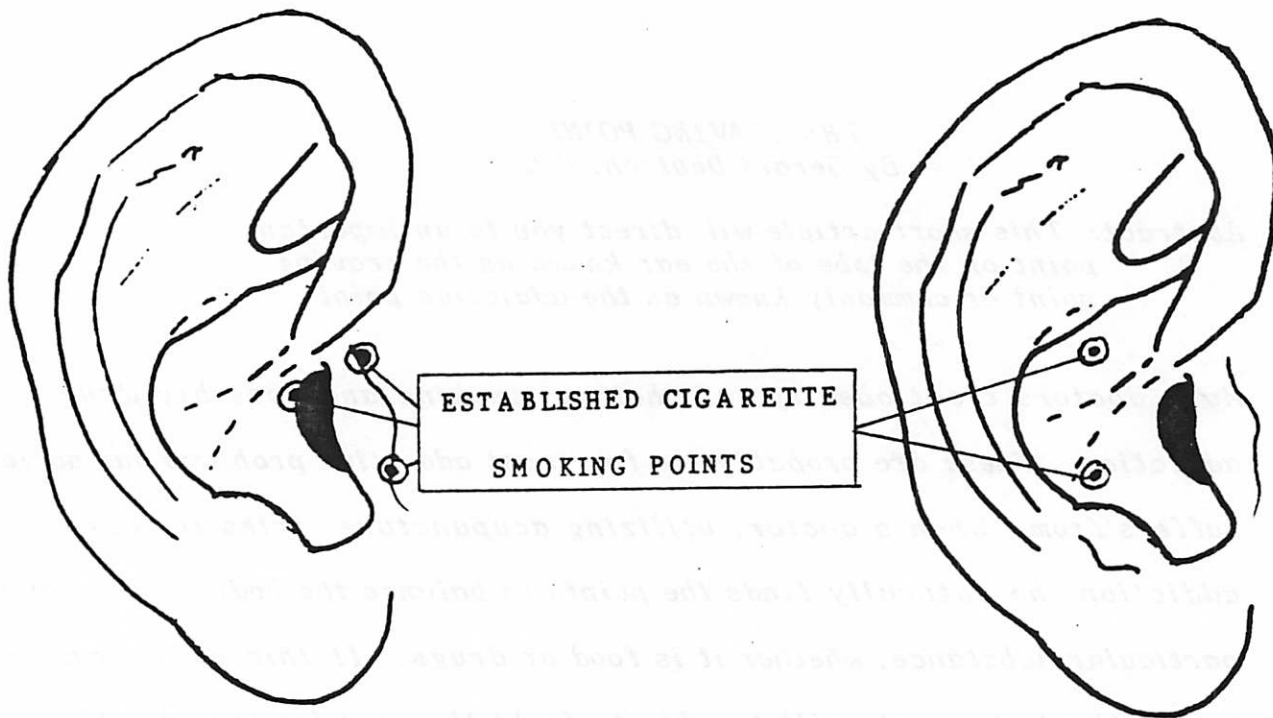


FIGURE 1

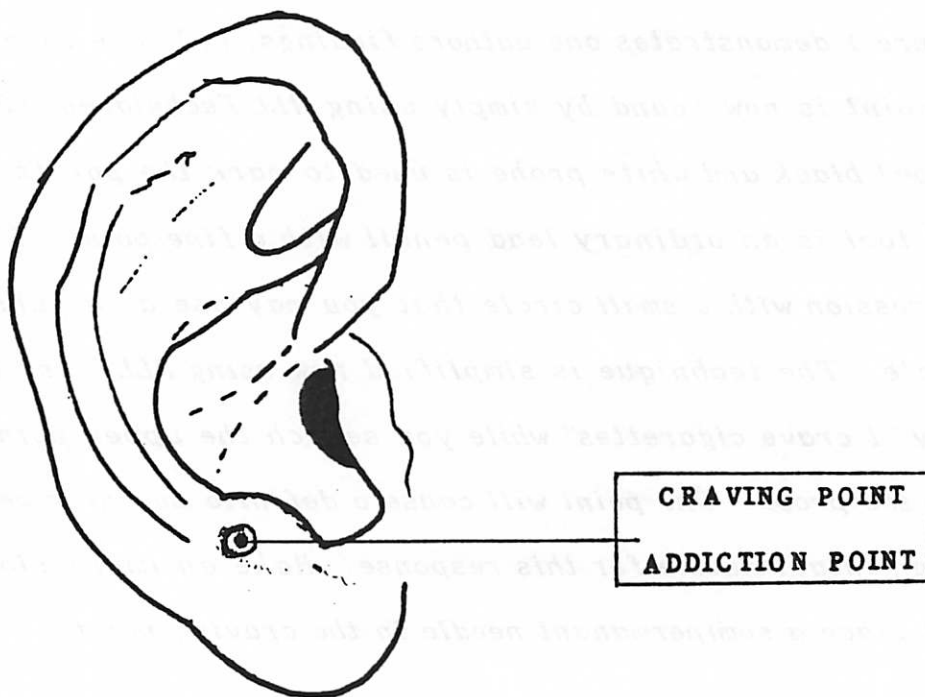


FIGURE 2

THE CRAVING POINT

Other points may be found by either asking the patient to "Think of cigarettes", probing different points, and/or using the probe flat to cover as much space as possible. This will soon elicit more weakness. These points have to do with the cigarette's ability to poison the body with its waste products. Needling them will cause an elimination of these products and balance the body's need for the addictive substance.

The craving point may be found and used for weight control with such remarks as "I crave sweets, food, etc." and afterwards having the patient "Think of food" or "Drink" or "Of your weight".

Think of the possibilities of both finding new points (NL, NV and/or acupuncture) or confirming exact points using HLL Technique.

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CATEGORY ONE AND LEG LENGTH CORRELATION

By Daniel H. Duffy, D.C.

ABSTRACT: 500 patients with a category one pelvis were analyzed for correlation between leg length and challenge. Sixty eight patients showed challenge contrary to leg length blocking requirements.

500 patients were analyzed for category one corrections according to applied kinesiology diagnosis, including challenge of the pelvis. Of the 500 patients analyzed, 68 were found to challenge contrary to leg length. In those patients who reflected this finding, special care was taken to rule out operator error and neurological switching. Special emphasis was placed on patient response in terms of first rib head pain and symptom abatement.

These results indicate that simple examination of leg length does not suffice in determining the blocking procedure for category one patients. I.e., checking the leg length of the recumbent patient and choosing the long or short leg and blocking in accordance with the observed imbalance will be in error approximately 14% of category one patients.

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FIVE MINUTE PHOBIA CURE

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

ABSTRACT: After reading Dr. Roger J. Callahan's paper "A Rapid Treatment For Phobias" and his subsequent book "Five Minute Phobia Cure" I wanted to see if the technique was effective in the chiropractic office.

My first opportunity came when a thirty six year old male was referred to the office for hypoglycemia and phobia. His phobia was that he could not go out of his house alone nor stay at home alone without going into extreme anxiety. He was a salesman and needed to travel over a ten county area in Iowa and therefore could not work. After the second treatment he was able to drive his car by himself for short periods of time and was completely cured of his phobia after four treatments.

After this I started asking regular patients if they had any phobias such as fear of heights, spiders, mice, public speaking, flying, driving in traffic of a city and claustrophobia and others. As patients would admit to a phobia I would try the procedures as described by Callahan and of the thirty patients treated so far there has been a 95% cure rate.

After this success rate in the office, while watching the noon news on a Sioux Falls, S.D. TV station I noted that one of the newsmen stated that he had a fear of heights. I called the station and suggested that I attempt to cure him of his phobia on camera during their interview time slot and it was agreed on. The interview and demonstration was successful. Next I called a TV station in Sioux City, IA and talked with the health reporter as he had just a few weeks previously done a feature on phobias using the conventional psychological and

Five Minute Phobia Cure.....Durlacher

psychiatric treatment procedures. I explained to him that I had a rapid and effective method of treating phobias and sent a video tape of the Sioux Falls, SD interview as well as a video tape that Callahan had sent to me which was a collection of treatments and cures that he had done on local and national TV demonstrating and promoting his book "Five Minute Phobia Cure". It did not take long for the reporter to call back requesting that he come up to Primghar to tape a story on the procedure. To make sure that he knew that it was not going to be a "set up" I suggested that he find someone in the TV studio who had a phobia and bring that person with him.

The reporter arrived with a 26 year old woman who for all of her life had been afraid of cats. The treatment took approxomantely twenty two minutes and her anxiety was reduced from sheer terror at the sight of a cat to total relaxation to the point of petting the cat. The procedure was edited down to four minutes 20 seconds and shown on the 6:00 PM evening news on Sept. 23, 1986. After this a local weekly newspaper editor called for an interview and a copy is on the following pages.

Conclusions: The procedures outlined in Dr. Callahan's paper, "A Rapid Treatment For Phobias" and his book "Five Minute Phobia Cure" are valid and reproducible.

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PRIMGHAR DOCTOR HELPS

CONQUER FEAR

New technique grows
in popularity, use

By JAY P. WAGNER
Editor

PRIMGHAR—There was a time, not long ago, when the sight of a helium balloon would send Darlene DeVries scurrying out of the room. The Ireton woman has had an unexplainable fear of balloons. Her phobia became a handicap that restricted living until it was almost unbearable. At times it destroyed her happiness and limited her self-expression.

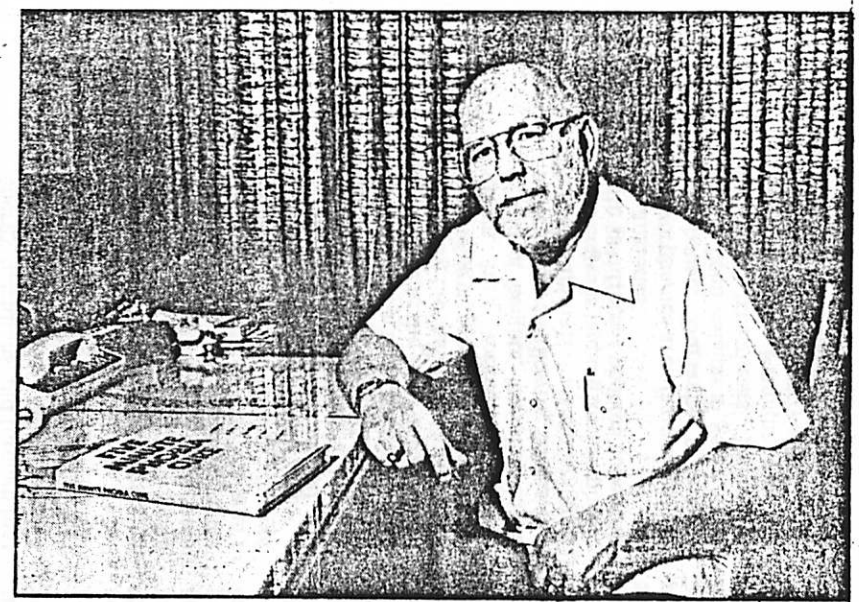
But now, she says, that fear is

gone.

DeVries, who is studying to become a registered nurse, remembers many times when her fear became unbearable. The times she tried to blow up balloons, just to test her courage. Or times she darted out of the room to avoid having a balloon forced on her.

Balloons made her feel breathless and queasy.

"It's just a terrifying fear of balloons," she says. "The only thing I can recall is that the last time I remember playing with a balloon, my grandmother tried to slap it out of my hands and it exploded in my face."



Dr. James Durlacher, D.C., uses applied kinesiology to help people cope with their anxieties. Durlacher has applied many successful treatments to patients during recent years and now teaches offer health officials how to administer the technique:

(Photo by Jay P. Wagner)

After trying several techniques fruitlessly, DeVries turned to kinesiology, a diagnostic method practiced by Dr. James Durlacher, who has a chiropractic clinic here.

According to advocates of applied kinesiology, the body is divided into a number of meridians, each

including some vital organs and considerable skin surface. When a meridian becomes blocked for one reason or another, illness or pain results. But by locating the blocked meridian and tapping at a specific

See **FEAR** on page A5

FEAR

Continued from page A1

point, the condition will improve. By applying the rhythmic pressure an "energy flow" is freed to move again.

According to Durlacher the principal is similar to acupuncture, which also attempts to alter the energy flow in specific meridians. Most phobias, Durlacher says, involve the imbalance of the stomach meridian.

When Durlacher treated DeVries last week, he brought a helium balloon with him as a way to measure her unrealistic fear. After a one and one-half hour session at Durlacher's Primghar office — a converted hotel — DeVries says she felt her phobia dissipate.

"She left the office holding two balloons," Durlacher says.

Kinesiology "balances the energy meridians and through that the body has more vitality and can operate the way it is supposed to without unrealistic fear," he explains.

Her phobia was especially trying because, as a nurse-in-training, she frequently comes across patients with balloon bouquets. She says she sometimes worries that she won't be able to muster enough courage to enter a hospital room.

"It's just a big burden off my back," DeVries said. "I know I don't have to worry about going into a patient's room and becoming hysterical at the sight of balloons."

During the last year Durlacher's kinesiology practice has slowly grown. He's worked with people afraid of heights, traveling in an automobile, swallowing liquids, flying, and animals. One of his biggest challenges is helping an agoraphobic with 28 different phobias cope with his anxieties.

Agorphobics are afraid of leaving the house. Durlacher's patient hadn't been outside in years. During initial treatments Durlacher traveled from Primghar to the man's home for weekly visits. Last week the man showed the first sign

of being cured when he drove to Durlacher's town square office for his treatment.

Durlacher says everyone suffers from phobias but some people let themselves be overwhelmed by them. About three percent of the population has a phobia they can't deal with.

Although kinesiology can help to conquer any of those phobias, Durlacher says, some cases are more difficult to handle because patients don't actually want to cure themselves of the fear.

"Many people who have phobias have what is called psychological reversal. Outwardly, they want to be well but they do things to self-sabotage any opportunity of actually getting well."

Often, another hindrance is determining the actual phobia. Although a patient might experience anxiety he or she is not sure why. Durlacher can't help them deal with that trauma until he determines what they're afraid of.

Some naysayers claim that kinesiology is simply a form of hypnosis. Durlacher says, however, that anyone who takes time to understand energy meridians will agree that kinesiology is simply the practice of rechanneling that energy.

Durlacher also asserts that kinesiology is safe. Although no one has ever been harmed through kinesiology, publishers of the book: "Five Minute Phobia Cure" warn that "as with all new therapies, you must proceed at your own risk... In some instances what seems to be a phobia may actually be a problem requiring long-term psychological counseling, or the phobia may actually be covering other psychological counseling."

The popularity of kinesiology seems to be growing. Durlacher spends many weekends presenting seminars with other medical authorities about kinesiology. One day, he believes, its applications will be common.

For many people, that could mean the difference between living in fear and simply living.

CONCOMITANT PHENOMENA

David P. Engel, D.C.

ABSTRACT: Often, a finding which requires treatment is present with other concomitant findings. Two of these paired phenomena are discussed with suggestions of simultaneous treatment techniques.

PURPOSE, MATERIALS AND METHODS, CONCLUSIONS, DISCUSSION, ECT.: The addition of Coccygeal lift technique, as presented to I.C.A.K. by Goodheart in 1985 at the annual summer meeting was a blessing to many of my patients with varieties of dural torque. Many had been treated for a considerable time period with little lasting results. This technique added to treatment effectiveness and longevity of results. Having used it extensively, I have been happy with its benefits, but found it curious that one of the parameters for its application mimicked that of a finding present in the Category 1 diagnosis; that being the palpatory tenderness at the seventh cervical, first rib head area on the involved side. As recommended by Goodheart, I have been using the alleviation of that tenderness upon proper traction of the coccyx as confirmation of the proper "line of correction" of the dural tension. However sometimes, no matter how much I tried, I could not find the exact direction or location of traction to remove to mine or the patient's satisfaction the palpatory tenderness.

After enough of these occasions had occurred, I joined my two ponderances about the similar findings of tenderness in both the Category One and Coccygeal lift phenomena and decided to apply both techniques simultaneously. I simply diagnosed the correct pelvic block placement and positioned the blocks accordingly. Then I would attempt to alleviate the palpatory tenderness with proper coccyx traction. Much to my satisfaction, I found that this usually made a dramatic difference in the pain removal. At this point, I simply held the Coccygeal lift for the appropriate time with satisfactory results. Further ponderance of this suggests that the results obtained may also be due to a non-intentional, but inevitable application of the "B.I.D." or body out of distortion principle by optimizing the pelvic position and alignment before applying Coccygeal lift technique.

In addition to the above marriage of two techniques, I have reaped the benefits of saving time and improving results when using the Strain and Counterstrain technique by determining the simultaneous presence of trigger points. It has always stood to reason to me that the two would occur together due to the nature of their etiology and perpetuation. Whenever I diagnose a trigger point or a strain and counterstrain problem in a muscle, I have often found the other to exist also. To differentiate the two I use the following simple steps:

1. When a trigger point has been found, (especially with a referral or radiating characteristic), I shorten the muscle belly as one would do to reduce the pain in strain and counterstrain

technique. If that reduces the trigger point pain, then I treat the trigger point while holding the muscle in the shortest possible length ala strain and counterstrain. This effectively is "killing two birds with one stone".

2. When a strain and counterstrain finding is accompanied by a trigger point type referral or pain radiation, I treat the strain and counterstrain problem, perhaps holding the correction longer or applying different pressures at different locations until the trigger point pain is also alleviated.

At the risk of sounding terribly repetitious, I'd like to once again thank Dr. George Goodheart for his inspiration, his challenge that we all push the limits back just one more notch without the thought of stopping to gloat at our cleverness. My addition to the body of A.K. material is a mere reflection of the blessings that I have received with the priveledge of studying him and serving people.

SPINDLE CELL FASCILITATION TECHNIQUES

KENNETH S. FEDER, D.C.

ABSTRACT: This paper deals with the Applied Kinesiological diagnosis and treatment of neuromuscular spindles utilizing the muscles' full range of motion. The procedure involves dividing the muscle arc of motion into muscular diagnostic and therapeutic compartments.

INTRODUCTION: Neuromuscular spindle are located throughout the muscle, having a higher concentration in the central aspect called the belly of the muscle. The concentration of neuromuscular spindles is dependent upon the type of muscle in which they are located. There is less concentration in the postural or tonic muscles, while the phasic muscles have a higher concentration. The spindle controls the smoothness of muscle contraction so that the muscle does not jerk upon motion. The phasic muscles need more control because of their intricate functioning and therefore contain more spindles.

The neuromuscular spindle is extremely sensitive to and responds to stretch. They are responsible for the organization of the agonist with the antagonist, synergists, and fixator muscles. They basically have an excitatory effect on the muscle they are located in and an inhibitory muscle on the antagonistic muscle.

SPINDLE CELL FASCILITATION TECHNIQUE (Continued)
Kenneth S. Feder, D.C.

When a muscle is stretched, there are two responses which occur. There is a tonic or prolonged response. This is interpreted by the spinal cord as the magnitude of change. The primary receptors have a similar response, but a phasic, having a much greater response while the muscle is actually lengthening. When the movement ceases the impulse decreases. The spinal cord interprets this as the rate of change when the receptor area shortens, there is a decrease in the impulse output, and as shortening ceases, the impulses re-appear. The spindle cell interprets any change in tension. The change on the receptor area can be from contraction or elongation of the extrafusal muscle fibers, which in turn shortens or elongates the intrafusal muscle fibers. The muscle spindle acts as a comparator of the length of the two types of muscle fibers.

Goodheart's hypothesis is that the neuromuscular spindle can become either hyperactive or hypoactive due to injury to the spindle from overcontraction or stretching of the intrafusal fibers, or trauma to the capsule. It is unknown histologically what causes the neuromuscular spindle to malfunction.

STANDARD EXAMINATION AND TREATMENT: The adherent information from the involved spindle cell can result in either muscular weakness or hypertonicity in the involved muscle or other associated muscles. A dysfunctioning spindle cell may be found by therapy localization. A weak muscle will weaken when an

SPINDLE CELL FASCILITATION TECHNIQUE (Continued)
Kenneth S. Feder, D.C.

involved spindle cell is therapy localized. The spindle cell can be located by palpation. The involved area will feel like a knot, or as fibrous tissue within the muscle belly. It generally will be quite tender to palpation.

Standard treatment to correct a malfunctioning spindle cell which has caused a weakened muscle involves contact at both ends of the spindle in alignment with the muscle fibers and pulling apart towards the origin and insertion of the muscle. The procedure is repeated several times with a retest of the muscle to evaluate for strength. Therapy localization to the spindle should now be negative.

To treat a hypertonic muscle due to an involved spindle cell, contact both ends of the spindle and push together in alignment with the muscle fibers. If successful treatment has been accomplished, therapy localization should be negative.

SPINDLE CELL FASCILITATION TECHNIQUE: Due to any change of tension on the receptor portion of the intrafusal muscle fiber of the neuromuscular spindle an evaluation is made and sent over the afferent pathway. The change on the receptor area can be from contraction or elongation of the extrafusal muscle fibers, which in turn shortens or elongates the intrafusal muscle fibers. This takes place from stretching the muscle on contraction caused by stimulation of the alpha motor neurons.

SPINDLE CELL FASCILITATION TECHNIQUE (Continued)
Kenneth S. Feder, D.C.

On the other hand, the receptor area can be stimulated from gamma nerve stimulation, causing the intrafusal muscle fibers to contract, thus stimulating the receptor area of the spindle cell. Changing the length of the muscle either increases or decreases the rate of firing of the afferent nerve.

There are occasions that an involved spindle cell may not therapy localize and it is theorized that the spindle area needs to be activated in a specific neurological functioning compartment. This is accomplished by bringing the muscle through a complete range of motion and stopping to therapy localize at various intervals to attempt to elicit a response. The procedure I have been working with to elicit the therapy localization is to divide the muscles' range of motion arc into four or five compartments. As the muscle is brought from complete flexion to complete extension, therapy localization is attempted at complete flexion with continued evaluation checks made at the four or five various intervals with the last evaluation made at complete extension. This procedure is utilized to evaluate for hypoactive or hyperactive muscle functioning.

The correction of the spindle cell mechanism is achieved by standard spindle cell therapy for hyperactive or hypoactive muscles.

SPINDLE CELL FASCILITATION TECHNIQUE (Continued)
Kenneth S. Feder, D.C.

The only variation to the standard correction is that the spindle cell is corrected at various stages in the muscles' range of motion. The initial correction is made on the muscle at full extension with additional corrections made at the four or five physiological compartments along the muscle's range of motion. The last corrective point being at full flexion. An emphasis of correction should be made at the angle in the range of motion that produced the therapy localization response.

CONCLUSION: The utilization of the spindle correction at various positions in the muscles' range of motion helps to identify and correct the spindle in the position the muscle spindle may have injured in. Also, correcting the spindle in the muscles' full range of motion allows for maximum neurological stimulation. This procedure may also be utilized for the Golgi tendon receptor. A future paper will deal with this procedure.

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THE MORE MODE

by Terry L. Franks, D.C. & Richard B. Cohen, D.C.

Abstract: A handmode is discussed which can be used to bypass or clarify information.

With the advent of muscle testing, therapy localization, and the challenge,^{1,2} there has been a growing realization of the need to penetrate through the multiple layers of adaptation in an attempt to reach and solve the primary core problems. The usual pattern of working through one layer at a time can often lead us in circles.

With the development of handmodes,³ we have begun to ask very specific questions to the body, assisting in both diagnosis and treatment. Systems have been developed utilizing specific handmode procedures which bypass adaptations and quickly diagnose core issues.³

A handmode called the more mode can now allow Doctors trained in handmode procedures and those Doctors not using handmodes, to access information at a non-adaptive level.

When this handmode is used as an adjunct to another procedure, it will reveal the non-adaptive complete pattern at the level you are treating. If you are in structure and use the more mode, you will remain in structure. It will reveal the non-adaptive structural fault from its original adaptive state. The same effect is true for the chemical and electromagnetic sides of the triangle.

To hold the more mode, simply place the pad of the middle finger on the thumb nail and the pad of the index finger between the interphalangeal joint and base of the thumb nail.

Use of the more mode is quite simple and can be used in the following situations.

(1) If the more mode changes a finding of a therapy localization or a

challenge, this is an indication of a need for more information. If there is no change, it is the non-adaptive pattern at that level.

(2) The same procedure can be applied to muscle testing. If you find a weak muscle and the more mode changes the strength of that muscle, it is adaptive to another pattern. The same thing is true for ligaments, tendons, etc.

(3) In adjusting any articulation, including cranial bones, if you therapy localize each contact and the more mode changes the response, there are additional contacts needed to enhance the adjustment.

(4) The more mode can be used chemically and electromagnetically within the same context. If a muscle change is observed when placing a supplement on the patients tongue and then negated by the more mode, this finding indicates the need for further supplementation.

Fifty patients were tested using a weak muscle as an indicator. The weak muscle was tested against the more mode by the first Doctor, and the results were recorded. The second Doctor did Origin and Insertion technique^{4,2} on the muscle without knowing if the more mode had previously changed it. He then retested the muscle and recorded the results. The results were as follows:

Doctor #1 A. More mode indicated primary local problem. (18)

B. More mode indicated adaptive pattern. (32)

Doctor #2 A. Positive response to origin and insertion technique indicating primary local problem. (18)

B. Negative response to origin and insertion technique indicating adaptive pattern. (32)

The results indicate that the more mode was useful in differentiating a primary problem from an adaptation, which allows the treating Doctor to

be more accurate in both diagnosis and therapy.

The most logical theory of how the more mode works appears to be a hologram.⁵ It seems to activate a more complete comparison of three dimensional images or frequency patterns, which allows us to bypass adaptations and treat people more effectively.

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HOLOGRAPHIC SUBLUXATIONS

WITH

COCCYGEAL LIFT TECHNIQUE

DARREL W. HESTDALEN, D.C., D.I.C.A.K.

Abstract:

Clinical observations of the diagnosis of holographic subluxations with the need for coccygeal lift technique is given.

Introduction:

The theory, principle, and involvement of holographic subluxations has been discussed in several publishings of applied kinesiology literature.1,2,3,4,5.

Several papers have been published discussing the involvement of tension of the spinal dura in numerous physiological dysfunctions.2,3,6,7,8,9,10,13.

Discussion:

Dr. Gary Klepper has written on the involvement of the spine in dural tension based on his work and correlated with the work of Dr. Lowell Ward.11,12.

In an attempt to locate specific spinal involvement with the presence of a positive challenge for the coccygeal lift, I had the patient therapy localize to the spine. Initially I had hoped this would help to identify vertebra that would be involved in the stress accelerator or over defender.

concept as discussed by Dr. Klepper.

Most patients would demonstrate a positive TL to the spine . The segment(s) showing a positive TL would occasionally fit into the qualifications of a stress accelerator or an over defender or a routine subluxation. The most common finding is that of a holographic or intravertebral subluxation.

Procedure:

After correcting structural problems that are indicated place the patient prone on the table. If the Dr. holding static footward pressure on the coccyx causes inhibition of a previously intact muscle have the patient TL the spine. Three or four vertebra can be contacted at the same time. If the patient is unable to reach certain areas of the spine, have the patient hold the footward pressure on the coccyx while the Dr. surrogate TLs the spine. A positive TL occurs when the coccygeal challenge is cancelled by a spinal TL.

If a positive TL is found the coccygeal contact is released and the spinal segment is challenged for holographic subluxation by rebound challenging the spinous process and the transverse process apart or together. Correct as indicated. Occasionally other problems are found but if the initial diagnosis and treatment of structural problems was complete other findings are infrequent.

Conclusion:

It is the author's opinion that the above described observations and procedure demonstrates an interrelation-

ship between the holographic concepts and tension on the dura of the spine.

The references given offer many possible explanations as to such interactions. Further research and observation is necessary to more specifically set forth a hypothesis.

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A System of Prioritization for Psychological Reversals

By James D. Hogg, D.C.

Abstract: Many psychological reversal patients have multiple reversals. In this paper the five element theory is utilized to determine the major or key reversal which may serve to clear multiple reversals simultaneously.

By now many of us have had the opportunity to utilize the excellent work on phobias and psychological reversals by Roger Callahan Phd ¹. While phobia work is very powerful and dramatic, I find myself using the psychological reversal (PR) work more frequently in my day to day practice. Patients with PR's won't get well or will make very slow, back and forth, frustrating progress because healing has to work in opposition to their internal programming. Callahans' work allows us to access that detrimental programming and reprogram it using a combination of meridian technique and positive affirmations.

As a review of the technique I'll sort of paraphrase Dr. Callahan, adding my own variations where applicable. A person with a reversal may be reversed on any phase of their life on either a grand or very minute scale. They may be reversed on health in general (or even on living) or only on the pain on the lateral-dorsal aspect of their right fifth phalanx. Reversals are discovered using a method similar to the "lie detector" technique that is used to determine the area of emotional stress

(Prioritizing psychological reversals....Hogg.....)

in a patient. The basic diagnostic premise here is that whenever a patient makes a statement that is in disagreement with their internal programming (eg. they tell a "lie"), the resultant stress will cause testable inhibition of a strong muscle.

When you have a patient with suspected reversals, it's best to start the testing with a couple of screening questions to make sure that they are testing as expected. I usually start by having the patient say "My name is John" (if John is really his name), and test a strong muscle. If everything is operating as expected John's muscle should stay strong. I then have him say "My name is Mary". At this point John's muscle should go weak. If either of the above tests turn out other than as expected, the odds are that John has some neurological disorganization problems, switching, etc (or some severe problems with his sexual identity) that need to be corrected before your testing will be accurate.

Once it has been established that the patient is testing OK you can start testing for reversals. There are some fairly common reversals I test for using phrases like, "I want to be happy", "I want to be healthy", I want to be successful, I want to be pain free, I want to feel good about myself, I want to be forgiving, I want to be unafraid, I want to protect myself etc. A strong muscle is tested for weakening after each of these phrases is spoken by the patient. If weakening occurs, I cross-

(Prioritizing psychological reversals....Hogg.....)

check by having the patient say the opposite phrase (eg. I want to be sick). If there is a true reversal (as opposed to wishful thinking on the patients' part) the muscle will stay strong. The above phrases represent what I consider general reversals. It may be necessary to become very specific to unearth some reversals as in the fifth phalanx example above.

Once the reversal or reversals are identified, the next step is to "re-write the program". In his original paper on reversals, Callahan found that this could be accomplished by tapping at the beginning of the small intestine meridian (Si.....) while having the patient repeat "I profoundly and deeply accept myself" several times. On retesting it would be found that the reversal would be cleared. Since that time Dr. Callahan has, of course, expanded on the technique but I imagine this will be the subject of one of his future papers (How about it, Roger?).

I have found that many problem patients fall in the category of being "massively reversed". These patients not only have more than one reversal, they often seem to be reversed on practically everything! A problem that presents itself with these patients is "where do I start?". If you will refer to the five element circulation of energy ² you will note that each element has associated with it, in addition to a specific season taste etc, a specific emotion. Thus the fire meridians (small

(Prioritizing psychological reversals....Hogg.....)

intestine, triple heater, circulation sex, heart) are associated with the emotion of joy or happiness, the earth meridians (stomach, spleen) are associated with sympathy, the metal meridians (large intestine, lung) with grief, the water meridians (bladder, kidney) with fear, and the wood meridians (gall bladder, liver) with anger. In addition to these classic correlations I have found the earth meridians to be associated with reversals on protection and the metal meridians associated with reversals on self-image and self-worth.

With this in mind it is possible to prioritize for those patients who have multiple reversals. I have found that the reversal that is considered first priority by the body will have it's associated meridian show up on pulse point analysis. I simply therapy localize on the pulse points (the patient should be able to T.L. too but I find it more convenient in my office to do it myself) using both light and heavy pressures to make sure I'm covering both superficial and deep meridians. In the above example if I had a positive T.L. on the liver/gallbladder meridian pulse point (and on no others) I would know that the patients' primary reversal probably had something to do with anger, probably self anger and an inability to forgive themselves. If more than one pulse point shows positive during a test sequence I find that there is usually something of a more systemic nature going on in the meridian system usually

(Prioritizing psychological reversals....Hogg.....)

Involving a lateral occiput, diaphragm, pre-post ganglionic or Sp21 type of problem 3,4.

Often using the above prioritizing technique, I will discover a reversal that I had not thought to check for is actually the primary reversal! To recap, if a patient has multiple reversals, T.L. to their pulse points and test a previously strong muscle. The patient will have a reversal involved with the emotion associated with the meridian that tested positive (the previously strong muscle weakened when the meridian pulse point is T.L.ed) and that reversal will be the primary or first priority "fix me first" reversal.

To treat the above reversal I usually go to the point on the sheng or ko cycles that would ordinarily be treated in five element balancing. The point will T.L. if it needs treating. I then tap the point with my finger or a tei-shin needle while the patient repeats the appropriate affirmation (for instance "I profoundly and deeply accept and forgive myself"). Treatment time usually runs from 30-60 seconds and I often will notice a release of energy when the reversal finally clears. When you think the reversal has cleared, go back and retest for the reversal as you found it originally. You will probably find that, in addition to clearing the specific reversal you were working on, several or all reversals cleared at the same time!

(Prioritizing psychological reversals....Hogg.....)

If, after clearing the first priority reversal, you find one or more reversals remaining (this is more common with people who are massively reversed) you may need to re-prioritize the remaining reversals and repeat the above procedure. I rarely have to go through more than two "layers" in this manner before all reversals are cleared.

Dr Callahans' psychological reversal work can be a very powerful tool, especially in treating the difficult patient. Since many of the more involved patients have multiple or massive reversals it is extremely useful and time efficient to be able to prioritize and treat the primary reversal first. I think you will find using the five element associations as outlined above to be an effective tool in eliminating some difficult emotional side problems as well as the impact these problems produce on the other two sides of the triad of health!

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(Prioritizing psychological reversals....Hogg.....)

PAIN CONTROL THROUGH USE OF ELECTRICAL STIMULATION

BY:

Dr. Alex P. Karpowicz, Jr.,
D. C., D. I. C. A. K.

ABSTRACT

This project was to be a pilot study to determine if the basic premise of pain control involving acupuncture using electrical stimulation was valid. If so, related studies would be performed thereafter directly related to Applied Kinesiology muscle testing.

INTRODUCTION

We are all familiar with the Melzack and Wall theory postulated in 1965 concerning the pain mechanics which they called "The Gate Control Theory". Simply put, they stated that when the large myelinated nerve fibers of the skin were stimulated that they would have an inhibitory effect on the small pain bearing fibers entering the same spinal cord segment. (By stimulating the large fibers at the first spinal synapse it overloads the sensory system closing the gate for the production of the pain impulses from the smaller fibers). Dr. Goodhearts' work in the 1979 research manual proposed therapy localizing pulse points, coordinating muscle weaknesses via AK muscle testing and therapy localizing to alarm points and tapping various points to produce a relief of pain. My paper is utilizing the acupuncture meridian concept however in a different manner. There are several ways to stimulate the Meridian trigger points. Namely by the use of needles, electrical stimulation, blunt instruments, finger pressure, or laser.

DISCUSSION

The instrumentation used in this research project was a Richmar High-Volt Stimulator with probe attachment.

To take the Melzack Wall Gate Control theory a step further, we're interested in the production of Endorphins. These are some of the body's own natural opiates, thought by most authorities to be many times more powerful than Morphine. The following is the proposed mechanism by which this pain control regime works.

The stimulation of a specific site or area of symptoms sends impulses to the brainstem triggering the production of Beta-Lipotrophin/ACTH. Depending on the site of stimulation, the production of male or female hormones, cortisone, prostaglandins, or one of many types of endorphins may be found in the cerebrospinal fluid, blood stream, or gastrointestinal tract in varying levels.

For the purpose of this initial research project we are going to consider the Meridian points: Large Intestine 4, which will effect pain in the upper extremity, head and neck; Heart constrictor 6, which will effect the Thoracic area, and Bladder 51, to effect pain in the lower extremity of the body. There are many more points and uses, for any type of Meridian therapy and the effectiveness of acupuncture is far reaching to all parts and

conditions of the body. The purpose of this paper and project is related however, to pain control which is probably the primary consideration in most Chiropractic offices. Subsequent papers will delve into the other associated areas and further encompass the related work of Applied Kinesiology.

PROCEDURE:

A. Endorphin Stimulation Mechanism.²

1. An electrode of a diameter no more than a dime should be used.
2. A pulse rate of 4 to 6 pulses per second, using a constant pulse, and pulse interval of 255p.
3. Stimulation of endorphins should be to the exact site of pain or symptoms, and to the intensity that will produce muscle contractions and/or patient tolerance.
4. The time of treatments to the area of complaint and the associated trigger-point should be 20 to 30 seconds.
5. Our points of stimulation are again Large Intestine 4, Heart constrictor 6, Bladder 51.

B. Locating acupuncture points.

There are several ways to locate these points along the Meridian pathways.

1. Therapy localization.
2. Palpation of Fibrositic nodules not dissimilar to the Rheumatoid Nodule which is located in the neck, shoulders, etc.
3. Induration areas (hard areas) much like a nodule.
4. Atrophic areas. These are recognized by swollen and/or discolored areas.
5. Evaluation of skin resistance with electrical current.

6. Human inch or cun.

The human inch can be measured by the distance between the patient's two joint creases of the volar surface of the middle phalanx of the middle finger when it is flexed; or by determining a measurement of the width of the patients thumb. The description of the anatomical location of our three points are:

- A. Large Intestine 4. The point is located halfway between the Proximal and distal aspects of the 2nd metacarpal, just lateral to it's radial side.

- B. Heart Constriction 6. This point is found on the anterior surface of the forearm directly midline two cun from the largest transverse crease of the wrist.

- C. Bladder 51. This point is found in the longitudinal midline of the posterior thigh, halfway between the gluteal and popliteal creases.

RESULTS:

There were 10 patients tested for pain in various locations of the upper extremity utilizing large intestine 4. Out of the 10, six patients responded as having noticeable immediate relief, that was attributed to the acupuncture stimulation to produce endorphins. In the Thoracic areas two patients were tested, one received noticeable relief. In the lower extremity 15 patients were tested and nine patients received noticeable relief in the lowback area and lower extremity utilizing Bladder 51.

It was interesting to note that patients either experienced noticeable relief from the procedure or no help whatsoever. Sometimes a patient would experience some degree of relief immediately after the procedure was completed and within the next 24 hours the relief would continue to increase to up to 100%. If there was noticeable relief from the first treatment, subsequent treatments would be utilized to reach 100%, seldom requiring more than 2 or 3 additional treatments.

Some specific areas that were outstanding were one of an acute, severe Sciatica that when the patient returned the next day was 100% asymptomatic. A case of a Brachial Neuralgia wherein the patient was in extreme pain and couldn't raise the arm to a horizontal level that immediately after was much improved and had full range of motion. Another case involved a patient who had tailor's

bunion surgery and was in constant pain that was immediately alleviated after the therapy.

In some cases it was found best to stimulate the site of symptoms and then utilize the acupuncture point on the opposite site of the body and this would bring relief quicker than unilateral treatment. In all cases the patient was informed that this was strictly pain control and was not correcting the cause of the problem. The Chiropractic adjustments and related muscle balancing needed to be done to prevent reoccurrences of symptoms and to complete the rehabilitation of the condition.

IN CONCLUSION:

While this was an initial pilot study I have to thank Dr. Goodheart for his initial work in Melzack Wall pain control and recently Dr. Paul Jaskoviak for the majority of work utilizing electrical stimulation as well as his very excellent book "Applied Kinesiology". There are many ramifications of this work that can be utilized in the field of Applied Kinesiology. Meridian therapy whether utilizing electrical stimulation, needles, pressure, etc. has been gaining world wide acceptance and interest. In France ECG reading of heart patients treated by acupuncture have resulted in improvements. Russians working with acupoints using a sensitive Sethoscope noticed a change in

sound over acupoints. They also noted a difference in the skin temperature of acupuncture points.

Kitzinger, a medical doctor, believes that while the acupuncture results certainly can be spectacular it is with the utilization of Chiropractic and electrical therapy along with other modalities that is the complete treatment procedure to achieve therapeutic breakthrough.

The basic premise indicated a valid reason for additional research. In conversation with Dr. Goodheart, he suggested varying the Hertz cycle frequency (pulse per second) to see its effect on pain control and muscle strength. This will be my next research project and I welcome any ideas for related projects.

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ENERGY, SPINAL POSTURE, AND THE FORCE CORRECTION EXERCISE

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ABSTRACT: A model is presented which allows information obtained from a simple postural examination to be used to classify a patient's biomechanical status as it relates to Selye's stress continuum. A simple exercise designed to reverse the patient's tendency towards energy dissipation and mechanical degeneration is outlined.

Introduction

Postural examination has long been used as a method for gaining certain insights into the biomechanical integrity of our patients. In fact, it is very common to see the Chiropractic profession presented to the public utilizing the format of postural analysis to determine any existing asymmetries in the spine and to recommend therapy if any are found. However, there seems to be little understanding within our profession of the function of spinal asymmetries, exactly why they are created by the body, and what they can communicate to the doctor about the patient's status on the mechanical, biochemical, and psychological levels.

Dr. Lowell Ward presented some outstanding observations about the functional significance of spinal curvatures through his body of work known as Stressology. His observations on scoliosis progression alone give such significant insights that they should in my opinion be required study in all chiropractic colleges. However, more recent observations, developed by the combined efforts of Dr. Ward along with Dr. James Said of Grant's Pass, Oregon, and Dr. Ans Blais of Palo Alto, California, have

led to the development of new and practical concepts that can significantly improve the clinical results of any chiropractor regardless of the technique utilized. It is from understanding gained as a result of my personal communications with these individuals that the information in this paper is presented.

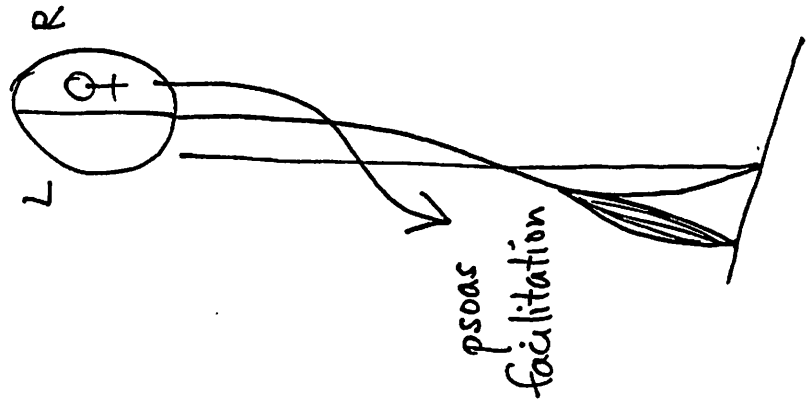
Brain Dominance

Of fundamental importance in understanding this model is the fact that brain dominance is a function of gender. This concept is derived from the writings of Randolph Stone, the founder of polarity therapy. It states that there is a fundamental difference between men and women in the way that their bodies react when placed in a position of stress. The difference is a function of brain dominance. By brain dominance I am not referring to cortical hemispheric dominance as it determines handedness and other neurological functions, but instead am referring to a basic polarity difference that exists and differentiates manifestation as a male versus a female human being. For our discussion, the male is considered to be left brain dominant and the female to be right brain dominant.

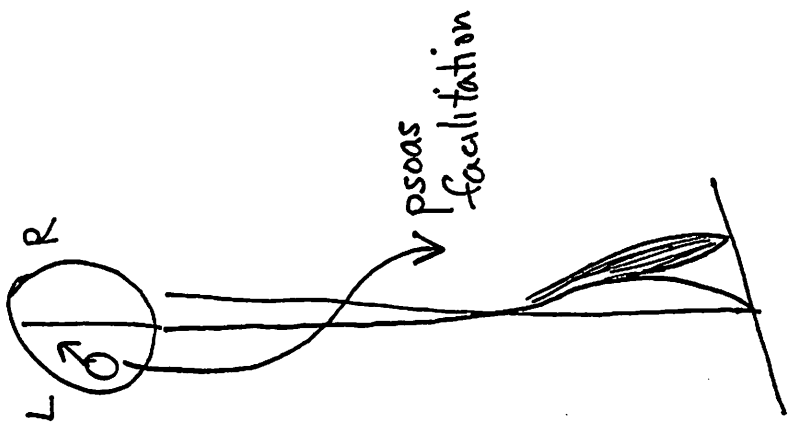
There are at least two explanations of how brain dominance creates postural asymmetry. The first explanation is that when muscle contraction is initiated by stress, there will be a selective overfacilitation of the psoas on the side opposite brain dominance resulting in a pelvic lift and a deviation of the lumbar spine on the side of psoas facilitation (figure 1). The other explanation is that an overall expansion of the energy

Neurological Model of Brain-Dominance

Figure 1



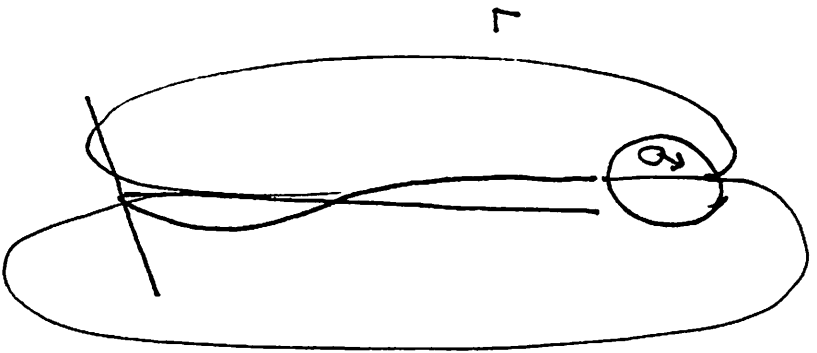
♀
AP view



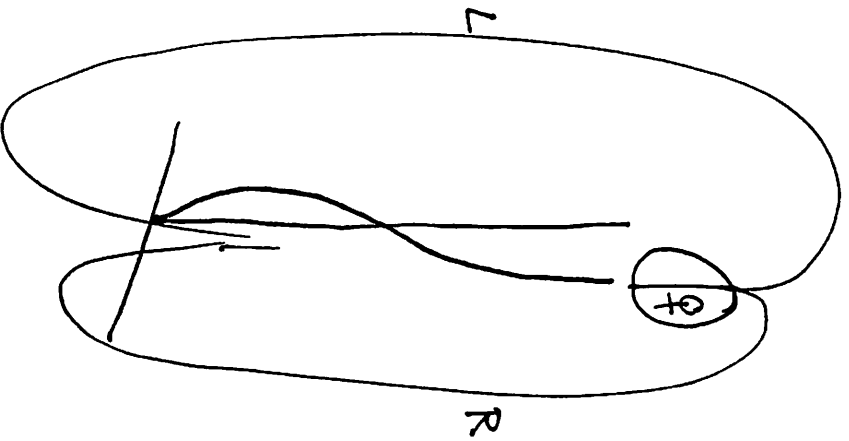
♂
AP view

Figure 2

Energy Model of Brain Dominance



Relative expansion
of energy field
on side opposite
brain dominance



♂
AP view

♀
AP view

field is created on the side opposite brain dominance (figure 2).

The net effect is that, taking the example of the male, we have a postural alarm reaction consisting of a high iliac crest on the right, a lumbar convexity to the right, a pelvic rotation towards the right, a torsion of the femoral heads towards the right, and a compensatory lateral shift of the spine above the diaphragm to the left. The body's energy field is relatively expanded on the right and contracted on the left. This explains Dr. Ward's observation that when recovered, males are left stress dominant and females are right stress dominant.

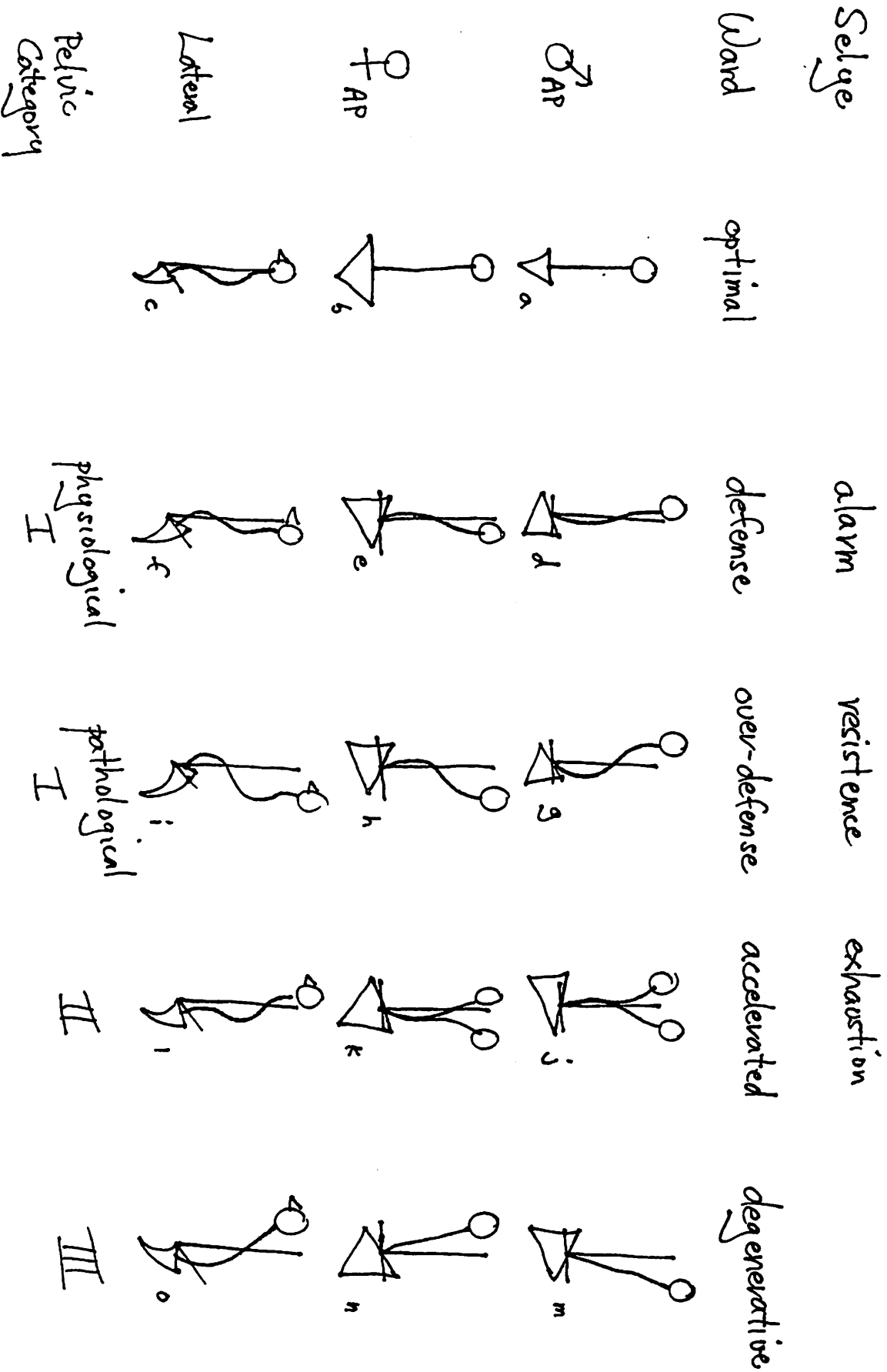
Posture and the Stress Continuum

The example given above applies only to the male in the alarm reaction. To understand other patterns of posture that will be seen in practice, refer to figure 3 which shows typical views of the male and female spine in all of the stages of stress progression.

In the optimum or ideal spine (figures 3a,b,c,), the A-P posture shows a straight spine, level pelvis, no rotation. The lateral view shows a 50 degree sacral base angle, the gravity line projected upward from the anterior aspect of the sacral base passes through the center of the body of the 3rd lumbar, and the intersection of the odontoid with the anterior arch of the atlas. This is an ideal configuration which is only appropriate in a zero stress situation, which does not occur in nature.

In the alarm stage of stress, which Ward refers to as the defensed stage, (see figures 3 d,e,f), there is a deviation of the lumbar spine away from the side of brain dominance and a

Figure 3
Stress Progression Continuum



pelvic lift on the side opposite brain dominance. Above the diaphragm, the spine drifts to the side opposite the lumbar convexity to balance it. The lateral view shows a high sacral base angle, a slight lumbar hyperlordosis, and the upper spine is deviated posteriorly. These postural reactions represent the body's attempt to brace or defend itself against an applied stress.

In the resistance phase, which Ward calls overdefense (see figures 3g,h,i), the scoliotic curves and pelvic lift are as they are in the alarm stage, only exaggerated. Findings on the lateral view are again exaggerated beyond those in the alarm stage. This stage represents a reaction to chronic stress, in which the body has become locked into its defensive patterns so that they are active even when the stress has passed. In other words, the defense pattern is inappropriately exaggerated to the point that it has become a pathological stress in itself.

The exhaustion phase, which Ward refers to as stress acceleration, (see figures 3j,k,l) shows a loss of defensive lumbar curvature, with the lumbar scoliosis beginning to drift towards the side of brain dominance, and a loss of pelvic lift. The upper spine may be to either side, depending on specifics. The lateral view shows a reduced sacral base angle, the lumbar lordosis is reduced, with the L3 drifting posterior to the gravity center line, and the upper spine drifts anterior.

The degenerative stage represents a significant and often irreversible loss of all areas of biomechanical defenses against gravity and other stress forces. As shown in figures 3m,n, and o, pelvic lift has collapsed into a pelvic drop and the entire spine

has drifted opposite the brain dominant side. In the lateral view, the sacral base angle is very low or even negative, the lumbar spine has become kyphotic, and the upper spine is anterior to the weight-bearing line.

Keep in mind that not all parts of the spine will always display the same stage of the stress continuum simultaneously. The description given above is idealized for the purpose of illustrating the classical presentation of each stage.

The postural information discussed here can often be obtained using a postural analysis apparatus (plumbline). If there is doubt about findings, or if greater detail or documentation are needed, then the use of full spine Xrays are recommended to obtain that information. Examining the patient both in the standing and the sitting postures is highly recommended, as the standing postures tend to display a presentation of having much more intact defenses than the sitting posture, and both must be considered in a true evaluation of the patient's status.

Reversing the Stress Pattern

Too often a patient presents with specific problems to be solved or symptoms to alleviate, and the doctor does so quite successfully and to the satisfaction of the patient, yet the patient continues to slowly dissipate energy along the stress continuum until eventually entering an irreversible degenerative condition. It is the chiropractor's task not only to relieve symptoms and to repair acute tissue damage, but to teach the patient how the reverse to pattern of stress-degeneration so that

with time they become healthier and more energetic. One method which is very helpful in reversing the tendency toward degeneration is the force correction exercise.

The force correction exercise, developed by Dr. Ward, involves walking intermittently on a large heel lift in order to induce a therapeutic stress which will cause the body to react in a desired manner. In order for the stress induced to be sufficient to bring about real change, a 2 inch leg length differential is induced. This is done by having the patient remove one shoe and walk on one shoe which has approximately a 2 inch bottom. Regular shoes can be worn if the patient inserts approximately 5/8 inch of lift into the shoe being worn, leaving it in place only during the time that the exercise is being performed. The pattern of this exercise is very specific and different for each stage of stress progression as outlined above.

A few basic rules apply which will determine the pattern of the force correction exercise. First is that the lumbar curve as seen in the A-P view is considered to be the primary defense curve. The first part of the exercise is to normalize this curve. The secondary defense is the pelvic lift. The second part of the exercise is to normalize this. The second rule is that the length of time and frequency of the exercise is determined by the intensity of the biomechanical pathology. The patient must actually walk during this time, not just stand on the shoe. They must be warned not to drastically exceed the amount of time prescribed on each side so as not to induce exhaustion.

The alarm stage represents an appropriate reaction to

stress. No force correction is needed in this stage.

The resistance stage represents an overdefense. The shoe is first worn on the side of increased lumbar convexity (side opposite brain dominance) for 2-5 minutes, then that shoe is removed and the other shoe worn for approximately the same amount of time.

The exhaustion stage represents a breakdown of defenses. Most patients who present with active symptoms will be in this stage or the degenerative stage of stress progression. Here, since the lumbar convexity has generally drifted across to the side of brain dominance, the shoe is worn first on that side for 4-5 minutes, then on the side opposite brain dominance for 1-2 minutes if the pelvic drop is slight (0-2 mm) or 4-5 minutes if the pelvic drop is greater than a few millimeters. This is done 3-4 times per day.

In the degenerative stage, defenses are collapsed. Here the patient will walk on the side opposite brain dominance for 5 minutes 4 times per day. If the person has lots of joint degeneration, they may not be able to tolerate a full 2 inch lift. In such a case simply have them remove one shoe and use a relatively flat shoe to do the exercise, which now consists of just being up and around on the feet, wearing only the shoe on the foot opposite brain dominance, for 20 minutes at a time 4 times per day. Generally, an indwelling heel lift is needed in this stage, whose height can be determined by the usual AK methods.

To test the efficacy of the force correction exercise is a simple matter. Just test for all levels of positive therapy

localization, fixations, weak muscles, or other findings, and record them. Then have the patient force correct, and recheck the original findings. A properly prescribed force correction exercise will cause most of the original findings to disappear, leaving either no positive findings or just one type of problem still displaying. This implies that a tremendous amount of static has been removed from the system, and the body is now better able to present its priority for evaluation and therapy.

If the doctor is acquainted with hand molding procedures, he can test for the appropriate pattern of force correction in another way which is more objective. Since this will not be the topic of this paper, if interested please contact the author for a description of this procedure.

Wedge Cushions

In the exhaustion and degenerative stages, generally there will be seen a sitting posture in which the patient has a reduced or reversed lumbar lordosis, a reduced sacral base angle, and a forward posture with flexion occurring at the waist. If the patient must sit to any great degree at home or in their occupation, they must have the posture retrained in order to reverse the energy dissipation.

A major part of this involves training the patient to bend predominantly from the hips while leaning forward to write, read, or eat, rather than flexing at the waist. Sitting in a Balans chair helps considerably. If this is not an available option, or if knee trouble makes such a chair undesirable, the wedge cushion is substituted.

The wedge cushion is a dense foam pad which is placed on a chair during sitting. It measures generally 3 inches thicker at the back than at the front, creating a forward slanting surface on which to sit. Also available are 2 and 4 inch wedge cushions. This should be used during all sitting on relatively flat, firm surfaces. While driving or sitting on a soft surface such as a sofa or easy chair, it is preferable to place the cushion with the thick part down and resting at the apex of the lumbar lordosis.

To test for the proper height of wedge cushion is simple. First, with the patient sitting on a flat surface such as a low stool, test a strong indicator muscle before and after challenging the skin of the lumbar spine and the upper thoracic spine with both an upward and a downward stroking challenge. What is usually found in improper sitting posture is a positive challenge with downward stroking over the lumbar and with upward stroking over the thoracics. Next, have the patient sit on various heights of wedge cushions until a height is found that neutralizes both upward and downward skin receptor challenges. Have the patient use that height of wedge cushion and train them in proper posture.

An additional use of the wedge cushion is to torque the cushion forward an inch on the side opposite that to which you wish to deviate the lumbar spine. This method can be used to create a "squirming" exercise similar to the force-correction, in which first one side then the other of the wedge cushion is rotated forward. This is very useful in those with a degenerative posture who must do desk work for a living. Here

you would have the male patient rotate the right side forward for 20 minutes, then forward on the left for a minute or two to relax, then sit with the cushion straight for 20 minutes, then repeat.

Summary

The energy-stress model is a useful one for doctors who wish to understand the process by which the spine moves from normal biomechanics into degenerative changes. It explains why we can often fix the patient's symptoms but watch their overall status worsen.

What has been presented here is only one aspect of only the mechanical side of the energy-stress model. The model is as applicable to biochemical and psychological processes, and lends a great understanding of what is happening with our patients on these levels.

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Testing Nutrients using Chewing of the Substance

David Leaf

This paper will discuss an observation of the author that when chewed some nutrient supplements will alleviate the tenderness found in neurolymphatic reflexes or over the organ that is suspected to be involved.

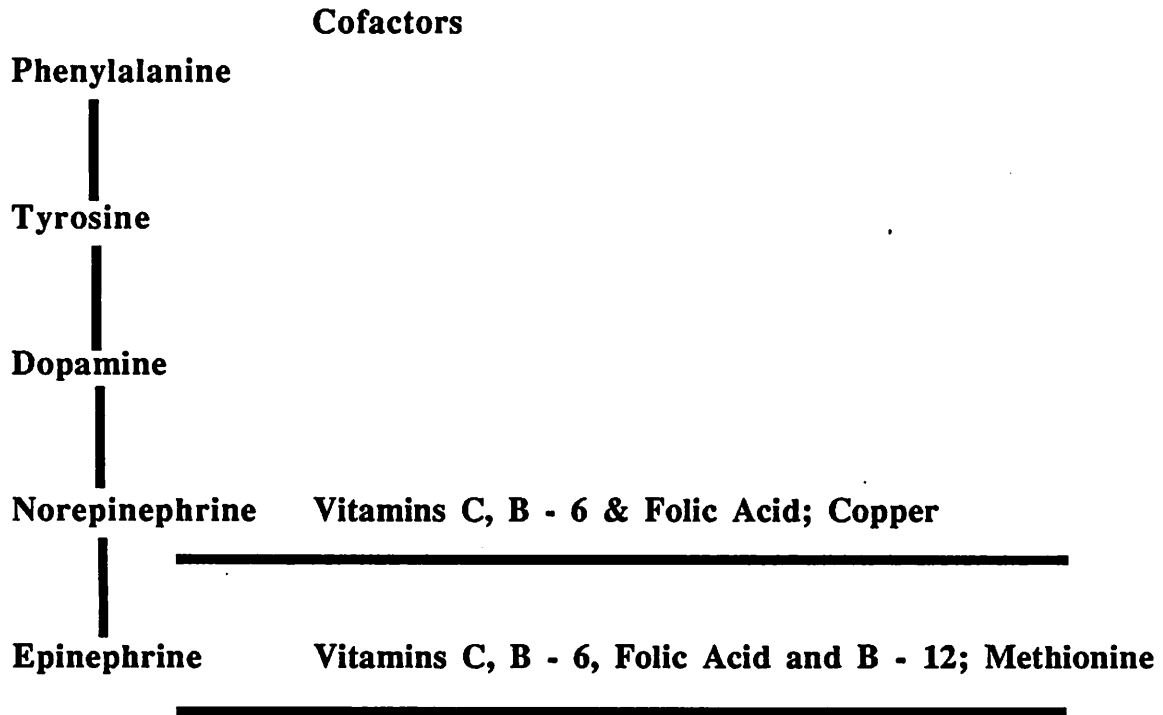
For years, it has been my observation that many supplements when tested against a weak muscle may strength the weak muscle. A case inpoint would be the pectoralis sternal division. When found weak, it could strengthen to vitamin A, a liver extract, lipotropic factors, certain formulas of B complex or even bile salts. The question was always "Which is the best supplement to recommend to my patient?". It was also curious that many lymphatic reflexes would be extremely tender when stimulated causing dramatic patient discomfort when they were stimulated.

While preparing for a seminar on the glandular system, I reviewed the metabolism of cholesterol and in studying the material realized that niacin was essential for the transformation of cholesterol into progesterone. I was aware that B-6 was necessary in the tyrosine based hormones. Armed with this information, I began testing patients not for the glandular extracts that might be indicated for their muscle weakness pattern but for the coenzymes that might be deficient. A pattern soon appeared that showed most patients responding to the co-factors necessary to form the hormones that were associated with the organ-muscle relationship weakness that was found. The next step was to have the patient chew the different products and with this another pattern was found. Usually, only one type of product, vitamin, mineral, amino acid or glandular extract would alleviate the pain over an active lymphatic reflex. This was most dramatic when the gluteus medius or piriformis was found to be involved.

Consequently, I recommend that you test all nutrients that could be associated with the functioning of any organ, if you suspect an organ imbalance, or with the maintenance of normal muscle function in the case of a muscle weakness. If the lymphatic reflex is tender to palpation or the organ is tender strongly suspect a nutrient deficiency. Test these nutrients sublingually by asking the patient to tell you when they taste them before testing for strengthening of the muscle. Then have the patient chew the tablets that strengthened the weak muscle, each time repalpating the tender areas. When you find a supplement that reduces the tenderness by 80 - 90% recommend that supplement to the patient.

Do not forget to stimulate the lymphatic reflex after you find the appropriate nutrient. It will no longer be tender to palpation but using other Applied Kinesiology procedures like Right/ Left brain activity will demonstrate the need for the stimulation.

The following chart demonstrates some of the cofactors in the production of norepinephrine and epinephrine.



This paper has described a trial method of determining the best nutrient to support a patient for a specific muscle weakness. It also will hopefully act as an encouragement to 'crack the books' and learn just how the body works.

CERVICAL EXAMINATION USING APPLIED KINESIOLOGY

David W. Leaf

This paper will discuss the use of Applied Kinesiology in the examination of the cervical spine. A discussion of some of the common pain patterns found in this region will be covered and specific tests and procedures will be given to lead the examiner to a quicker and more complete evaluation of the patient.

For this discussion, it will be assumed that the examining doctor will have already or will perform the standard neurological and orthopedic tests for complaints of the cervical spine.

The author has found that many patients have symptoms which are referred to the cervical muscle structure from other areas and that these referred pains complicate the diagnosis of injury to the cervical spine and its related structures.

The following conditions will be discussed and specific diagnostic tests for each will be discussed.

1. Temporomandibular Joint (TMJ)
2. Shoulder - Acromioclavicular joint problems
3. Cranial faults
4. Pelvic - gait imbalances
5. Hidden cervical disc
6. Subluxation - disc involvements
7. Cervical Imbrication
8. Thoracic Outlet Syndrome

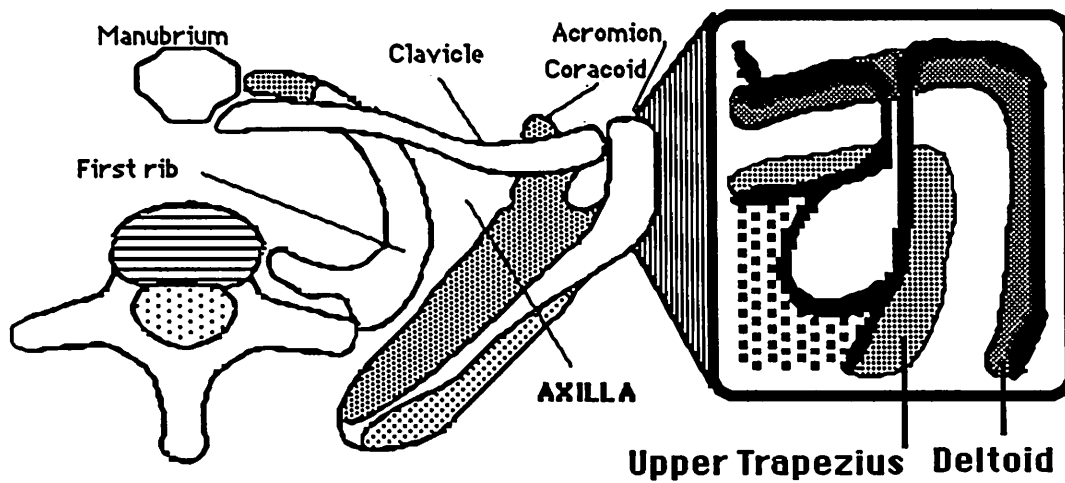
If in examining a patient you find that there is tenderness in the upper trapezius and the scalene muscles you should consider that the pain may be referred from the TMJ on the same side as the symptoms.

If you suspect that the TMJ is involved, the following is a simple procedure to rule out reflex pain from this area. Take a tongue depressor and ask the patient to bring the central incisors together and hold the depressor between the teeth. Tell the patient not to occlude hard on the tongue depressor. While the patient is holding the depressor between the teeth, repalpate the upper trapezius and the scalene muscles that previously were tender. If the tenderness has decreased, then

at least part of your patient's symptoms are referred from the TMJ. Usually, there will also be tenderness across the base of the skull on the side of the involved TMJ.

With the incisors together and separated by the tongue depressor, the teeth are placed out of occlusion and the condyle is moved into an anterior position.

Many patients complain of tenderness along the upper trapezius muscle extending along the cervical spine towards the occiput. If just upper trapezius tenderness is found, test the deltoid for weakness. The combination of a weak deltoid and a tender upper trapezius is usually indicative of a strain of the acromioclavicular joint. The next diagram shows a view of the top of the shoulder. Note how the deltoid supports the distal aspect of the acromioclavicular joint while the upper trapezius supports the proximal portion of this joint.



Enlargement of the A/C Joint

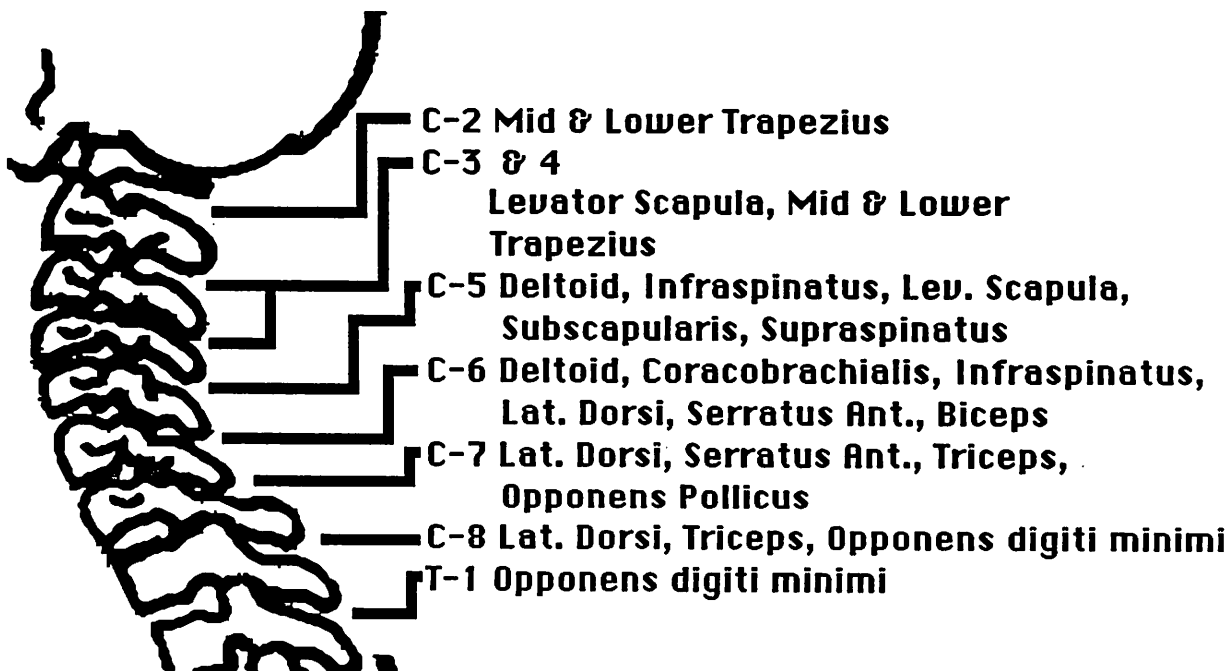
When the acromioclavicular joint is injured, the deltoid muscle is usually injured first and the joint begins to separate. Following this, the upper trapezius reacts to this weakness by tightening and creating stress along the length of the cervical spine. Approximation of the joint with your hand, thumb on the scapula and fingers along the clavicle, will strengthen the weakened deltoid and reduce dramatically the tenderness in the upper trapezius. If this is found, treat in the normal fashion.

At least three different types of cranial faults can cause reflex pain in the cervical region. Cruciate suture jamming will cause reflex pain at the third, fourth and fifth cervical area that is relieved when the suture is separated.

The sternocleidomastoideus muscle can be changed in function when the lambdoidal suture is jammed. This will cause tenderness in the body of the SCM. This is a common finding in auto accidents where the skull strikes back against the headrest.

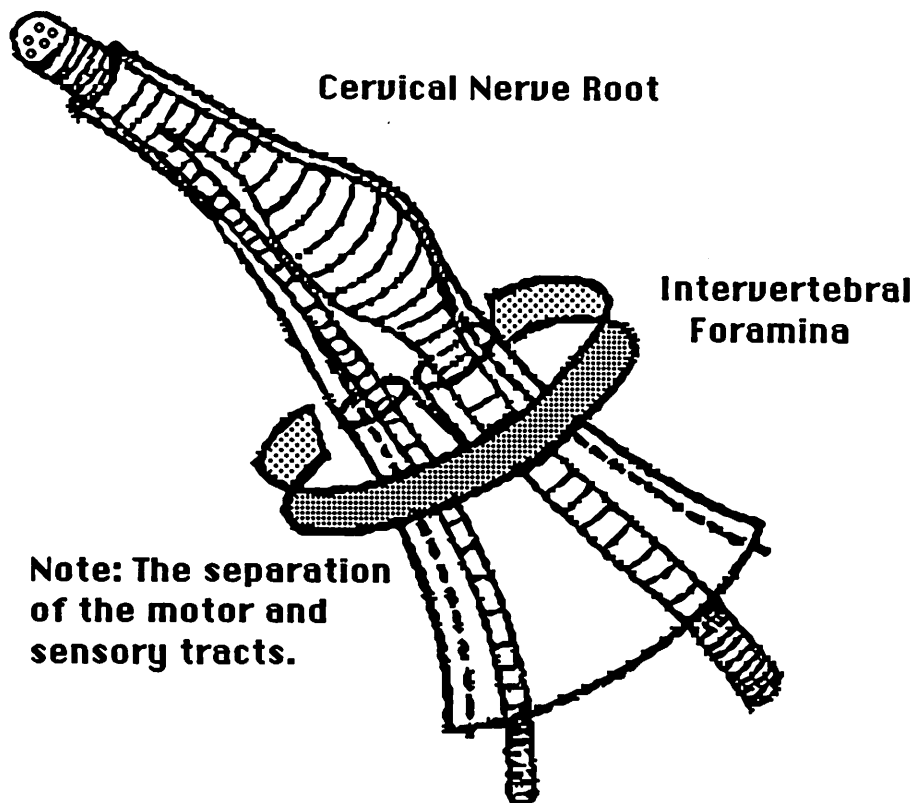
The temporalis muscle is usually found to be contracted and sore to palpation on the side of a sphenobasilar fault. On the same side, there will many times be tenderness along the base of the occiput.

The Hidden Cervical Disc can be challenged for by vertex pressure on the skull causing weakness of the wrist extensors. Localized tenderness will be found along the lateral margin of the cervical spine at the level of the cervical segment that has been malpositioned in an anterior direction. A common level of involvement is at the sixth cervical and you will find a triceps weakness in these cases. This triceps weakness will be found along with an opponens pollicus weakness. Decreasing the cervical lordosis by having the patient tuck the chin and straightening the cervical spine will usually strengthen the weak associated muscles and relieve the tenderness that will be found along the nerve root.

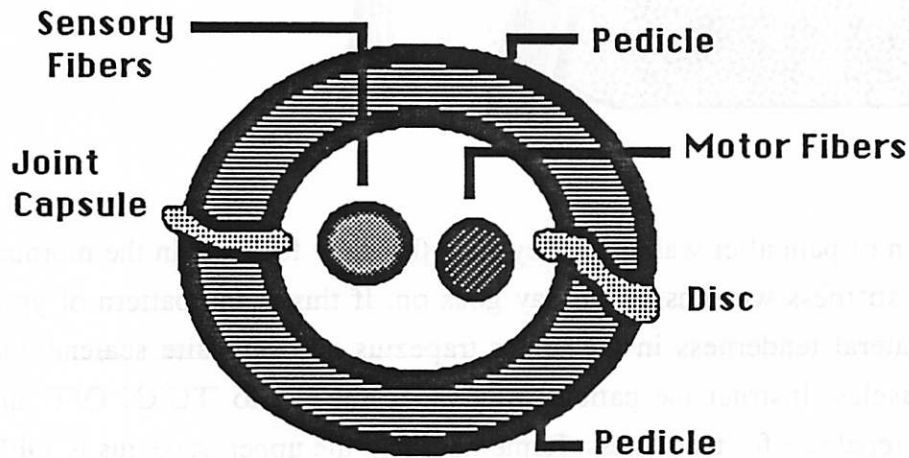


Imbrication, approximation of the facets, will cause weakness in the muscles associated with the vertebral level found. After testing the muscles innervated by the cervical nerves, have an assistant grasp and lift the patient's head after the patient has tucked the chin in and flattened the cervical lordosis. This separates the vertebra at the facets and will increase the strength in the weak muscles if an imbrication exists. If an assistant is not present, have the patient straighten the cervical spine and place the head and then the neck into flexion to apply stress on the facets as to separate them. If an imbrication problem is found, place the patient supine on the table and grasp the base of the skull with your middle finger and the vertebra associated with the problem with your index finger. Using a traction move, pull sharply and separate the vertebrae.

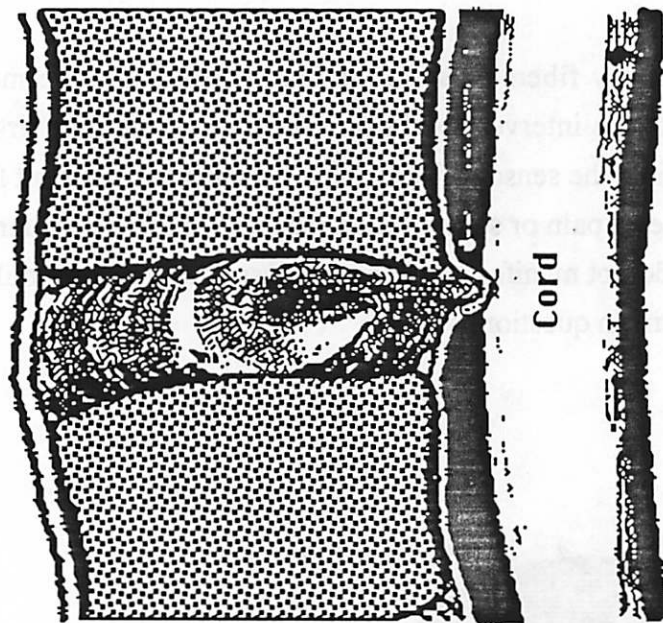
A cervical disc problem can be isolated due to the muscles that are innervated at that level. Goodheart mentions this in his 1986 Manual, and credits Bandy with discussing this. Due to the fact that the sensory nerve and the motor nerves are not united but separated at the IVF, causes errors in looking only at muscle weakness when examining for disc or articular capsule involvement. An evaluation of the sensory as well as motor distribution of each nerve must be made and correlated.



Note the location of the sensory fibers close to the joint capsule and the motor fibers that are located in close proximity to the intervertebral disc. Swelling of the disc first affects the motor fibers before impinging against the sensory fibers. This explains the frequent finding of muscular atrophy found in the absence of pain or sensory disturbances. Likewise, patient's can exhibit pain and sensory symptoms that do not manifest muscle weakness patterns that would be expected to be associated with the dermatome in question.



If a patient has symptoms related to the same side arm and leg, it is possible for a cervical subluxation to be the causative factor. A possible explanation for this is that the involvement in the cervical spine creates a bulging of the disc structure that impinges against the spinal cord creating the pain pattern. Test for this by having an assistant apply vertex pressure on the skull in a straight inferior direction and test for weakening of the leg muscles. If the cervical problem is causing the pain in the low back, only those muscles related to the spinal level of the pain pattern of the patient will be found to test weak. This is not a general challenge that will cause weakness in all strong muscles but just in those muscles that are associated with the patient's pain pattern.



Some patient's will complain of pain after walking. They state that they feel fine in the morning after loosening up, but the stiffness worsens as the day goes on. If this is the pattern of your patient, you will find unilateral tenderness in the upper trapezius and opposite scalene and sternocleidomastoideus muscles. Instruct the patient to advance the leg to 'TURN OFF' the muscles that are tender and repalpate for tenderness. Remember that the upper trapezius is 'OFF' on the side of the forward leg. This quick test tells you that you have dural stress coming from the pelvis.

In taking the case history, ask the patient if his/her symptoms become worse if they carry a heavy object, wear a winter coat or at night while they are sleeping. A positive response to any of these questions may indicate the presence of a thoracic outlet syndrome. A simple test is to check the strength of the opponens pollicis and digiti minimi with the arm by the side. If these muscles are found strong, have the patient raise the arm above the head and retest for strength of these muscles. Weakness in this position may indicate involvement of the upper trapezius, levator scapula and the neck extensors. Check these muscles for fascial involvement, strain counterstrain and walking inhibition failure (failure to 'TURN OFF' in the appropriate stride pattern). After correcting the muscles found, always check for the presence of a seventh rib - first rib fixation pattern along with the normal corrections that you would consider appropriate.

If the neck pain after walking is also associated with drastically reduced cervical rotation, check for a Category II pelvic problem. This problem causes tenderness at the first rib that leads to the restriction in cervical rotation and a lateral flexion of the skull when the patient flexes or extends the neck.

This paper has attempted to describe some of the examination procedures used by the author to streamline his examination of the cervical spine. It is hoped that this aids others in their examination procedures.

Some of the drawings used are courtesy of MacMedic Publications, Inc., Houston, Texas
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SCREENING FOR HEAVY METAL TOXICITY IN THE APPLIED KINESIOLOGY PRACTICE

MICHAEL LEBOWITZ D.C.

ABSTRACT: A possible quick applied kinesiology screening tool for heavy metal toxicity is discussed.

One hard to identify factor that can either keep kinesiological findings returning time and time again, or keep symptoms from entirely abating is toxic metals in the system ¹. It is not the authors' purpose to discuss signs, symptoms, etc. of heavy metal toxicity as there are already many fine books on the subject ^{2,3,4,5}.

This author, as well as many other of us, have had a few patients who have had complex multiple endocrine, allergic, prostaglandin imbalances, and other symptoms. The most difficult of these patients after weeks or months of treatment have been more improved than they had ever previously been under anyone else's care, yet still are only 50-70% symptom free. Being the perfectionist that I am- I had frustratingly almost run out of things to test. At this point all or almost all of the glandular, visceral, and biochemical imbalances were negative. We felt at that particular point in time that heavy metal toxicity might be an aggravating factor in their conditions.

We live in one of the poorest areas of the country and conduct a low volume research oriented practice and try to keep expensive lab tests to a minimum. Knowing of no quick screening tool to test for heavy metal toxicity, I felt that it would be advantageous to develop one.

We took our six "most difficult" patients, whom we had been using gamma-2

Heavy metal screening

muscle testing⁶ on for five months. These patients were still exhibiting gamma-2 weaknesses yet, they didnt respond to the normal gamma-2 factors⁷. These factors include cranial faults, tonic labyrinthine reflexes, hormonal imbalances, systemic nutritional problems, pituitary/pineal problems, kinin and histamine allergy reactions, emotional factors, tilt technique, thymus problems, acupuncture points on the head, TMJ, etc.

We were aware of two specific supplements that are used to chelate heavy metals out of the ststem. One is Exitox by Nutri-Dyn,⁸ the other is the herb yellow dock available from Nu-Pro⁹.

On these six patients, both of the above products negated gamma-2 muscle weakness. We decided to test both products to feel fairly assured that the patients might have heavy metal toxicity and not just have a need for one of the individual ingredients of Exitox such as vitamin C or methionine. We then proceeded to do a hair trace mineral analysis on each of the six patients. There was no control group. Upon receiving the results back, we found all six patients to be high in at least one (usually two) toxic metals.

	<u>Cadmium</u>	<u>% over accept. limit</u>	<u>Aluminum</u>	<u>% over accept. limit</u>	<u>misc.</u>
<u>Patient 1</u>	.11	267%	3.3	267%	
<u>Patient 2</u>	.17	467%	2.6	189%	
<u>Patient 3</u>	OK	----	1.6	78%	Ni- 33% over
<u>Patient 4</u>	.36	900%	4.2	367%	
<u>Patient 5</u>	.04	33%	.90	0%	
<u>Patient 6</u>	.04	33%	1.3	44%	Pb- 25% over

Maximum acceptable limits are Al-.9, Cd-.03, Ni-.15, Pb-.80

Heavy Metal Screening

This is a small sample yet six out of six is a good response.

Our procedure now is to screen weak gamma-2 muscles on Exitox and yellow dock and record the results. If they negated the weakness we wait a few visits until we have cleared out most gamma-2 factors and retest. If it is still positive we assume heavy metal toxicity and test other heavy metal chelators such as zinc, germanium, selenium, copper, etc. and supplement with the ones that negate the weakness (usually the Exitox and yellow dock are sufficient).

Usually within a few weeks the above products will no longer negate a gamma-2 muscle weakness and are no longer indicated. Occasionally at this point these supplements will cause universal muscle weakness. Of the patients in the chart, patients 3,5, and 6 needed 3 Exitox and 3 yellow dock a day for 7-10 days. Patients 1,2, and 4 needed 6 of each per day for periods of 3 to 6 weeks. This of course is due to the higher levels of metals present in these patients.

If you try this technique, please share your experiences with me.

Conclusion

Exitox and yellow dock negating gamma-2 muscle weakness appears to be a quick inexpensive screening test for heavy metal toxicity.

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Screening for Essential Fatty Acid Problems: An Addition

Michael Lebowitz D.C.

Abstract: More than one type of non-steroidal anti-inflammatory drug may need to be tested to screen for essential fatty acid/prostaglandin problems in the difficult patient

One of the most valuable screening tools I have been using in my practice was developed by Walter Schmitt Jr. a few years ago. He found that if aspirin strengthened weak muscles it was a probable indication of an essential fatty acid/prostaglandin problem¹. Upon finding a weak gamma-2 muscle² strengthen on insalivation of aspirin, we would proceed to test linseed oil, olive oil, and all the vitamin and mineral co-factors necessary to convert essential fatty acids to prostaglandins³. Treatment would include supplementation with the products that negated the weakness and counselling the patient to eliminate hydrogenated fats from the diet. The results were often spectacular in terms of symptom relief on chronic patients.

Whenever taking a patient history and they would mention headaches, arthritis, etc., I would always ask them "Does aspirin help?"- usually if they responded yes, a prostaglandin problem would be present.

I have had several chronic patients who initially tested positive on the aspirin screening test and after the proper supplementation would no longer strengthen on aspirin. These particular patients received only partial symptom relief even after most other findings were also negative. Going back over their records I noticed that they said that only ibuprofen (motrin, advil, etc.) would bring them temporary relief.

E.F.A. screening: an addition

On these patients we found ibuprofen to negate gamma-2 muscle weakness while aspirin no longer would. Testing the various vitamin/mineral co-factors, some would strengthen (most often zinc) and supplementation would greatly help symptoms.

Since the mechanism of the different non-steroidal anti-inflammatory drugs is not completely known, it appears to the author that in some cases more than one of these substances might be useful in screening for imbalances. It would make sense that the one to test first would be the one the patient finds most effective.

I hope this tiny addition to this wonderful screening tool will be as useful to you.

Conclusion

If you suspect an essential fatty acid/prostaglandin problem but the aspirin screening test is negative, it is beneficial to screen with ibuprofen and other similar substances also.

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Universal Muscle Strength and Copper Deficiency

Michael Lebowitz D.C.

Abstract

The condition of universal muscle strength unresponsive to sedation techniques is discussed in relationship to copper supplementation.

In the fine paper by Sheldon Deal and Richard Utt ¹, in the summer 1986 COLLECTED PAPERS, they discuss a condition they term "hypofrozen". "Hypo frozen occurs when we go to sedate a muscle using any one of our sedation techniques and the muscle fails to unlock from contraction to extension."² The sedation techniques include spindle cell, golgi tendon, origin and insertion, etc. Dr. Goodheart expanded on this and came up with his advanced origin and insertion technique³.

I have used Dr, Goodhearts technique and obtained dramatic clinical results on many difficult cases. Within a two day period I had three patients who had no muscles that would respond to sedation techniques - all their muscles were "stuck on". E.I.D., E.O.O.D., B.I.D., anterograde, retrograde, hyoid, cerebellar technique, etc., etc., would not bring out any hidden weaknesses. Everything tested strong, no sublaxations would challenge. Sedating any particular muscle would last for less than one minute before it would again lose its ability to be sedated. This led me to look for a systemic solution.

Feeling that there must be some deficiency or excess involving neurotransmitters, I began to test different nutritional factors. On all three patients, putting a copper supplement in the mouth (COPPOMIN by NutriDyne) allowed muscles to sedate using spindle cell technique. Being

aware of the prevalence of copper toxicity in this part of the country⁴, I cautiously prescribed 3 mg./day for a two week trial period to all three patients (Flora Calm by Wildwood Botanics Produced the same results in two of the three patients, but I opted to use Coppomin).

Patient #1 was a 40 year old male who has suffered from extreme stiffness for over ten years to the point of not being able to bend over to tie his shoes. All his ranges of motion were decreased and on lumbar flexion he could only reach with his fingers 4 inches below his knees. On his first visit I found universal muscle strength unresponsive to sedation techniques, and no challengeable subluxations. I gave him the copper and sent him home with instructions to call in 2 weeks. Two weeks later he called and said that within two days he felt "like a new man" and was well over 50% recovered. He could easily tie his shoes now and further evaluation showed normal patterns of muscle weakness and subluxations that could easily be corrected to lead to full recovery.

Patient #2, a 36 year old male maintenance worker, had been in constant pain for 13 months, predominantly low back with left sided sciatica. We had treated him 8 times in the last 3 months and were able to decrease the severity of the pain by 50%. He still though had constant pain and was unable to sit up from a supine position. Clinically he now tested all strong and unresponsive to sedation techniques. Again copper was indicated and prescribed and within 3 days he felt 85% relieved with only occasional "twinges" of pain. He could now raise normally from a supine condition and testing revealed some easily correctable muscle weaknesses and subluxations.

Patient #3 was a 69 year old retired male. On arising from a seated position his hip would "lock" and he would be unable to commence walking for anywhere between 30-120 seconds. Myself and other ICAK members have been treating him for about 2 years with only a 10% improvement of symptoms. At this point he too tested all strong and unresponsive to muscle sedation techniques. Taking copper did not decrease the number of episodes he was having but the duration had decreased to only 10 seconds. This patient lives 700 miles away and I have not had any followup treatments yet. I realize this is a very small sample, yet the results have been so dramatic that I feel it is worth sharing. The questions that arise from this include:

- 1) Can all muscles be unresponsive to sedation techniques be a screening tool for copper deficiency?
 - 2) Is it possible for patients to be both copper toxic from inorganic sources and nutritionally copper deficient simultaneously?
- Further feedback from fellow members is both needed and welcome.

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NUTRITIONAL COMMON DENOMINATORS FOR
SOME APPLIED KINESIOLOGY METHODS

by Dr. Philip B. Maffetone, D.C., P.C.

ABSTRACT: It is common, in Applied Kinesiology, to become overwhelmed by the amount of information that a practitioner needs to have on hand at any given moment with any given patient. This paper observes nine different "techniques" or methods commonly employed in practice and correlates their possible nutritional requirements with patient need(s). These considerations will simplify the procedures, save time, and allow more doctors to incorporate more of these procedures into their practice.

DISCUSSION

Table 1 lists nine different procedures that are used in A.K. Below each procedure is a list of the different nutrients that may be required by the patient being tested. Many of these nutrients are needed in more than one procedure. In other words, the procedures outlined in Table 1 have common denominators in the form of common nutritional factors. These common denominators may be the most important nutritional needs for the patient.

For example, there are at least seven possible nutritional needs to consider when testing the electron poisoning system, as discussed by Goodheart (1) and at least ten to consider when encountering a positive Clorox Test, as discussed by Schmitt.(2) These two procedures have three common nutritional factors, narrowing down the probable patient nutritional needs from thirteen to three (vitamin E, selenium, and vitamin C). One, two, or even all three of these nutrients may be needed by the patient and should be tested first.

We can also use the example of the patient who has the

following:

1. A positive clorox test
2. A need for tyrosine
3. A recurrent need for stimulation of the emotional NV reflexes

Looking at Table 1, it can be seen that B-6 and folic acid are the nutrients common to all three of these factors. Therefore, they should be the first two nutrients to be tested, as they will often be found to be the primary needs.

In addition, Table 1 also includes the nutritional interrelationships between seven other procedures. These include: tyrosine and tryptophan precursors as discussed by Schmitt (3), essential fatty acid needs as discussed by Goodheart (4) and Schmitt (5), aerobic and anaerobic factors as discussed by the author (6, 7), recurrent emotional neurovascular reflex as discussed by Schmitt (3), and copper toxicity as discussed by Mowles.(8,9)

Table 1 does not list all of the possible nutrients; it lists those that are seen under at least one other heading. For example, biotin is sometimes required for an anaerobic problem, but it is not listed because it is not commonly seen in any of the other procedures in the chart. Although Table 1 lists only the commonly found and used nutrients, others may be applicable.

PROCEDURE

The procedures used in Table 1 include the following:

Positive Clorox test	<u>OCI</u>	Tryptophan precursors	<u>TRYP</u>
Tyrosine precursors	<u>TYRO</u>	Essential fatty acids precursors	<u>EFA</u>
Aerobic needs	<u>AER</u>	Anaerobic needs	<u>ANAER</u>
High copper (toxicity)	<u>Cu</u>	Recurrent emotional neurovascular	<u>EmNV</u>
		Electron poisoning factors	<u>e pois</u>

TABLE 1

<u>OCI</u>	<u>TRYP</u>	<u>TYRO</u>	<u>EFA</u>	<u>AER</u>	<u>ANAER</u>	<u>^Cu</u>	<u>EmNV</u>	<u>e pois</u>
			B-1	B-1	B-1			
			B-2	B-2	B-2			
B-6	B-6	B-6	B-6	B-6	B-6		B-6	
niacin	niacin	niacin	niacin	niacin	niacin			
B-12				B-12				
folic	folic	folic					folic	
vit E(a)			vit E	vit E				vit E
Se(b)			Se	Se				Se
vit C(a)		vit C	vit C	vit C				vit C
Mg			Mg	Mg	Mg			
EFA(c)			EFA	EFA				
	Fe		Fe	Fe		Fe		Fe
		Cu	Cu	Cu				Cu
					P acid(d)		P acid	
			Zn	Zn		Zn		Zn
			Mn	Mn		Mn		Mn
Mo			Mo	Mo	Mo	Mo		

(a) Vitamin E and vitamin C both refer to the low dose complex.

(b) Minerals are all listed as standard chemical abbreviations.

(c) Essential fatty acids, such as linseed or currant seed oil.

(d) Refers to pantothenic acid.

CONCLUSION

Observing for common nutritional requirements in a variety of A.K. procedures allows the practitioner to find the primary nutritional need(s) more easily. The above chart (Table 1) shows the nutrients most commonly needed in nine A.K. test procedures. Every procedure has its own nutritional factors. Some of these factors are common to other procedures as well. By comparing two or more procedures that are positive indicators in any patient (positive Clorox test, recurrent emotional neurovascular, etc.), it is possible to determine the primary nutritional needs.

This procedure enables the doctor to narrow down the possibilities more quickly and, therefore, to have more time to follow up on more possible problems in any patient.

Table 1 may be copied and used for easy reference in the examining room.

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DIAGNOSING AEROBIC AND ANAEROBIC EXCESS AND DEFICIENCY

By Dr. Philip B. Maffetone, D.C., P.C.

ABSTRACT: Individuals who pursue certain exercise habits may find that they have created an imbalance which may, in turn, result in ill health. In other words, people who exercise often get hurt because they do not exercise properly. Even in those who do not exercise, similar findings may be observed. These findings may be seen as an excess or as a deficiency in either aerobic or anaerobic metabolism. Using standard Applied Kinesiology along with a working knowledge of physiology, these faults may be diagnosed and corrected.

This paper explains some simple tests which may be used to analyze aerobic and anaerobic excess and deficiency as well as therapeutic procedures with which to correct these imbalances. The therapeutic aspect includes treatment, nutrition, and general exercise procedures to correct the diagnosed imbalance. When corrected, both the aerobic and anaerobic challenges are normal, and the patient properly benefits from exercise.

INTRODUCTION

Previous papers by the author (1, 2, 3) and other members of the I.C.A.K. (4, 5, 6) as well as by other members of the scientific and therapeutic community (7, 8, 9, 10) have shown that aerobic function in the human body can be of great value. Providing the body with aerobic activity is like being treated: It is a beneficial stimulus followed by a healthy progression, assuming that the activity is balanced and is in conjunction with the body's needs.

The human body is made up of a combination of aerobic muscle (slow twitch "A" muscle fibers) and anaerobic muscle (fast twitch "C"

muscle fibers). [Note: This paper will not deal with the fast twitch aerobic "B" muscle fibers, which pertain to high level training and activity. This was discussed in part in a previous paper by the author.(1)]

DISCUSSION

Aerobic function and anaerobic function may be discussed both chemically and structurally, and the terms "aerobic" and "anaerobic" will include both of those aspects of the body. Therefore, increasing the body's aerobic capacity will also improve the other functions related to aerobic function, including but not limited to: improved circulation, utilization of fatty acids for energy, glucose sparing, increased endurance and stamina, and improved hormonal function. Anaerobic aspects include: high utilization of glucose, fat sparing, speed, and power.

Both the aerobic and anaerobic systems are necessary for optimal health. Both can be developed through different types of activity, and both can be supported through the diet with different types of foods and nutrients. From an exercise standpoint, it is the BALANCE of both aerobic and anaerobic exercise that is health promoting. Too much or not enough of either one will eventually create ill health. The most common problem encountered by the author is that of too little aerobic, and/or too much anaerobic function. Generally, two types of individuals constitute the majority in this category: the person who does not exercise at all, and the person who overdoes it. Fortunately, the evaluation of these and other types of people can be relatively easy.

This paper will deal separately with the means of testing both the aerobic and the anaerobic status of the patient. These tests are

done in the form of a challenge, a concept that has been used before in Applied Kinesiology. By challenging an aerobic or anaerobic deficiency or excess, you are simply adding to the system neurologically and observing the reaction. Adding to a deficiency will strengthen a weak muscle and do nothing to a strong muscle. Adding more to an excess, will weaken a strong muscle, doing nothing for a weakness.

Each section will also include a discussion of the nutritional considerations and exercise suggestions for the patient with aerobic and/or anaerobic problems. In addition, any good quality biochemistry text will contain numerous suggestions for the nutritional support of the aerobic/anaerobic problem patient. Two are included here for reference (11, 12).

In addition, the procedures explained below are summarized in outline format at the end of this paper.

THE AEROBIC CHALLENGE

Stimulating the aerobic system should provide immediate benefits for any person, assuming the existence of all the proper "ingredients" (the muscle components, the neurological components such as neurotransmitters, the fatty acids, and the co-factors and minerals necessary for their conversion, along with proper absorption and utilization).

The fact that aerobic stimulation via exercise balances the body was first observed by the author several years ago while working with athletes on the track. The imbalances in the gaits of these athletes were shown to improve during predominantly aerobic running (1, 13), while they did not improve during even mild anaerobic running. Fortunately, it is now no longer necessary to observe the individual

in action in order to find these types of faults. We can simply challenge the aerobic system during treatment, observing the results for possible problems.

The following procedures may be used to assess the aerobic system:

1. Survey the body for muscle weaknesses by observing the posture and palpating the T.S. line.
2. Find several muscle weaknesses, preferably unrelated, so that several different systems are incorporated. (For example: a weak piriformis, PMC, anterior tibial, and popliteus.)
3. Obtain one strong indicator, using the advanced origin and insertion technique discussed by Goodheart (14), to be sure that the muscle will turn off properly.
4. Have the patient stimulate aerobic muscle activity by slowly, alternately raising and lowering their left and right legs 7 or 8 times while in a supine position.
5. Immediately retest the weaknesses and the strong indicator and observe the results.
6. If the aerobic system is working properly, most, if not all, of the original weaknesses should strengthen, while the strong indicator should not be affected. (As with any challenge, the strengthening will generally last only a few seconds.) This is a normal reaction, and this individual will benefit from aerobic activity.

If any other reaction occurs, that indicates a problem in the aerobic system. The following are examples:

- a. AEROBIC DEFICIENCY: If, following an aerobic challenge, the weak muscles do not strengthen, this indicates a deficiency in the aerobic system. In this case, aerobic activity will

not benefit the individual until the structural, chemical, and/or mental problems are corrected.

Once any problems are found and corrected, the aerobic challenge will then strengthen the previously weak indicator(s). Be aware, though, that once you have found and corrected any problems - which may be anything from the small intestine neurolymphatic to missing nutrients - many of the original weaknesses found in # 1 above will also strengthen.

- b. AEROBIC EXCESS: If, following an aerobic challenge, there is no strengthening of the previously tested weaknesses, yet there is a weakening of the strong indicator, this is an aerobic excess. This is a rare occurrence that is occasionally seen in those participating in a good quality aerobic program for a long period of time (8 to 12 months). The benefits from a regular, quality aerobic exercise program will eventually plateau, with eventual regression unless some anaerobic activity is included. In this instance, the individual continuing aerobic exercise without any anaerobic activity will create more of an imbalance. Correcting this problem is simple: Include some anaerobic activity for a period of time. For example, for thirty minutes twice a week, do one or a combination of the following: moderately fast (anaerobic) running, light weights (high repetitions), racketball, or other hard, higher heart rate activities. Be sure, however, to warm up and warm down aerobically. This can be continued for a minimum of about 6 to a maximum of about 12 weeks, though

the specifics of this go beyond the scope of this paper.

Top athletes follow this same training pattern as well.

7. The nutritional considerations for the patient who has an aerobic problem can be numerous. Usually it is the aerobically deficient patient who needs both dietary and nutritional support, as discussed in a previous paper by the author.(3)
The common nutritional factors often relate to fatty acid metabolism, as discussed by Goodheart (4, 9) and Schmitt.(5)
These factors may include a quality source of fatty acids, such as currant seed oil or linseed oil for the short term, followed by dietary guidelines for similar intake of foods rich in fatty acids. Also included are co-factors such as: B-6, B-1, and B-2, and the minerals zinc, manganese, and iron, as well as carnitine. Other nutritional factors may be needed including, but not limited to: niacin, vitamin B-12, low dose vitamin E complex, low dose C complex, magnesium, selenium, phosphorus, and molybdenum.
All of the nutritional substances listed above may be tested using standard Applied Kinesiology procedures. Have the patient taste the substance, then retest an indicator muscle. Note, however, that any nutritional or dietary need may be secondary to a malabsorption problem that must be corrected first.(15)
8. All of the above relationships are important, but the most important factor is treating the patient. "Fix what you find" fits well here, as so many variations are possible. The most common patterns seen by the author are weaknesses of the pectoralis major sternal and quadriceps, relating to liver and

small intestine function respectively.

THE ANAEROBIC CHALLENGE

Stimulating the anaerobic system through the anaerobic challenge provides another means of analysis. Anaerobic activity is, in general, rapid and powerful. Therefore, the anaerobic challenge is best accomplished using the upper body muscles, which tend to be more anaerobic in nature.

The following procedures may be used to assess the anaerobic system:

1. Survey the body for muscle weaknesses by observing the posture and palpating the T.S. line.
2. Find several muscle weaknesses, preferably unrelated, so that several different systems are incorporated. (For example: a weak piriformis, PMC, anterior tibial, and popliteus.)
3. Obtain one strong indicator, using the advanced origin and insertion technique discussed by Goodheart (14), to be sure that the muscle will turn off properly.
4. Have the patient tighten both fists and rapidly flex and extend the biceps and triceps alternately, as fast as possible, for about 7 or 8 seconds.
5. Immediately retest both the weak and strong indicator muscles.
6. In the individual with a normal balance of both aerobic and anaerobic function, this anaerobic challenge should not produce any change in muscle function. The previously tested weak muscles should remain weak, and the strong muscles should stay strong. However, it is possible to obtain other results, which are listed below:
 - a. ANAEROBIC EXCESS: The most common occurrence is that of

anaerobic excess, in which the anaerobic challenge will weaken the strong indicator(s) while not affecting the previously tested weaknesses. This is similar to aerobic deficiency, except that some of the nutritional needs may be different, as discussed below.

From an exercise standpoint, the individual who most commonly has an anaerobic excess is the one who has overdone anaerobic exercises, often without realizing it. This is especially true in people who lift weights or who run with their heart rate too high. Occasionally, a non-exercising individual will show an anaerobic excess, which is apparently due to a chemical imbalance identical to that found in those who overtrain.

- b. ANAEROBIC DEFICIENCY: The other possibility is that of anaerobic deficiency, which is similar to aerobic excess and is as uncommon. In this category, the anaerobic challenge shows a strengthening of the previously found weaknesses, with no change in the previously tested strong muscles.

This person has often done too much aerobic work over a long period of time, with no anaerobic work to balance it out and usually needs some type of anaerobic activity immediately.

Jumping rope, lifting light weights, playing racketball, running moderately hard for relatively short distances, or some similar activity for 30 minutes 2-3 times per week for 6 to 12 weeks would be of benefit. These anaerobic workouts should include a 15 minute warmup and a 15 minute warmdown.

7. The nutritional considerations for an anaerobic problem may vary. This is especially true for the patients with an

anaerobic excess. In this case, there is an excess of lactic acid, or lactate, in the system. Numerous substances are necessary for lactic acid (lactate) conversion to pyruvic acid (pyruvate), which is then converted to oxaloacetic acid as part of the citric acid cycle. The most common co-factors found in this instance include: pantothenic acid, niacin, biotin, B-1, B-2, and B-6. The most common minerals include: magnesium and molybdenum. Phosphorus should also be considered.

a. It is also possible to challenge the anaerobic system using a chemical approach. Have the patient ensalivate a source of lactate (such as calcium, magnesium, or sodium lactate), and then test a previously strong indicator for weakness. With an anaerobic excess, the patient will weaken to a source of lactate and often, but not always, to a source of lactic acid. Be sure to rule out any possibility of interference from the calcium, magnesium, sodium, or any other substance contained in the test product. With an anaerobic deficiency, the lactate source will strengthen the previously tested weaknesses.

8. In addition, an anaerobic excess is often, but not always, found in conjunction with a positive Clorox Test, as discussed by Schmitt.(16)

OTHER FACTORS

It is possible to have a combination of problems. An aerobic deficiency may, for example, be accompanied by an anaerobic excess. This example is not uncommon and is by far the most common combination.

It should also be noted that other outside factors may be primary considerations. These may include: copper excess, ingestion of hydrogenated fats, aspirin in more than small amounts, larger amounts of alcohol, high dose vitamin E, and other factors discussed by Goodheart (9) and Schmitt.(5)

CONCLUSION

Applied Kinesiology methods may be used to evaluate the status of a patient's aerobic and anaerobic function. The patient need not be an athlete per se, as any patient has the same basic systems. Using the standard method of challenge, a stress can be induced into the patient's system, then any change in the muscle tests may be observed. In the case of aerobic activity, slow flexion and extension of a lower limb may change a specific pattern of muscle function. In the anaerobic system, a rapid, powerful, repetitive contraction of the upper body muscles may change a specific pattern of muscle function. The possible patterns, along with associated factors are listed in outline form below.

SUMMARY

I. AEROBIC CHALLENGE

- A. Using posture and T.S. line, survey the body for muscle weaknesses.
- B. Use muscle testing to find several muscle weaknesses.
- C. Find a strong indicator.
- D. Challenge the system by having the patient slowly flex and extend the lower limbs 7-8 times.
- E. Immediately retest the weaknesses and observe the results of the challenge:

1. **NORMAL REACTION**: It strengthens the previously tested weaknesses.
 - a. This patient will greatly benefit from easy aerobic exercise.
2. **AEROBIC DEFICIENCY**: There is no change in the previously tested weaknesses.
 - a. This is not normal, and is termed aerobic deficiency.
 - b. This patient will not obtain further benefits from aerobic exercise, which will eventually cause further imbalance.
 - c. Test for possible nutritional needs, i.e. the aerobically related nutrients: essential fatty acids (such as currant seed oil or linseed oil), B-6, niacin, iron, molybdenum, carnitine, etc.
 - d. Correct any imbalances, paying particular attention to the small intestine and liver.
3. **AEROBIC EXCESS**: The challenge weakens the strong indicator(s).
 - a. Aerobic excess is a very uncommon finding.
 - b. Find and correct any imbalances and nutritional needs as in E.2.c. above.
 - c. The patient should abstain from aerobic exercise for 3-5 days.
 - d. The patient should perform some mild anaerobic activity for 30 minutes twice a week for 6-12 weeks. This can include mild anaerobic running, light weights, racketball, jumping rope, etc.

II. ANAEROBIC CHALLENGE

- A. Using posture and the T.S. line, survey the body for muscle weaknesses.
- B. Use muscle testing to find several muscle weaknesses.
- C. Find a strong indicator.
- D. Have the patient perform an anaerobic challenge by rapidly flexing and extending the biceps and triceps alternately with the fists tightly clenched.
- E. Immediately retest the weaknesses and observe the results of the challenge:
 1. NORMAL REACTION: There is no change in either the strong indicator(s) or the previously tested weaknesses.
 2. ANAEROBIC EXCESS: There is a weakening of the strong indicator(s), which is relatively common.
 - a. This patient has too much anaerobic activity (i.e. burns sugar and stores fat) and a high lactate level.
 - b. All activities, except those that are purely aerobic, should be stopped. The use of a heart monitor is of great value for those patients who are highly athletic.
 - c. Check the nutritional factors related to anaerobic metabolism: pantothenic acid, biotin, B-1, B-2, magnesium, etc.
 - d. Correct any imbalances, paying particular attention to the small intestines, liver, and pancreas.
 3. ANAEROBIC DEFICIENCY: There is a strengthening of the previously tested weaknesses. Anaerobic deficiency is not too common.
 - a. The patient is in need of some mild anaerobic activity,

2-3 times per week, for 30 minutes each time. (light weights, moderately hard running, racketball, etc.).

b. Check the nutritional factors related to anaerobic metabolism as in E.2.c. above.

c. Correct any other imbalances.

4. A source of lactate (such as calcium lactate) and sometimes, but not always, a source of lactic acid can be used as an anaerobic challenge.

a. Have the patient ensalivate the substance and observe for changes, following the same procedures used above.

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A PILOT STUDY INTO THE EFFECTS OF HOMOLATERAL AND CROSS CRAWL EXERCISES ON MUSCLE STRENGTH.

By Dr. K.H. Maitland B.App.Sc. (Chiro)

ABSTRACT

This research project tested the hypothesis "Do exercises which go against the body's normal facilitation/inhibition gait pattern have a weakening effect on the subject?"

Results in this study indicate that 69% of the time exercises which reinforce the body's normal gait physiology strengthen the subject and exercises which go against it weaken the subject 45% of the time. The results at this stage are inconclusive, however, this is a pilot study and the research procedure is to be re-examined.

INTRODUCTION

Neurological facilitation and inhibition takes place in the body whilst walking. In fact, most body movements are accompanied by some level of reflex facilitation or inhibition. This circuitry has a set pattern which, in healthy individuals, does not change and can quite easily be found by a simple test of muscle strength in the shoulder plexor or extensor with the different phases of gait (Walther (1)). (Inhibition circuitry can be altered by different disease states which can lead to a myriad of health problems).

Whilst attending basic Applied Kinesiology seminars this was discussed and also the effect of exercises which did

not parallel the known gait physiology. That is, exercises which are not natural in terms of the body's known facilitation/inhibition circuitry. It was discussed by Dr. M. Sabella that these exercises, the ones contrary to the body's natural gait pattern, (homolateral crawl exercises) could weaken the patient. This has been demonstrated many times in our office and, in fact, one test for neurological disorganization (switching) is to have the patient perform a homolateral crawl exercise and to gauge its effects on the patients muscle strength. As many people are switched, it stands to reason that homolateral crawl exercises could weaken them, and in a setting such as an aerobic exercise class, this weakness could set the participant up for many different injuries.

The hypotheses being tested with this research are:

- (1) Do exercises of a homolateral nature predispose participants in aerobic exercise to muscle weakness?
- (2) Do exercises which reinforce the normal gait physiology (known as cross crawl exercises) have a positive effect on muscle strength?

PROCEDURE

Three Chiropractors were involved in testing the muscle strength of the subjects (subjects being participants in the exercises). All three were issued with instructions (see Appendix 1). The aerobic exercises were observed by

Dr. Ron Brinkert PhD, the head of Physiology at the Phillip Institute of Technology. The School of Physical Education. (Dr. Brinkert acted as an unbiased observer of the research procedure).

After receiving their instructions, the Chiropractors then tested and numbered all the subjects for the presence or absence of neurological disorganization or "switching". This was done by having each subject do a homolateral crawl exercise and testing the resultant change in muscle strength. A decrease in strength denoted the presence of switching. After the presence of switching had been detected the subjects were split into three groups, one for each Chiropractor and each group consisted of six subjects. Two subjects from each group were selected at a time to perform the aerobic exercises. This was done because only fifteen seconds were allowed to elapse before testing the subject after the exercise had been completed.

EXERCISES PERFORMED

Six exercises were numbered and selected at random by Dr. Brinkert from a pool of eight exercises.

Exercise No.1 - Elbow to knee exercise - in this exercise the contralateral knee and elbow were brought together in a cross crawl type exercise bilaterally.

Exercise No.2 - The Star Jump exercise - a four quadrant exercise in a homolateral fashion.

Exercise No.3 - Stride Jump - this is an arm to leg flexion walking type exercise - a cross crawl exercise.

Exercise No.4 - Calf Stretch and Push Back exercise. This exercise is a cross crawl exercise with opposite arm and leg being extended from a neutral position.

Exercise No.5 - Good Star Jump. A contralateral arm and leg abduction exercise with one leg and one arm being used at a time. It is a cross crawl exercise.

Exercise No.8 - Side Arm Leg Lift. In this exercise the arm and leg on the same side are flexed together, in a homolateral walking type fashion. It is a homolateral exercise.

The Chiropractors were sent from the room and Dr. Brinkert selected the first exercise (Exercise No.1) which was then performed by 2 selected subjects under the instruction (via demonstration) of a trained aerobic instructor. After the subjects had performed 10 repetitions of the exercise the Chiropractors were called in and began their testing. This was repeated until all six subjects were tested by each examiner.

Another exercise was selected and the process repeated until all six subjects had been tested on each exercise.

RESULTS

Subject No.	Switched/ Not Switched	Exercise in order of performance					
		No.1 Cross	No.5 Cross	No.8 Homo	No.2 Homo	No.3 Cross	No.4 Cross
4	Switched	Strong (S)	S	W	S	W	S
5	"	"	S	W	S	W	-
7	"	"	S	S	W	S	S
11	"	"	S	W	W	-	-
13	"	"	S	W	S	W	-
15	"	"	S	S	S	W	S
1	"	"	Weak (W)	S	W	S	W
3	"	"	W	S	W	S	S
6	"	"	W	S	W	S	W
9	"	"	W	S	W	S	S
17	"	"	W	S	W	S	S
19	"	"	W	W	W	S	S
2	"	"	W	W	S	W	S
8	NS	"	W	S	S	-	W
10	S	"	S	W	S	W	S
14	NS	"	W	W	S	-	S
16	S	"	S	W	S	W	S
18	S	"	W	S	S	-	S

- i) Subjects found to be switched - 16 out of 18 = 89%
- ii) Subjects found to strengthen after exercise No.1 (Cross crawl)
= 18 out of 18 = 100%
- iii) Subjects found to strengthen after exercise No.5 (Cross crawl)
= 8 out of 18 = 45%
- iv) Subjects found to weaken after exercise No.8 (Homolateral)
= 9 out of 18 = 50%
- v) Subjects found to weaken after exercise No.2 (Homolateral)
= 8 out of 18 = 45%
- vi) Subjects found to strengthen after exercise No.3 (Cross crawl)
= 7 out of 14 = 50%
- vii) Subjects found to strengthen after exercise No.4 (Cross crawl)
= 12 out of 15 = 80%
- (A) Average Percent of Weakness found after performing Homolateral exercises
= 45%
- (B) Average Percent of Strength found after performing Cross Crawl Exercises
= 69%

Therefore after performing homolateral exercises an average of 45% of the subjects weakened

and

after performing cross crawl exercises an average of 69% of the subjects strengthened.

CONCLUSION DISCUSSION

The only two conclusions that can be drawn from this research are:-

1. The hypothesis is invalid, which would mean that cross crawl or homolateral crawl exercises have no effect on people other than a random effect.
2. The research procedure has not allowed for all the possible factors which effect muscle strength or weakness.

I tend to favour this conclusion so where did we go wrong? Finally it should be noted that the first exercise done gave the correct or expected result so this indicates that possibly the exercises were done too rapidly one after the other which may have affected the subject and the examiner. It may be that a certain amount of time should be allowed to elapse before commencing the next exercise so that both the subject and examiner can relax which would allow their bodies to return to their own neurologically normal state. The examiners were forced to run from the corridor outside the gym to the testing area quickly so the tests could be performed within fifteen seconds of the completion of the exercise. This may have affected the examiner.

Performing the exercises may have had an aerobic/anaerobic effect on the subject which could have influenced the resultant muscle strength. It may also have been influenced by fascial flush and strain - counter strain problem the patient may have been experiencing. As patients were not examined for the effect of a cross crawl exercise on their

right tensor fascia lata, it is not certain that all subjects would have been strengthened by such an exercise. Other neurological influences could have effected the strength of the patient eg. foot subluxation or pelvic problems. We all realize that other factors influence muscle strength. eg. Inspiration(2), jaw position^{3,4,5}, pain(1) examiner instruction, eye position.

Engel(6) discussed the possibility that the physical state of the examiners could influence muscle strength. However, one would think that these influences would weaken the muscle not strengthen it.

In this study muscles were found, on average, to strengthen more often than weaken.

Consequently the research procedure used in this project will be re-examined and refined. Hopefully more positive results can be obtained at our next attempt. I would also like, at this stage, to invite anyone to make their comments as to how this research could be carried out more successfully.

APPENDIX 1 - contains-

- (a) Sample of instructions issued to examiner.
- (b) Sample of forms given to examiner to be filled out on completion of test.

INSTRUCTION (a)

1. Number patient with felt pen.
2. Each Chiropractor test 1/3rd of the participants to ascertain if they are switched
 - number noted
 - + strength of TFL - if weak use other TFL.
3. Patient change location - keep same number.
4. Chiropractors leave the gym.
5. Instructor and observer decide exercise to be done, numbered 1 through 8.
6. Patient do exercise, Chiropractors return to analyse muscle strength.
 - at least 10 repetitions.

Repeat 3 through 6 for all exercises.

Note : 1) If weak TFL present give patient a note therefore Chiropractor knows to use another muscle.

(b)

NAME

SIGNATURE

CHIROPRACTOR

OBSERVER

INSTRUCTOR

PATIENT NO.	IS PATIENT SWITCHED		COMMENT
	YES (Y)	NO (N)	

The above results were obtained in an unbiased and scientific way in my opinion.

Signed.....Observer.

INTER-PRACTITIONER RELIABILITY STUDY.

AGREEMENT BETWEEN EXAMINERS ON MUSCLE STRENGTH AND WEAKNESS.

PRESENTED BY DR. K. H. MAITLAND

MISS M. DAVIDS.

MISS L. RUGGIERO.

ABSTRACT: In this study forty subjects with limited knowledge of Applied Kinesiology were tested by five Chiropractors, all being experienced in Applied Kinesiology techniques and ranging in practice experience of one year to eight years. The inter-practitioner reliability was found to average 79%, with one muscle (Tibialis Anterior) recording 100% agreement 42.5% of the time. The study was supervised by the Head of Chiropractic Science at the School of Chiropractic-Phillip Institute of Technology, Melbourne, Australia. This was a follow-up to the study conducted by Drs. M. Sabella, Krawchuck and Decker and showed a comparable level of inter-practitioner reliability.

INTRODUCTION: Applied Kinesiologists have, until recently, found inter-practitioner agreement on the relative strength or weakness of a particular muscle poor-Engel¹. However, Hanicke and Conable² have shown that inter-practitioner agreement is possible. It has also recently been shown that these relative strengths and weaknesses can be proven on machines - (Goubel and Meldener³). So the scientific evaluation of Applied Kinesiology, which has been a long time coming, is finally starting to agree with our own clinical assessments. This lack of scientific agreement did not, however cause us to give up Applied Kinesiology because, as Chiropractors, we see the clinical results in our office and

we realise that many factors influence the strength or weakness of a muscle at any one time. These factors include pain,⁵ respiratory phase,^{5,7} neurological organisation,^{4,5} jaw position,⁶ eye position,⁴ lighting,⁸ and test timing (Gamma 1 & 2) as extensively discussed by Dr. Schmitt. The above factors, at times, can cause an incorrect evaluation to be made which is sometimes, but not always, detrimental to the patient. However, as attending chiropractor, this can be rectified at the patients' next visit. Obviously, care is taken to avoid this. Sometimes the body which we know never lies, can sometimes play tricks on us and we can understand why there can be differences. With Chiropractors aware of these pitfalls, some level of agreement is possible. If muscle testing is to gain some respect in the scientific community then inter-practitioner reliability studies have to show a reasonable level of correlation. The performance of studies such as these can only enhance our understanding of muscle testing and the factors which influence it.

RESEARCH PROCEDURE:

This research was conducted under the supervision of Dr. Dean Lyon, Head of Chiropractic at the Phillip Institute of Technology, Bundoors, Victoria in Australia. He was assisted by Miss Marie Davids and Miss Liana Ruggiero, who supervised the subjects movements in and out of the examination rooms.

The Chiropractic examiners were as follows -

1. Dr. Mark Brown.
2. Dr. Barry Decker.
3. Dr. Terry Krawchuck.
4. Dr. Victor Portelli.
5. Dr. Keith Maitland

My thanks go to the above Chiropractors and students who did a fine job and without their help this project could not have been completed. The research procedure was conducted at the Bulleen Chiropractic clinic, a teaching clinic of the School of Chiropractic.

PROCEDURE: Five subjects were placed in seperate rooms and each examiner tested the five specified muscles on the right side of the subject.

Muscles Tested:

1. Tensor Fascia Lata, (TFL)
2. Pectoralis Major Sternal. (PMS)
3. Tibialis Anterior. (T. ANT)
4. Middle Deltoid. (MID. DEL)
5. Gluteus Maximus. (G. MAX)

On completion of the testing each examiner filled out a table stating his number, (each examiner had a number) the subjects number and his opinion of the relative strength or weakness of each of the above muscles. This completed table was then placed in sealed container in the testing room. Having finished his testing the examiner then rotated to the next testing room until all five subjects had been tested by all five examiners. The five subjects were then changed for another five subjects and the process was repeated until all forty subjects had been tested.

On completion of the testing the sealed containers were removed and the seals broken, again under supervision, and the results obtained.

Note: Supervision was also done to ensure that examiners did not observe each other during the testing.

DISCUSSION AND CONCLUSION:

This study shows that a high level of inter-practitioner reliability is possible without twenty years of experience. I feel a key factor in our success was the Workshop held by the Applied Kinesiology study group in Melbourne, Australia, and the hours of supervised muscle testing done by all of the examiners. This brought home to me just how easy it is to get sloppy with our testing in practice. The group also agreed on ways to test the muscles used in this study, in terms of practitioner position/subject position.

Obviously, inter-practitioner reliability is, in part, dependant on many factors discussed by many Applied

Kinesiologists—eg. Goodheart, Schmitt, Walther and Blaich. In spite of this, a high level of inter-practitioner reliability is possible in the order of 79.2% and this compares favourably with a study recently completed by Conable and Hanicke in which they found an inter-practitioner reliability of 78.2%.

It should also be noted that our subjects were completely unfamiliar with Applied Kinesiology or had only a limited knowledge of it. Only five muscles were tested per subject and forty subjects were involved. An attempt was made to minimize some of the factors which may cause error between examiners. However, we did try to reproduce the practice situation as much as possible.

RESULTS: NOTE: 5 EXAMINERS WERE USED. (No. SAID = number of examiners who felt the muscle was strong or weak.)

SUBJECT NUMBER	1 TFL - No. SAID		2 PMS - No. SAID		3 T.Ant - No. SAID		4 MID.DEL - No. SAID		5 G.Max - No. SAID	
	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK
1	5	0	5	0	5	0	5	0	5	0
2	1	4	1	4	4	1	4	1	2	3
3	0	5	1	4	5	0	2	3	2	3
4	3	2	3	2	5	0	2	3	1	4
5	2	3	4	1	4	1	1	4	4	1
6	1	4	5	0	4	1	4	1	5	0
7	1	4	2	3	4	1	2	3	2	3
8	2	3	1	4	3	2	4	1	0	5
9	1	4	5	0	2	3	3	2	5	0
10	2	3	1	4	3	2	1	4	0	5
11	2	3	2	3	3	2	4	1	5	0
12	3	2	4	1	5	0	4	1	3	2
13	4	1	2	3	5	0	3	2	4	1
14	5	0	3	2	5	0	5	0	5	0
15	1	4	3	2	5	0	2	3	1	4
16	5	0	4	1	4	1	4	1	3	2
17	0	5	3	2	4	1	2	3	2	3
18	4	1	4	1	5	0	4	1	3	2
19	4	1	3	2	5	0	4	1	3	2
20	4	1	4	1	5	0	4	1	2	3
21	3	2	4	1	3	2	2	3	1	4
22	5	0	5	0	4	1	4	1	5	0
23	1	4	2	3	4	1	1	4	1	4
24	2	3	3	2	5	0	4	1	2	3
25	0	5	4	1	4	1	0	5	5	0
26	4	1	3	2	4	1	3	2	4	1
27	1	4	2	3	3	2	1	4	0	5
28	3	2	2	3	5	0	1	4	1	4
29	3	2	5	0	5	0	1	4	4	1
30	4	1	5	0	4	1	4	1	4	1
31	2	3	1	4	4	1	0	5	0	5
32	3	2	4	1	4	1	2	3	3	2
33	3	2	4	1	5	0	5	0	5	0
34	3	2	3	2	5	0	3	2	3	2
35	4	1	3	2	1	4	3	2	2	3
36	5	0	5	0	4	1	4	1	4	1
37	2	3	2	3	4	1	3	2	3	2
38	0	5	0	5	5	0	1	4	0	5
39	1	4	5	0	5	0	3	2	5	0
40	3	2	5	0	4	1	2	3	5	0

RESULT ANALYSIS - Agreement between five examiners testing the strength or weakness of the five specified muscles.

1. Tensor fascia lata - 78% agreement.
2. Pectoralis Major Sternum - 77.0% agreement.
3. Tibialis Anterior - 85% agreement.
4. Middle Deltoid - 75% agreement.
5. Gluteus Maximus - 80.5% agreement.

The average overall agreement between examiners was 79.2%.

100% agreement occurred in

- | | | |
|---------------|---|-------|
| 1. T.F.L. | = | 22.5% |
| 2. P.M.S. | = | 22.5% |
| 3. TIB.ANT | = | 42.5% |
| 4. MID DEL | = | 12.5% |
| 5. GLUT. MAX. | = | 37.5% |

Number of muscle tests performed was 200. (Five per subject)

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HEAL HELPER UPDATE

William Maykel, D.C.
John B. Manning, Jr., D.C.

ABSTRACT: A random population of 83 patients ranging in age from eleven to sixty-five were tested with a Heal Helper wedge to determine their maximum permissible heel elevation before ensuing muscle weakness. A 1.25 to 3.25 inch range was determined, with a mean average of 2.42 inches.

In a previous paper¹ I reported a preliminary range of maximum heel elevation to be between 1.25 and 1.5 inches. At this point of heel elevation, massive muscle weakness occurred, and I called this fixed point the calcaneal tolerance factor. Patients were measured on a specially designed stainless steel wedge called the Heal Helper.

In an effort to further evaluate this range we chose 83 patients with various problems and measured their calcaneal tolerance factor. The results showed that regardless of sex, age or health problem, a definite range existed. That range was found to be from 1.5 inches to 3.25 inches, with a mean average of 2.42 inches.

This measurement is useful for patient management in that it provides a nice reference point for patients to work with. It provides another "piece of the puzzle" in your patient's health care regime.

¹ Collected Papers ICAK, Winter 1984, page 77

<u>M or F</u>	<u>Patient</u>	<u>Age</u>	<u>Height</u>	<u>Weight</u>	<u>Maximum Heel Height</u>
F	J.C.	18	5'6½"	136	2½
M	C.G.	37	5'11"	215	2½
F	P.B.	27	5'6"	115	2 3/4
F	D.L.	42	4'11"	120	2½
M	J.M.	37	5'8"	145	2½
M	A.K.	43	5'9"	165	2 3/4
M	V.S.	57	5'7"	190	2 3/4
M	E.M.	49	5'11"	165	2½
F	M.P.	39	5'6"	110	2½
F	K.W.	30	5'5"	117	2¼
M	S.S.	37	5'11"	175	2½
M	J.O.	36	6'0"	219	2½
M	K.G.	34	5'8½"	168	2 3/4
F	K.R.	11	4'11"	78	2.0
M	P.F.	50	5'8"	175	2.0
F	V.H.	19	5'3"	120	2.0
M	P.C.	48	5'10"	175	3½
F	M.K.	29	5'0"	135	2.0
F	R.C.	31	5'4"	117	2 3/4
F	M.B.	28	5'4"	123	2¼
M	M.S.	17	6'0"	183	2½
M	M.S.	35	6'2"	245	2 3/4
F	M.T.	35	5'4"	135	2¼
M	J.Y.	19	6'2"	196	2½
F	K.O.	13	5'3"	117	2½
M	R.W.	35	6'2"	155	2½
F	C.B.	31	5'4"	130	2.0
M	A.P.	43	5'8"	185	2 3/4
M	D.B.	32	5'6"	170	2½
F	L.T.	19	5'8"	185	2 3/4
F	L.B.	54	5'3"	176	2¼
F	M.C.	31	5'10"	200	1 3/4
M	M.S.	34	5'10"	178	2¼
F	P.C.	36	5'8"	128	2.0
F	C.M.	30	5'2"	118	2¼

M or F Patient	Age	Height	Weight	Maximum Heel Height
F	28	5'4"	125	2½
M	32	5'11"	178	2½
F	35	5'4"	195	2½
M	34	5'8"	180	2½
F	28	5'2"	240	2½
F	25	5'8"	135	2½
M	29	5'7"	155	2 3/4
F	57	5'7"	165	2½
F	34	5'6"	135	2½
M	40	6'0"	165	2½
M	35	6'0"	215	2.0
F	-	5'3"	161	3.0
F	22	5'3"	130	2½
F	28	5'5 3/4"	129	2.0
M	27	5'11½"	200	2½
M	37	5'8"	150	2½
F	26	5'7½"	175	2½
F	31	5'2"	116	2.0
F	38	5'6"	155	2.0
M	28	5'8½"	165	2 3/4
F	47	5'6"	136	2½
M	35	5'10"	170	1 3/4
F	53	5'3"	160	2½
M	34	6'3"	165	2 3/4
M	34	5'9"	170	3 1/4
F	40	5'8"	135	2 3/4
M	47	5'9"	162	2½
F	55	5'5"	140	2½
M	29	6'2"	175	2½
F	29	5'2"	125	2 3/4
M	35	6'1"	202	2½
M	28	5'11"	195	2½
F	40	5'4"	135	1 3/4
M	28	5'6"	135	2½
F	22	5'3"	135	2½
M	44	5'6"	156	3.0
F	19	5'0"	181	2½

<u>M or F</u>	<u>Patient</u>	<u>Age</u>	<u>Height</u>	<u>Weight</u>	<u>Maximum Heel Height</u>
F	B.S.	52	5'3"	162	2 $\frac{1}{4}$
F	S.N.	62	5'3"	117	2 $\frac{3}{4}$
F	A.B.	33	5'8"	150	2 $\frac{1}{4}$
M	F.S.	35	6'0"	180	2 $\frac{1}{4}$
F	C.A.	37	5'7"	200	1 $\frac{3}{4}$
M	D.G.	33	5'10"	190	2 $\frac{1}{4}$
M	S.G.	28	5'8"	140	2 $\frac{1}{4}$
F	B.W.	50	5'7"	133	2 $\frac{3}{4}$
M	R.B.	34	5'6 $\frac{3}{4}$ "	149	2.0
F	L.H.	65	5'7"	145	2 $\frac{1}{4}$
F	M.G.	34	5'4"	120	2.0
F	D.Z.	22	5'5"	110	1 $\frac{1}{2}$
M	B.L.	36	6'1"	204	1 $\frac{3}{4}$
F	J.S.	42	5'4"	170	1 $\frac{1}{2}$

CERVICAL CURVE CHALLENGE

William Maykel, D.C.

ABSTRACT: The loss of the normal cervical lordotic curve may be directly challenged with a high degree of accuracy.

In the interest of achieving maximum balance in our patients' bodies (as well as our own) normal spinal curves are essential. Newborns have a C-shaped spine. Placed on their stomachs to prevent choking to death, they soon develop the cervical lordosis as they satisfy their curiosity and hold their heads up to look around. The lumbar lordosis is developed in the crawling stage which lasts from 6 to 16 months. The three spinal curves give 15 times more strength to the spine in terms of spinal bio-mechanics.

The cervical curve may be lost due to trauma, chronic poor posture or a combination of the two. The resultant curve loss makes recurrent cervical subluxation the rule and invites degenerative joint disease. The weight of the adult head is between 12 and 15 pounds and is meant to be mediated through the facet joints. A straightened curve displaces the weight of the head forward onto the discs and a reversal significantly compresses the discs. By far the largest percentage of a chiropractor's patient population suffers a hypolordosis and often reversed lordotic situation. The resultant degenerative disc disease is often insidious in nature and is responsible for a variety of diverse symptoms.

As an applied kinesiologist, you have an excellent tool at your fingertips. To determine if a patient has this problem, first observe the patient's middle to upper thoracic kyphosis for mild to moderate or severe flattening. Do this with them standing and observe both the posterior and lateral angles. If present, a red light should go on. Secondly, with the patient standing or seated, face the patient and test an intact shoulder muscle such as the supraspinatous. Next, you have a choice of firmly grabbing the neck extensors as a group bilaterally and pulling them straight posteriorly

while testing the shoulder muscle or gently pushing posteriorly on the mid-front portion of the patient's neck. Both challenges give the same result. The only false positive I've seen is when using the posterior challenge on spastic neck extensors.

A neutral lateral cervical film will verify the challenge and give you an idea of the severity of the problem. When used carefully, this challenge is highly accurate (90+ percent correlation with X-rays) and is an excellent motivating device to quickly monitor patient progress.

AN INQUIRY
INTO THE OCCURRENCE OF THE
FROZEN MUSCLE PHENOMENON
AND
ITS RELATIONSHIP TO THE INJURY
AND OR THE DISEASE STATE
IN
225 RANDOM PATIENTS

by

Nancy L. McBride, D.C.

Diplomate

International College of Applied Kinesiology

ABSTRACT

This paper is a data retrieval from patient files with statistical compilation for the purpose of determining whether or not there is a direct relationship between the frozen muscle condition and the existence of injured or diseased tissue. It is also the purpose of this paper to establish that there may be many modes of A.K. and or A.P. therapy applied to induce a homeostatic condition for the given muscle and its antagonists. This paper is also intended to verify the research paper delivered by Sheldon C. Deal, D.C.N.D. and Richard Utt, The Seven Conditions of Muscle Balance, I.C.A.K., 1986.

During the summer meeting of the I.C.A.K. in St. Louis, MO 1986, I was present at the presentation of the aforementioned research paper submitted by Richard D. Utt and Sheldon C. Deal D.C.N.D. I was intrigued by the frozen muscle concept. Concurrently I was suffering from a great deal of pain, a "hot" neuritis radiating from my cervical dorsal region down my left arm. It occurred to me that I too might be experiencing frozen muscle conditions. I approached Richard Utt to set up a time to be examined. It was puzzling me why the standard A-K procedures had not made any change in my symptomology.

Using the procedures outlined and described in Richard's paper as well as in his Applied Physiology Workshop Manuals he examined and treated me. During the course of treatment multiple muscles exhibited the hyper-frozen condition, Subscapularis, Middle Trapezius, Upper Trapezius, Supraspinatus, Infraspinatus, Teres Minor and Posterior Deltoid. Simultaneously, the same shoulder exhibited hypo-frozen conditions of the Pectoralis Major Clavicular, Pectoralis Major Sternal, Subclavian, Anterior Deltoid, Teres Major, Teres Minor and Subscapularis. The procedures outlined in his workshop manuals describe the moding sequences and therapy techniques used by Richard. The results were outstanding and after three sessions I was completely free of the pain I had endured for three weeks.

After seeing what could be accomplished in such a short amount of time, I asked Richard if he would come to Los Angeles and work with me on some of my very difficult problem patients. Richard agreed and over the course of nine months since June of 1986, we proceeded to line up 225 patients, spread over 20 separate occasions. These patients had all different types of maladies from recently sustained injuries to being chronic accident victims. We did not limit ourselves to injuries only but took on the whole gambit of patient circumstances including disease states such as Muscular Dystrophy, P.M.S., TMJ and vascular accident cases.

The statistics show that in 100% of all 225 patients examined and treated, a hyper-frozen condition existed eliciting some sort of deviation or pain response. In over 75% of the cases where muscles were tested near the injury, there could be found a hyper-frozen muscle condition.

I would like to share with you at this time some of the examples we ran into and their responses, which by the way, were the rule rather than the exception.

Example: We treated a severe unstable TMJ on a female patient who had been in an auto accident. The auto had lost its left rear tire while on the freeway as it swerved and finally hit the cement divider on the patient's side. This TMJ problem was handled by an Orthodontist. He

fitted her for several splints and finally resorted to an appliance that would hold her mouth open all night long. It consisted of a ping-pong sized ball centered in the middle of the splint, worn over the bottom teeth. In one session, using Richard's Applied Physiology techniques she was able to rid herself of the splint. The Orthodontist subsequently determined that the jaw motion was totally restored to normal. The muscles involved were: Hypo-Frozen: Posterior belly of Digastric, Stylohyoid, Mylohyoid, Splenius Capitis, Upper Trapezius, Omohyoid and Levator Scapula; Hyper-Frozen: Temporals, Masseter, Buccinator, Internal Pterygoid and External Pterygoid.

Example II: A muscular dystrophy patient with severe atrophy in the Pectoralis group with Middle and Lower Trapezius involvement showed spastic movement of the arms when putting the hands to the face. She was unable to control her legs movement well enough for a normal gait. This patient had all of the gait muscles except the Pectoralis Major and Deltoid hypo- and hyper-frozen both bilaterally.

After several sessions she can now raise her hands steadily to her mouth without the spastic flinging of her arms. Her gait is so remarkably improved that she can now walk with her husband and keep pace with his stride for several miles.

Example III: We treated a polio patient who is now in his mid-fifties and experiencing rapid debility. This 6'6" man displayed himself at a 45 degree angle and made full use of two canes for mobility. His posture, upon examination, revealed that he had no ability to hold himself erect upon movement of either leg forward.

This patient displayed right a hyper-flaccid Quadratus Lumborum. Simutanously, his right hamstrings and left Quadriceps were both hypo-flaccid. He also displayed the following hypo-frozen conditions: Bilateral hypo- and hyper-frozen psoas, Iliacus , Adductor Longus, Latisimus Dorsi, as well as simply hypo-frozen Gluteus Minimus and Gluteus Maximus. After 4 treatments and at the writing of this paper the polio patient is fully capable of walking across the room twice without the use of the canes. He stands erect for the first time in over twenty five years. In the event of clearing the hypo- and hyper-frozen conditions, the Quadratus Lumborum was now, although atrophied, showing some integrity.

It should be noted at this time that in all of the aforementioned circumstances of clearing the frozen muscle response to a homeostatic condition, many different therapies were employed. Each muscle demonstrated its own particular priority of therapeutic modalities to bring about normal responses.

Example IV: A hypo-frozen Gluteus Medius muscle on the right side of a particular P.M.S. patient required as many as 14 different corrections before surrendering to normality: (1) C-5 Anterior, (2) Carpal tunnel Rt., (3) Olive: Bach Flower, (4) Auromatic: Peach, (5) ICV, (6) Value of Houston, (7) Acupuncture: Pericardium 5, (8) Crown chakra, (9) Throat chakra, (10) ESR, Fear, (11) Anterior Pituitary, (12) Vit E-400 IU's, (13) third Intercostal, right, needed facial stretch, (14) Figure 8 energy. At the conclusion of this last therapy the Gluteus Medius would now release under normal origin and insertion stimulation and would now fit the norm for this circuit.

It is common to find more than one therapy needed for a frozen condition. It is somewhat rare to apply fourteen corrections for one muscle in one direction but it is possible. One instance, took as many as twenty five corrections. Richard tells me that the most he has experienced is 39 corrections for one frozen condition. As Dr. George Goodheart has said many times, "The body is simply intricate and yet intricately simple." This work which I have witnessed during the last nine months is, by no means, the final word on muscle testing but rather has provided me with new vistas with which I can bring about normal neurological behavior.

In Dr. George Goodheart's research tape # 99, he spent 2/3 of that session eluding to the tremendous discovery by Richard Utt of the frozen muscle response. He noted that he was personally experiencing rapid changes in patients' physiology as it related to lung capacity. I too, have experienced rapid, and progressive responses within my own clients' physiology. Again, I would like to quote Dr. George Goodheart in thanking Sheldon C. Deal, D.C.N.D. for risking, in showing us a phenomena not previously excepted as the norm. It was astute of Sheldon to recognize Richard for his discoveries. It would be astute of us to use them as they are expedient and show results in a short period of time.

And the bottom line spells . . . RESULTS.

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COMBINED MUSCLE TESTING

by Donald A. McDowall, D.C.

Abstract

This paper explores some of the techniques and combinations of muscle testing fixation muscles that support synergist companions. A better understanding of functional kinesiology can then be manually observed.

Introduction

Individual muscle testing is well described in various texts assisting the clinician to isolate and functionally assess the neurological integrity of the muscle (1,2). In real life, however, rarely does a patient use an individual isolated muscle in the activity that may produce their injury. Muscle actions are grouped and function in support of one another. For this purpose I have described and combined groups of muscles in practicality of testing in the function they are most likely to be used or abused. This observation has been applied regionally to help observe more accurately this type of dependence.

The description of the muscle groups involved will begin at the fixation or stabilising group and progress through to the extremities. The muscle tests recognised will follow those outlined by other authors but will often combine multiple groups of tests in the one movement. While this may be considered group muscle testing, it must be differentiated from reactive muscle testing to synergistic movement testing.

Procedure

Test the intact base or stabilising muscle and then progressively work your way through the synergistic muscles by testing them in combination with the previous muscle. If those two muscles test intact, then add the next synergistic muscle to those two, until the base muscle becomes weak. When this occurs the last muscle that you added to that combination is the irritating factor. It will then need to be reset using any of the normal therapeutic factors that apply. On application of that sequential muscle, after correcting, the base muscle should maintain its strength.

Muscle Combinations

Posterior leg muscles: gluteus max., hamstrings, soleus, gastrocnemius.

.../2

Front leg muscles: abdominals, quadriceps, peroneus, tibialis anterior.

Medial leg muscles: iliopsoas, piriformis, adductors, sartorius gracilis, popliteus, anterior tibial.

Lateral thigh muscles: quadratus lumborum, tensor fascialata, gluteus medius, peroneus.

Neck muscles: rectus abdominus, pectoral and subclavius, sterno cliedo mastoideus and anterior scalene.

Posterior neck muscles: sacro spinalus, posterior neck extensors, lateral arm muscles, pectoral and subclavius, upper trapezius, middle and lower trapezius, deltoid, wrist extensors.

Medial arm muscles: latissimus dorsi, pectoral muscles anterior serratus, wrist flexors.

Anterior arm muscles: anterior serratus, mid and low trapezius, coracobrachialis, biceps, brachioradialis, wrist flexors.

Posterior arm muscles: latissimus dorsi, triceps, anconeus and wrist extensors.

Discussion

The mode of evaluation of progressive muscle testing is by testing the base or stabilising muscle first and then adding the supportive muscles to it, to interpret the integrity of the base muscle in its role of support. Often the base muscle may show strong and clear when isolated but with the additional responsibilities that it has to assume under functional stress, it simply may not hold up.

The form of treatment that will assist these progressive muscle functions is the proprioceptor technique of either golgi tendon, origin/insertion or spindle cell. In some cases the other IVF factors may be necessary with additional time for their treatment. Success seems to be dependent upon the maintenance of innervation of the muscle and this particular paper is based upon the assumption that all spinal neurological components have been balanced as successfully as possible. The benefit role of this testing procedure will assist in stabilising those muscles for a more extended period of time.

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STUDY OF THE OPPONENS-CERVICAL RELATIONSHIP

by Donald A. McDowall, D.C.

Abstract

A clinical study was conducted to determine the frequency of particular vertebral segments responsible for the weakness of bilateral opponens muscles. The results of this study showed that out of a group of 100 patients that exhibited bilateral weak opponens muscles, all of them therapy localised to C2 segment. From this study it is obvious that the C2 segment is critical in the integrity of the opponens muscle function and that the involvement of other associated neuropathies was negligible.

Introduction

A clinical study was constructed to find out the primary neuropathy that influenced the bilateral weakness of opponens muscles. It was determined to select a group of 100 patients who exhibited this bilateral weak syndrome. Evaluation of the carpal tunnel syndrome, pronator teres syndrome, C1/C2 fixation, sacrum malfunction and therapy localisation of every cervical segment, as well as T1 and T2.

The nerve supply to this area is via C6 and C7 for the opponens pollicis and C7,8 and T1 for the opponens digiti minimi. The origin and insertion of these particular muscles are well understood and illustrated in other references. (1,2,3,)

Muscle testing procedures were those used according to standard muscle testing texts. Therapy localisation and challenge evaluation was determined following the recommended guidelines of Goodheart (as described by Walther). (3)

The procedure used for evaluating the data included observation of the patient that showed both opponens muscles weak in a supine position of both the hand and the patient. Therapy localisation was then applied to the wrist, elbow, sacrum, cervical C1/2 area with movement and each vertebral segment independently. The involved segment was then recorded and a challenge given to that segment to determine the method of correction and evaluation of subluxation.

Results

Tabulation of the results showed that all tests were negative except one positive carpal tunnel syndrome in the right hand and the other subjects with a C2 positive therapy localisation

.../2

involving either a posterior segment for 44 of the patients, spinous left segment for 42 of the patients and a spinous right segment for 14 of the patients. The study was conducted over a period of one week in which all the subjects were evaluated.

Discussion

The search for a common subluxation or neuropathy manifesting with bilateral opponens weakness can be observed from these findings. It appears as though the C2 segment is intricately involved in this weakness. As a result of this finding, suspicion of C2 segment involvement should be considered as the cause of the neuropathy. The one case that also involved a carpal tunnel syndrome still manifested a C2 subluxation. In a clinical environment a quick testing of these particular muscle groups can point specifically to the segment that may assist in the patient's recuperation within the normal frame of reference of management. Other studies may show different findings and I would encourage further investigations of similar studies to determine the frequency in which the muscle/vertebra relationships may be manifest.

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THERAPY LOCALIZATION ACCEPTANCE

June 1987

Carl Mestman, DDS

ABSTRACT

An attempt will be made to supply some acceptable scientific information to aid in the acceptance of therapy localization (TL) as a bonifide method of practice in the field of diagnosis.

In the early part of the 1960's Dr. George Goodheart (1) discovered Applied Kinesiology. This technique has given to chiropractic a tool that has revolutionized the practice of not only chiropractic, but every other professional modality where the doctors have had the ability to recognize the advantages of such a tool in their work.

As the success of Dr. Goodheart's work spread, the feedback inspired another innovation called therapy localization. By placing the patient's hand or finger on a particular part of the anatomy the muscle would answer the question asked by that test. "How is that?" as Dr. Goodheart would ask. Surely such a technique could not possibly be taken seriously. I am often told that by other doctors and patients. At first I was at a loss to defend this technique. As I pondered this problem the answers slowly came to me.

Let us look to embryology first. In the development of

Therapy Localization Acceptance
Mestman

the human embryo the fetus develops from three germ layers, namely the ectoderm, mesoderm and the endoderm. (2) Part of the ectoderm invaginates and forms a neural tube which develops into the spinal chord and the brain. The rest of the ectoderm forms the skin and the enamel of the teeth. The skin is the outer extension of the brain serving as a master proprioceptor supplying the brain with information about heat and cold, hardness and softness, light and dark, wetness and dryness, etc. The teeth are related to organs, muscles and vertebrae in the body. (3) The teeth are therefore, an inner extension of the brain. I believe that these internal structures such as organs, muscles, and vertebrae send messages to their respective teeth which in turn relay these messages to the temporo-sphenoidal line (3) which in turn holographically acts as the punch key to relay them on to the brain.

Penfield and Rasmussen (4) in 1950 were able to map the cortex of the brain by placing electrodes in selected human brains and stimulating those areas to locate the structures affected. To their amazement they found that approximately 50% of the cells of the cortex were related to the tongue, lips, and teeth while over 20% were related to the thumb and fingers. This leaves approximately less than 30% to be divided between the vital organs and other structures of the body. Since over 20% of the cells of the cortex are related to the thumb and fingers in comparison to approximately 1% or 2% for other structures,

Therapy Localization Acceptance
Mestman

I believe this supports the function of the skin in TL.

When medical authorities are questioned about the significance of this information, they are unable to give a satisfactory response. One neurosurgeon told me that it was due to the fact that chewing was such a precise mechanism.

Just the observation of newborns and infants will give you some indication of how important these structures, the fingers and the mouth, are to the brain. These babies touch everything they can and put everything into their mouths to learn about their environment. That alone could explain some of the importance of these structures to the cortex of the brain.

TL picks up the information about the condition of that area of the body it is in contact with through the ectodermal skin and relates that information back to the brain. At present the information the TL gives us is that there is a possible functional or pathological abnormality at the TL site, but it cannot tell us what that abnormality is. Only where it is. In time this question will also be answered.

I hope that this short paper has been of some small aid in gaining acceptance from your patients and doubting doctors.

Therapy Localization Acceptance
Mestman

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"B" VERSUS "G"
AND SYMPATHETIC - PARASYMPATHETIC DOMINANCE
IN STRESS RELATED PATIENTS

Jerold I. Morantz, D.C. and Walter H. Schmitt, Jr., D.C.

ABSTRACT: Diagnostic charts are given for the various symptoms and signs created by a need for vitamin "B" and a need for vitamin "G", and for differentiating between sympathetic and parasympathetic and hyperadrenal cortex and hypoadrenal cortex signs and symptoms in the stress related patient.

The vitamin B complex is divided into two parts based on the alcohol solubility of its various components. The entire B complex is water soluble, but only part of the B group is alcohol soluble. The fraction which is alcohol soluble is available separately in only one product which we are aware of and this is "Cataplex B" by Standard Process Laboratories. Although the primary listed ingredient in this product is thiamine, it is processed to preserve a naturally occurring fraction known as B-4 or anti-paralysis factor which is reputed to be the main reason this product muscle tests differently and acts differently clinically from other vitamin B products.

The alcohol insoluble fraction of the vitamin B complex contains primarily the riboflavin and niacin factors and is often referred to by the Canadian name for riboflavin, vitamin G. Two companies with which we are familiar produce a "G" product: "HI-G" by Enzyme Process Company and "Cataplex G" by Standard

B vs. G and Sympathetic-Parasympathetic Dominance
Morantz and Schmitt

Process Laboratories. HI-G also contains small amounts of thiamine, pantothenic acid, and E-6.

In this presentation "B" will mean those factors in Cataplex B; "G" will refer to those factors in Cataplex G and HI-G. The differences between "B" and "G" are summarized in Chart 1. Notice how dramatically they differ in their effects in the body, being diametrically opposed to each other on most every count. It must be mentioned here that two articles by Goodheart are the basis for much of the information on Chart 1. 1,2

Particularly notice that "B" has functions which tend to be generally sympathetic in nature, and symptoms of its need are generally parasympathetic dominant symptoms (for example, low blood pressure, bradycardia).

Also notice that "G" has functions which tend to be generally parasympathetic in nature. Symptoms of a need for "G" are sympathetic dominant type symptoms (for example, hypertension, tachycardia).

The adrenal gland has both a cortex and a medulla. Too often we confuse the signs and symptoms of the adrenal cortex with those created by the adrenal medulla and a sympathetic-parasympathetic nervous system imbalance. Dr. John Bandy's work on body typing has helped greatly in our understanding of this concept.³ On chart 2 is a listing of common signs and symptoms found in stress related patients with a differentiation made between those arising from the adrenal cortex and those attributable to sympathetic - parasympathetic imbalance.

CHART 1

COMPILED BY JEROLD I. MORANTZ, D.C., AND WALTER H. SCHMITT JR., D.C.

B

G

Alcohol soluble portion
Heat stabile
Natural Thiamin or (aneurin)
also: B4 - Anti-paralysis factor
B12
Pantothenic Acid
Nerve promoting
Acts like a vasoconstrictor
Low blood pressure with blood vessels
without tone
Bradycardia
Decreased body temperature
Decreased breath holding time
Decreased respiration rate
Frequent yawning or fatigue
Helps salivary glands and pancreas
make enzymes.
Patient who is acidotic will
enable to shift alkaline.
Itchy symptoms of seborrheic dermatitis
Necessary to metabolize lactic and
pyruvic acid by products of CHO
metabolism:
a) causes irritation to smooth
muscle of the bladder -
frequent P.M. urination
b) patient wakes up and can't fall
back asleep
Heart correlations:
a) irregular heart beat
b) fibrillation of heart block
c) heart palpations
d) shortness of breath
Mental correlations:
a) increased psychotic tendencies
b) apprehensive
c) intolerance to noise
Lack of vibration sense
(with ordinary tuning fork)
Headaches - that feels like you have a
tight hat on
Shell fish, clams, salted herring are
high in thiaminase

Alcohol insoluble portion
Heat labile
Riboflavin and Niacin
also: Lipotropic factor
Choline
Inositol
Betaine
Folic
PABA
Nerve relaxing
Acts like a vasodilator
Fat metabolism
hyperlipoproteinemia prone to
coronary disease
pre myocardial infarction
pre angina pectoris
tachycardia
hypertensive
heart sounds equally spaced
PVC - pre ventricular contraction
For further adrenal gland function
Aids stomach in making HCL (Patient too
alkaline)
Mental correlations:
a) excessively worried
b) moody
c) apprehensive
d) suspicious
e) depressed
Improves circulation - O₂ Transport
a) bright red tip of tongue
b) strawberry tongue (purple)
c) loss of substance of upper lip
d) irritated muscous membrane
rectum
vagina
eyes - frequent crying
Blood shot eyes (circumcorneal vascu-
larization)
Burning or itching of eyes
Photophobia
Blepharospasm

B vs. G and Sympathetic-Parasympathetic Dominance
Morantz and Schmitt

B	CHART 1 (continued)	G
<p>Inability to properly breakdown estrogen in liver properly:</p> <ul style="list-style-type: none"> a) spider nevi b) breast swelling c) increase body weight - H₂O - Pre-menses d) long heavy period e) short intervals between periods f) generalized bloating g) inhibition of thyroid (then many low thyroid symptoms possible) <p>Drowsiness after meals</p> <p>Lack of appetite</p> <p>Tenderness of calfs</p> <p>Burning of soles of feet - increase Lactic</p> <p>Back especially at night - decrease acetylcholine propagation of nerve impulse</p>		<p>Transient Ischemia - objects come and go into vision</p> <p>See only parts of printed words</p> <p>On exam pallor of temporal half of optic disc</p> <p>Cheilosis - cracking of corner of lips</p> <p>Friable skin especially on face (when shaving)</p> <p>Spastic gall bladder - ligament inter-link</p> <p>Jumpy, shaky legs, whole body jumps while asleep.</p> <p>Gastritis and ulcer caused by anti-cholinergic drugs deficiency in cholinesterase</p>

It is important to identify whether or not the stress related patient is either sympathetic dominant or parasympathetic dominant because treatment must be varied accordingly. Many patients are sympathetic dominant which keeps their adrenal cortex in a constant state of exhaustion, like constantly whipping a tired horse. To allow the cortex a chance to heal in these patients, it is usually necessary to first balance their autonomic dominance by the use of parasympathetic supportive treatments. This includes the use of neurotransmitter precursors and cofactors for acetylcholine, potassium and alkaline ash minerals, and "G" among other measures.

The neurotransmitter factors will tend to stimulate

CHART 2
STRESS RELATED ILLNESS AND THE ADRENAL GLANDS

Differential Diagnostic Signs

Walter H. Schmitt, Jr., D.C.

SYMPATHETIC DOMINANT SIGNS	PARASYMPATHETIC DOMINANT SIGNS	HYPERADRENAL CORTEX SIGNS	HYPOADRENAL CORTEX SIGNS
▲ BP > 15 mm	▲ BP < 4 mm	▲ BP > 15 mm	▲ BP < 4 mm
High Systolic High Diastolic	Low Systolic	High Diastolic	Low Diastolic
Tachycardia	Bradycardia		Increased Pulmonary S ₂
Paradoxical Pupil	Constricting Pupil	Decreased Urine Sodium	Increased Urine Sodium
ICV-Closed	ICV-Open		Decreased Urine Sodium with Paradox- ical Pupil
Energy-OK	Energy-Low		LAAT > 20 sec
Decreased Saliva (Dry Mouth)	Increased Saliva		

TREATMENT

Note: If conflicting signs make a pattern unclear, first check for "switching factors", especially small intestine and hyoid.

TO INCREASE PARASYMPATHETIC &/OR DECREASE SYMPATHETIC	TO INCREASE SYMPATHETIC &/OR DECREASE PARASYMPATHETIC	TO DECREASE ADRENAL CORTEX	TO INCREASE ADRENAL CORTEX
Acetylcholine: Choline Pantothenic acid	Norepinephrine: Tyrosine Vitamin C with Tyrosinase Folic acid B-6 Niacinamide	Adrenal PMG	Adrenal PMG
Decrease Caffeine	Phosphoric acid & Acid ash minerals	Decrease Stress (Emot. NVs)	Whole Adrenal (less often)
Potassium & Alkaline ash minerals (Organic Min.) esp. if urine Na < 10	Whole adrenal	Correct other endocrine imbalances	Ascorbic Acid Pantothenic acid
Decrease Stress (Emot. NVs)	Adrenal PMG (less often)		Correct other endocrine imbalances
Cataplex G (SPL) HI-R (FP)	Cataplex B (SPL)		Decrease Stress (Emot. NVs)

B vs. G and Sympathetic-Parasympathetic Dominance Morantz and Schmitt

autonomic parasympathetic outflow. On the other hand, the alkaline ash minerals work at the tissue level by varying the response of the tissues to the autonomic stimulation. Alkaline ash minerals will affect tissue response in such a way as to enhance parasympathetic and dampen sympathetic dominance. "G" seems to have its effects by affecting both neurotransmitter activity and tissue response.

By contrast, the parasympathetic dominant patient who is in the state of adrenal cortex exhaustion would be benefitted by treatments designed to stimulate the sympathetic pathways while at the same time treating the cortex. These include the use of the neurotransmitter precursors and cofactors for norepinephrine and epinephrine, phosphoric acid and acid ash minerals, and "B".

Again the neurotransmitter precursors support the sympathetic outflow while the acid ash minerals affect the tissue response to autonomic stimulation, enhancing sympathetic or dampening parasympathetic dominance. "B" seems to work at both neurotransmitter and tissue response levels.

Fortunately we can use muscle testing as a tool to help correlate the other signs and symptoms of the patient. This becomes particularly important when a patient begins to respond and the pattern shifts 180 degrees overnight which can often happen in difficult patients.

An example of this is one very sympathetic dominant woman we recently treated. Her pulse dropped from 125 to 83 as a result of the treatment and other signs and symptoms appeared improved.

**B vs. G and Sympathetic-Parasympathetic Dominance
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That night, however, she displayed many "B" type symptoms including awakening in the middle of the night to urinate and not being able to return to sleep. The next day, her pulse was back up to 100, but she demonstrated a need for "B" on the phonocardiograph by wide, split first and second heart sounds and also by muscle testing response. Giving the "B" normalized the heart sounds and other treatment dropped her pulse to 71. She had a remarkable clinical response for two days until she again showed a pattern of tachycardia and arrhythmia and other sympathetic dominant signs. She then required parasympathetic support.

Many patients teeter-totter in this fashion, and it is extremely useful to monitor diagnostic signs and symptoms along with muscle testing patterns in an effort to accurately follow their cases. It is hoped that these two charts will be useful toward that end.

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T.F.L. (Tensor Fascia Lata) Colon Neuropeptidal Enteric Hologramic Technique
By Robert J. Porzio, D.C.

Abstract: The frequency of finding T.F.L. and colon weaknesses using eyes opened and eyes closed as in Quadriceps, Small Intestine Neuropeptidal Enteric Hologramic Technique (NEHT) described by Dr. George Goodheart*.

It seemed logical that when using the NEHT with quadriceps and small intestine, the frequency of its diagnosis indicated its great value to the patients we see.

In testing a series of 30 patients for the NEHT over a period of one month, a positive diagnosis was found in 18 of those patients and treated. The 30 patients used were more difficult patients whose progress had somewhat plateaued in their health program.

One of the patients who had tested negative for NEHT should not have, in my opinion. The patient's complaints were anemia, menstrual difficulties, breast swelling pre-menstrally, fatigue even though vitamins and applied kinesiology technique were used for quite some time.

It seemed that this patient was not clearing the bowel to allow a proper completion of the digestive system. However to no avail was I able to kinesiologically find or fix the bowel.

The usual applied kinesiological techniques that were used were Neurolymphatics, anterior and posterior, Neurovascular*, C.S.F. Cranial Faults*, Spinal nerve involvement and meridian therapy and nutrition.

*Research Tape #100 - 1987 (Winter meeting of ICAK) Keywest, Florida

*G.J. Goodheart, Applied Kinesiology Workshop Manual 1972

When testing this patient with eyes opened, a negative muscle weakness was elicited, when eyes closed for a period of time, the TFL tested a positive weakness.

Following the same procedure as Dr. Goodheart taught in Keywest for the Quadriceps NEHT showed positive for the TFL.

Therapy localization to the alarm points with eyes opened then closed.

Next step checking the beginning and end points on the large intestine located beginning point LI, at lateral and dorsal side of most distal portion of index finger bilateral and end point LI 20 located at infraorbital foramina bilateral.*

The spinal associated point for the LI is B25 located at L4-L5 junction.

With patient prone, palpate for major pain pattern on spinal area as described in Dvorak & Dvorak to diagnose the major area of subluxation.

Adjust the major subluxation.

Identify the Lovett reactor vertebra to primary subluxation.

Challenge for holographic or respiratory subluxation.

Any residual pain can be relieved by tapping Lovett Reactor Vertebra at 3 Hertz or 1 tap/sec for 30 seconds.

This procedure has been described by Dr. Goodheart in great detail concerning the Quadriceps and NEHT.

*David S. Walther, Applied Kinesiology, Volume I, Pueblo Co. Systems, D.C.

^Dvorak & Dvorak, Manual Medicine, Thieme-Stratton Inc. New York

The original 30 patients tested were then retested. Of the 18 patients who showed positive for the NEHT, 4 showed also positive using the TFL eyes opened and closed.

Of the 12 patients who did not show positive for Quadriceps NEHT 6 showed positive for TFL.

Conclusion: In trying to continue the health of a patient, TFL and colon problems may be involved in NEHT, Neuropeptidal Enteric Hologrammic Technique. Therefore testing T.F.L. with eyes opened and eyes closed may be an added diagnosis in those patients who we have difficulty with.

Title: Omega-6 - Fatty Acids By Robert J. Porzio, D.C.

Abstract: To determine the frequency for nutritional supplementation of Omega-6 Fatty Acids Series in patients who enter our office.

A series of 50 patients were tested for fatty acid deficiencies as described by Dr. Walter Schmitt, D.C. at a seminar titled Manipulating Body Chemistry in November, 1986, Boston, MA.

Prostaglandin 1,2,3,PG1, PG2,PG3 series as described by Dr. Schmitt can be tested through Applied Kinesiology.

PG1 series sources are from most food oils - corn, safflower, olive, evening primrose, and black current seed* which will eventually become Dihomogamalinolenic Acid (DGLA).

PG2 series sources are from most red-meats, organ meats, dairy fats.. and will eventually become Arachidonic Acid (AA).

PG3 Series sources are from most fish oils and will become Eicosapentaenic Acid (EPA).

We started testing patients in December 1, 1986 till January 30,1987. For this two month period we tested 50 patients for Omega-6 Fatty Acids by using oral nutritional testing and a myo weakness found of the T.S. Line.

Of the 50 patients tested, 26 showed positive response to products used to increase nutrition to PG1 and PG3 series. 52% of patients showing the need for fatty acid nutritional supplementation.

*Schmitt, Manipulation Body Chemistry, pg.8

Products used were Evening Primrose oil (Healthland Source), Black Current Seed oil (Standard Process) for PG1 Series, Cod Liver oil (Healthland), and Linseed oil (Standard Process) for PG2 Series.

Of the 52% of the patients who showed positive for fatty acid deficiencies, 60% of those showed positive for black current seed and evening primrose oil, PG1 Series. While 40% of those positive for fatty acid need showed for Linum B₆ and cod liver oil PG3 Series.

Of the patients of the PG1 Series who were positive more showed for black current seed oil by 2:1 more than evening primrose oil products.

Of the patients of the PG3 Series who showed positive, more showed for linseed oil (Linum B₆) by 2:1 - over cod liver oil.

Conclusion - There is a high rate of need for nutritional supplementation to the production of fatty acids in patients - 60% of those tested - greatest need came from PG1 Series production of DGLA from black current seed oil.

MUSCLE WEAKNESS PATTERNS IN DISTORTIONS OF THE CRAINIO-
SACRAL MECHANISM

Robert P. Radtke, D.C,

Abstract: Dysfunction in the crainiosacral mechanism will display in characteristic and consistent patterns. Muscle weakness findings in flexor, extensor, internal, and external rotators will reveal the nature of the crainiosacral lesion.

The bones of the skull move in a pumping action like the gills of a fish. This movement relates to the branchial or gill arches described in embryology. The components of this movement are flexion and extension for the midline crainial bones. The paired bones such as the temporals move into internal and external rotation. This rhythmic movement is carried and translated throughout the entire body. The same flexion, extension, internal, and external rotation pattern is observed in muscle testing of the trunk and extremities.

Distortion of the crainiosacral system will present as a distinct pattern of muscle weakness in the trunk and limbs. As a first example, a dural torque pattern can include torsion in the skull, TMJ, pelvic, and shoulder girdle. One temporal bone will be found in external (or internal) rotation relative to the other. In addition the extensor muscles of one arm will test weak. The flexors of the contralateral arm will test weak. One knee will show extensor weakness (quadriceps), the other will show flexor weakness (hamstring). In the shoulders, one side shows external rotator weakness (teres minor) while the

other side shows internal rotator weakness (subscapularis) and so on.

One hallmark of crainiosacral dysfunction is trunk flexor and limb extensor weakness. Frequently the weakness will be unilateral only. This one sided weakness pattern is seen when one half of the crainiosacral mechanism is locked up. If for example the left wrist extensors and quadriceps test weak, these other findings are probable; the left cranium will be found locked in flexion and external rotation, left loss of vertical dimension (closed TMJ), and left recurrent sacroiliac subluxation.

Looking at any persistent problem in this context can be illuminating. Many many patients will display these consistent muscle weakness patterns. As they improve under your care these muscle weakness patterns will not display in the clear. To amplify any hidden weakness the following challenges are used; extensor and external rotator weakness is exaggerated by extending the cervical spine or flexing the lumbar spine. Flexor and internal rotator weakness will be exaggerated by flexing the cervical spine or by lumbar extension.

Many of these distortion patterns coexist superimposed one on top of another in layers. For example your therapy will resolve one torque pattern in a counterclockwise direction and immediately the opposite clockwise pattern of muscle weakness will emerge. In the context of improvement in the patients health this can be considered an unwinding or retracing.

Summary

Understanding and releasing these common weakness patterns will resolve many chronic and recurrent problems. The origin of this display can be electromagnetic, structural, and or nutritional imbalance.

Upledger, J.E., Vredevoogd, J.D.: Crainiosacral Therapy.
Eastland Press, Seattle, Washington 1983

Originality has been described as the ability to conceal ones sources. I am indebted to Dr. George Goodheart, Dr. Alan Beardall, and especially Dr. Terry Franks for these observations.

AN IMPROVED WAY TO FIT AND EVALUATE ORTHOTICS

by Dean Paffelock D.C.- Diplomate, ICAK
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ABSTRACT: A more accurate means of fitting and evaluating orthotics can be obtained by testing foot position and its proprioceptive effect on gait related muscles, particularly the neck and shoulder flexor, extensor, adductor, and abductor muscles in the weight-bearing position. The use of this testing procedure in conjunction with using pronation or supination wedges of varying heights will enable the doctor to prescribe a more accurate orthotic and confidently evaluate already existing orthotics. I believe this procedure is more accurate than any presently available and applies to rigid as well as flexible orthotics. Also discussed will be the rationale for a change in the design of the metatarsal arch of the Foot Levelers brand of orthotics.

Most of us in ICAK will agree that the fitting of orthotics is more accurately done in the weight-bearing position. Our reasoning has been that the foot is a weight-bearing structure with a rich bed of muscle and joint proprioceptive feedback sensors that can and does effect other structures of the body. We seem to agree that the foot is best evaluated in the position in which it is most actively performing its weight-bearing function. This, of course, is the standing position.

However, up until this point, we have been dependent upon the abilities of orthotic manufacturers to do all the measuring of our casting molds and had no real way to evaluate if our patient was receiving an orthotic that provided optimal correction. The orthotic companies, on the other hand, were not receiving adequate information from us and did not have the added benefit of observing and examining our patients.

Based upon many personal conversations, quite a few DC's stated that they had become disillusioned with the inconsistent results that their patients have experienced with orthotics. This seemed to be true whether the DC fitted the orthotic himself and depended upon the orthotic company to do all the work or referred the patient to a podiatrist. Many completely stopped prescribing orthotics or never began using them due to the disillusionment that their colleagues had experienced.

Even though I have largely specialized in sports chiropractic and fitted many hundreds of pairs of orthotics, my attitude toward them until about two years ago had been more prayerful than confident. I could never be quite sure that the orthotic that arrived would take care of the problems I hoped they would. I had also seen other problems (especially lower back problems) mysteriously appear after some patients had been wearing their orthotics for a few days.

I realized that we needed a more accurate way to evaluate and communicate our patient's needs to the orthotic company. Also needed was a way to tell if the orthotics we received back were optimally performing their function.

Previously, in AK classes, I was taught to detect foot problems via postural evaluation, foot and ankle muscle tests, shock absorption tests, psoas tests, shoe wear, etc. Then, if foot adjusting, spindle cell or golgi tendon procedures, or using the five factors of the IVF did not yield long lasting results, I would prescribe orthotics. Most of the time I used Spinal-Pelvic Stabilizers or Power Sole + from the Foot Leveler Company. I had had the best percentage of good results with their product, even

though as previously mentioned, the results were still erratic.

If the patient was pronated, I would check the box on Foot Leveler's prescription form that said pronation. The results would be somewhat more consistent if I took the time to give them more information. In other words, if the patient had knee or arch pain or a high hip or shoulder, I would also check those boxes. But still there was a disturbing percentage of poor results.

When the orthotics arrived, I would generally test one or two random muscles in the weight-bearing position to see if the Power Soles improved the functioning of those muscles. Sometimes there was no noticeable change. In those cases, I was usually content if the Power Soles didn't cause any weakness.

Then I devoted some concentrated time studying gait mechanism and began to organize my testing procedures. The results have been consistently good since I began using these tests. Included is my suggestion for improved fitting of orthotics for patients who can not hold their foot corrections and a way to determine if the orthotics are doing their job. This procedure is also extremely helpful in determining if orthotics previously prescribed by you or another doctor are helping or hindering your present progress with your patient and their overall structural balance.

In my experience it is rare that an inflexible orthotic will thoroughly correct the total gait involvement. This appears to be because the heel of a rigid orthotic can not be adequately posted without effecting the whole foot. Inappropriately rotating the whole foot can unset joint proprioceptors, create foot

subluxations, and cause proprioceptive disorganization from the foot all the way up into the muscles of the temporomandibular joint. As you know we in AM have found that specific foot subluxations will often inappropriately inhibit a specific muscle; eg. a lateral cuboid inhibiting a tensor fascia lata and a medial cuboid inhibiting one or more of the adductors. Foot subluxations can also cause faulty muscle to muscle proprioceptive communication that Dr. Goodheart has termed "reactive muscles". A flexible orthotic allows a more specific correction of the heel without hypersupinating or hyperpronating the whole foot.

As you know, most podiatrists believe that an orthotic is best fitted with the foot "posted in an ideal neutral position" with the patient sitting. They argue that fitting the orthotic in a weight bearing position does not allow for optimum correction because you are merely getting a mirror of the patients weakness imprinted into the casting mold. They cast and post the foot into what they think is it's ideal position and hope the rigid orthotic will enable the foot to remain in that position upon weight bearing. This rationale does make sense. In fact, relative to just hoping that orthotic companies somehow knew exactly what to do with our weight bearing molds, without any input from us, the podiatrists rationale was perhaps superior. However, orthotics casted the way most podiatrists do often only do half the job. Podiatrists do not have a definitive way to test the overall effectiveness of the orthotics they prescribe either. They hope the patients pain goes away just like we do. Sometimes their patient's foot pain may go away but they develop other

problems that bring those patients to the chiropractor with knee, back, neck, shoulder or other problems. Unfortunately, what looks like the ideal position is not always the best functional position of the foot.

In many ways the podiatrists have been chasing the "perfect foot posture" like some chiropractors have been chasing the "perfect spinal posture". As many of us know, the perfect position for the spine is the one in which it functions best. The scoliotic spine may function better than a straight one. My suggestion is that the perfect foot position is the one in which the foot functions best and provides the best proprioceptive input to the rest of the body. This is often a different position than what appears to be cosmetically correct. Though this premise may not be new to the applied kinesiologist, the testing procedure I will describe may be. My premise is to let the foot "tell" us its best functional position by testing its effect on the gait mechanism. It takes much of the guessing out of the procedure of fitting and evaluating orthotics. The testing can not be done in a seated position. It must be done weight bearing with the patient standing. The neck and shoulder muscles are used exclusively because the most relevant hip and leg muscles can not easily be tested in the standing position.

First, test the patient in a weight-bearing gait position. For example, have their right leg forward with weight on it and their left leg back. In this position, the right shoulder extensors (triceps, post. deltoid) should be facilitated and the right shoulder flexors (pectoralis major) should be inhibited (1).

It is this authors observation that the right adductor (latissimus dorsi) should be facilitated and the right abductor (mid deltoid) should be inhibited. The right neck flexor (sternocleidomastoid) should be facilitated and the right neck extensors (general test including upper trapezius) should be inhibited (?). Still in this position, the left shoulder flexors should be facilitated and the left shoulder extensors should be inhibited. The left shoulder adductor should be inhibited and the left shoulder abductor should be facilitated. The left neck flexor (scr) should be inhibited and the left neck extensors should be facilitated. These are all apparantly normal proprioceptive facilitations and inhibitions with the right leg forward, slightly bent, and weight bearing.

Next, test these same muscles with the legs comfortably together as you would in a normal postural evaluation. In a non-gait, upright weight bearing position, all these muscles should test strong because there is no muscle inhibition from gait. However, you will often find that even though the shoulder flexors on one side are strong, if you take the time to test the extensors, adductors, and abductors, one or more will often test weak (inappropriately inhibited). This is often due disorganized proprioceptive feedback from the foot or ankle. One obvious way to determine if the problem is weight bearing is to test the same muscles with the patient lying down. If the weaknesses are no longer present lying down but appear again weight bearing, I believe the following procedure will be very valuable.

When you find an inhibited muscle, have the patient slightly

roll the foot in the direction that reduces the stress on the achilles tendon. Most of the time you will be moving a pronated foot into a more neutral position by rolling the weight of the foot to the outside. Don't be deceived by knee posture. A patient may look like they are supinated if you look at their knees due to bilaterally weak tensor fascia lata muscles, but still need a pronation wedge. My suggestion is to correct what you find but use the direction of torque on the achilles tendon as your indicator for foot correction. A smaller percentage of the time, you will be having the patient roll the foot out of supination into a more neutral position by having them place more weight on the inside of the foot.

Now test the inhibited muscle or muscles again until you find the position of the foot that brings about optimal strength of all the previously involved muscles. This is the optimal position for the foot. I have seen this improved foot position immediately reduce shoulder pain, knee pain, neck pain and even improve cranial respiratory patterns.

My experience is that patients often need more correction than the standard Foot Leveler wedge. I had Foot Levelers make me a number of test orthotics with wedges that graduated by the half size. Sometimes a single pronation correction (Foot Levelers standard correction) is necessary on one side and a 1 1/2 or double correction (two pronation wedges on top of each other) will be necessary on the other foot. The largest I have had to order is a 2 1/2 pronation correction for a person with extreme pronation. His long standing lower back and neck problems were

done within two days and have not returned. The 1 1/2 correction is the one I most often have to prescribe when the standard correction is not adequate.

The position of the foot that facilitates all of the gait related muscles and brings about greatest strength is the correct position for the patient. Too little or too much correction can disorganize the proprioceptive messages coming from the foot and leg and cause problems throughout the body. Obviously, if foot position does not change muscle strength, more specific examining to the shoulder, neck, and cranium should be done. It is amazing, however, how many chronic non-surgical knee, hip, back, shoulder, and neck problems improve when this testing is done and the foot is properly corrected and supported.

This form of testing is also valuable to let you see if the foot corrections that you thought were taken care of have been completely resolved. It is my experience that sometimes there are still hidden foot problems even when there is no apparant problem after doing a thorough shock absorption test and the major foot and ankle stabilizing muscles test strong. After these sitting or supine tests show no involvement, I will often find an inhibited triceps or some other muscle upon weight bearing. Frequently, an inhibited triceps, gluteus medius, and psoas will show up on the same side. Foot adjusting (often a posterior or inferior calcaneus and a lateral talus) will correct the psoas and gluteus medius weakness, but the person will need an orthotic to improve triceps function even after careful golgi tendon and spindle cell procedures to the foot and ankle stabilizing muscles have been done.

In summary, I believe that this new form of testing for orthotics is an improvement on previous weight bearing and non-weight bearing methods. It allows the feet to tell us its optimum position. It also allows us to be certain that the orthotic received is ideal both for the feet and the rest of the body.

Went Greenawalt at Foot Levelers Inc. has been very open to this information and is excited about improving an already very good product. He and I are presently developing a doctor's test kit with varying wedge heights to make this testing procedure more available and easier to do. These will hopefully be available in the summer.

I have also noticed that the design of Foot Levelers metatarsal lift would often cause a dropped fourth metatarsal. This was because Foot Levelers metatarsal lift would dramatically fall off at the fourth metatarsal. Many patients who had a tendency toward tarsal tunnel syndrome, dropped metatarsals or had weak connective tissue (eg. ligament stretch syndrome) would wind up with new problems. These problems were often somewhat random. Lower back, neck, shoulder, and cranial problems were most frequent. Sometimes an inhibited latissimus dorsi upon weight bearing would develop affecting the shoulder, brachial plexus, or lower back. Often I found a contralateral psoas/pec. major sternal gait involvement. In other words, instead of a mutual gait facilitation between the pectoralis major and the opposite psoas, a contraction of one would inhibit the other. This is somewhat similar to a reactive muscle pattern but apparently somehow controlled by the meridian system rather than

the muscle proprioceptors via the gamma system. A dropped fourth metatarsal can also affect Gall Bladder 41-42 and cause a contralateral abdominus/gluteus medius gait disorganization.

Adjusting the metatarsals or stimulating the gait meridian points (I recommend Dr. Beardall's contralateral hand and foot meridian points (3) often temporarily improved these gait involvements. However, the inappropriate gait involvement would often return immediately when the patient wore their Power Soles or Spinal Pelvic Stabilizers for just a few minutes. Raising the fourth and fifth metatarsal area on the orthotic with athletic tape and later by sending the orthotics back to Foot Levelers Inc. for a more permanent modification, often corrected the problem with no return of gait involvement or symptoms. In other words, the design of the metatarsal arch of the orthotic was creating the problem and a change in the design corrected it.

Kent Greenawalt at Foot Levelers Inc. has also been very open to this information and we are presently experimenting with a change in the design of their standard metatarsal correction. In the meantime, my recommendation is to request a "reduced metatarsal correction" because it has a more gradual tapering of the metatarsal correction and does not seem to cause the same frequency of dropped fourth metatarsals and related involvements. If the patient has severe hammer toes, I suggest that you request a metatarsal bar that will elevate all of the metatarsal phalangeal joints. You may have to make the special fitting requests to Foot Levelers Inc. more than once until they note on their computer that you are helping them with specifications.

I hope this information has been helpful and welcome your comments. Also appreciated would be any further information you may have relative to proprioception and the gait mechanism. We recently did some high speed gait studies with Vic Braden at Coto de Caza and are waiting to get the film digitized. I will also present our computerized force plate studies done at Coto at our next winter meeting.

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AN INTER-EXAMINER RELIABILITY STUDY
OF
MANUAL MUSCLE TESTING

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Supervisor Dean Lines D.C.

ABSTRACT

Applied Kinesiology procedures, developed by Dr. George Goodheart rely on manual muscle testing as described by Kendall and Kendall. An inter-examiner reliability study was performed to investigate the reproducibility of this method of testing. A total of 135 muscle tests was conducted, 5 on each of 27 different subjects, by five examiners, in a blind study. Results show that the reliability of manual muscle testing between different examiners for this study, when subjected to an inferential test (Cochran's Q. Test), is extremely significant at an α level of 0.001. This result provides a basis for further evaluation of other Applied Kinesiology procedures which utilize manual muscle testing as a diagnostic tool.

KEY WORDS

Applied Kinesiology

Manual Muscle Testing

Inter-examiner Reliability

INTRODUCTION

Manual muscle testing procedures as developed by Dr. George Goodheart are used by many health professionals. In a healthy individual muscle actions can be sufficiently isolated so as to allow the subject to hold the testing position against the examiner's pressure (1) - termed "locking". It is the ability of the muscle to 'lock' which is the significant point of a manual muscle test. This phenomenon in Applied Kinesiology is referred to as a strong muscle.

Although in some cases, weakness of a muscle may be due to known physiological and/or pathological processes, it is becoming apparent that the abnormally functioning muscle revealed by manual muscle testing, as used in Applied Kinesiology is not simply weak, but one whose function may be related to a wide range of influencing factors. In fact Walther goes as far as to say "The classification of 'weak' and 'strong' muscles should be questioned and possibly eliminated from Applied Kinesiology terminology, as additional knowledge is gained about exact mechanisms causing the muscle to be incapable of functioning normally during manual muscle testing and sometimes against dynamometers such as the Cybex." (2). It must be pointed out at this time that manual muscle testing as examined in this project differs from that used traditionally in evaluation of neuro-muscular impairments where muscle strength is determined by the force required to overpower the tested muscle and is graded on a scale of zero to five.

It is our opinion that manual muscle testing in regard to Applied Kinesiology procedures must be shown to be significantly reproducible if further research is to be continued. Previous research projects conducted using manual muscle testing procedures have with one exception (7) either assumed manual muscle testing to be reproducible or neglected to consider this most important aspect altogether.

Literature search revealed only one previous study of inter-examiner reliability of manual muscle testing as described in Applied Kinesiology. In an experimental evaluation by double blind study Jacobs (7) conducted a study within a study on inter-examiner reliability of manual muscle testing. Although a high correlation was obtained, failure to use adequate numbers in regards to examiners and subjects as well as inadequately isolating examiners from each other while conducting the tests, questions any significance that study may have shown.

A study by Blaich (3) compared manual muscle testing with that of the Cybex II in regards to sacral primary respiratory functions. Patients exhibiting weakness on manual muscle testing did not show weakness in 60% of cases when tested with the Cybex. However in all cases a significant increase in strength was shown following treatment. This further emphasizes the point that in some cases classification of a weak muscle in the traditional manner is inappropriate and other factors influencing muscle function must be taken into consideration.

A study by Triano and Davis (4) into reactive muscles showed a physiologic phenomenon does exist between reactive muscles. The significance of this study is that the normal subjectiveness and bias that may accompany manual muscle testing was eliminated by mechanically regulating the applied force to the same value for all muscle tests.

Manual muscle testing as used in the assessment of orthopaedic pathology is also subject to various influencing factors. A study was conducted by Nicholas, Sapega, Kraus and Webb (5) to determine whether the magnitude or duration of force applied during manual muscle testing had an effect on the examiner's perception of muscle strength. It was found statistically that the duration of the examiner's effort multiplied by the average force applied during each test was the factor most influencing the examiner's ratings. Although this type of manual muscle testing differs from that researched in the present study, it relates similar problems that must be considered in a subjective analysis of muscle strength.

A study comparing manual assessment of muscle strength with that of a force measuring device was conducted by Marino, Nicholas, Gleim and Rosenthal and Nicholas (6). Muscle tests were performed on hip abductors and flexors. The results demonstrated consistent scores for both manual muscle testing and the measuring device in the detection of muscle weakness.

A great deal of research is presently needed on the effect of physical, chemical and psychological stimuli on muscle function. Treatment procedures with apparently strong clinical support must be supplemented with objective research studies if they are to be accepted into the mainstream of general practice.

MATERIALS AND METHODS

The experiment consisted of the following:

- a. 5 examiners, 3 experienced and 2 less experienced in manual muscle testing.
- b. 27 subjects, students of the Phillip Institute of Technology Chiropractic and Physical education schools who volunteered for the study. They all had minimal or no exposure to manual muscle testing. Their ages ranged from 17 to 50 years. There were 17 male and 10 female subjects, who were free from any known neurological or musculoskeletal defects.
- c. A supervisor, an instructor at the Chiropractic school.

The general experimental design was for each of the 5 examiners to test 5 different muscles on each of the 27 subjects. For the experiment, subjects were brought to the testing centre in groups of 5 and were informed only that the project was designed to research manual muscle testing procedures. The muscle test was recorded as being weak (0) or strong (1) according to criteria described previously. The major objective was to determine whether different clinicians could agree on the state of each muscle in the same subject thus assessing inter-examiner

reliability. A secondary objective was to compare the findings of the 3 more experienced examiners to the findings of all 5 examiners and investigate whether there are major differences.

In an attempt to minimize additional factors that may possibly influence muscle response, the following procedures were employed.

1. Communication between examiner and subject was limited to muscle testing instructions only.
2. Subjects were instructed to observe the following during the testing procedure:
 - a. avoid clenching their teeth - to minimize the influence of the temporomandibular joint.
 - b. breathe normally - to minimize the influence of possible cranial faults.
 - c. keep their extremities relaxed and not resting on their body e.g. cross legged or arms folded on lap.

The subjects were each given a card with a number on it which they were to show to the examiner. Subjects were placed in one of 5 testing rooms. The five examiners were familiar with the nature and aims of the study. Prior to commencement of the project, they met to standardize procedures in regard to subject position, identical stabilization and vectors of force used for each muscle test.

On entrance to the testing room the examiner recorded his number, date and the subject's number on the appropriate slip, see fig.1. On completion of the tests the results weak (0) and strong (1) were also recorded on the slip and placed into a sealed box

provided, in the room. It was decided that anything less than a firm 'locked-in' feel to the muscle was to be recorded as weak. The tester then progressed to the next testing station and repeated the procedure on the next subject.

At the completion of the study each box (total number 5) was unsealed and opened in front of the supervisor and results tabulated as shown in fig. 2. This data was then analyzed by a statistics consultant, acting head of department of mathematics and computing at the institute.

Fig. 1

EXAMPLE OF RECORDING FORM

Date		
Examiner ID. No.		
Subject ID. No.		
Muscle Under Test	Weak (0)	Strong (1)
1. Tensor Fascia Lata (supine) Right		
2. Pectoralis Major Sternal (supine) Right		
3. Anterior Tibialis (supine) Right		
4. Middle Deltoid (sitting) Right		
5. Gluteus Maximus (prone) Right		

Fig. 2

EXAMPLE OF TABULATED RESULTS

Subject No. 1					
Muscle	No.1	No.2	No.3	No.4	No.5
T.F.L.	0	0	0	0	0
Pec. Maj. Sternal	1	1	0	1	1
Anterior Tibialis	0	0	0	0	0
Mid. Deltoid	0	0	0	0	0
Gluteus Maximus	1	1	0	1	1

RESULTS

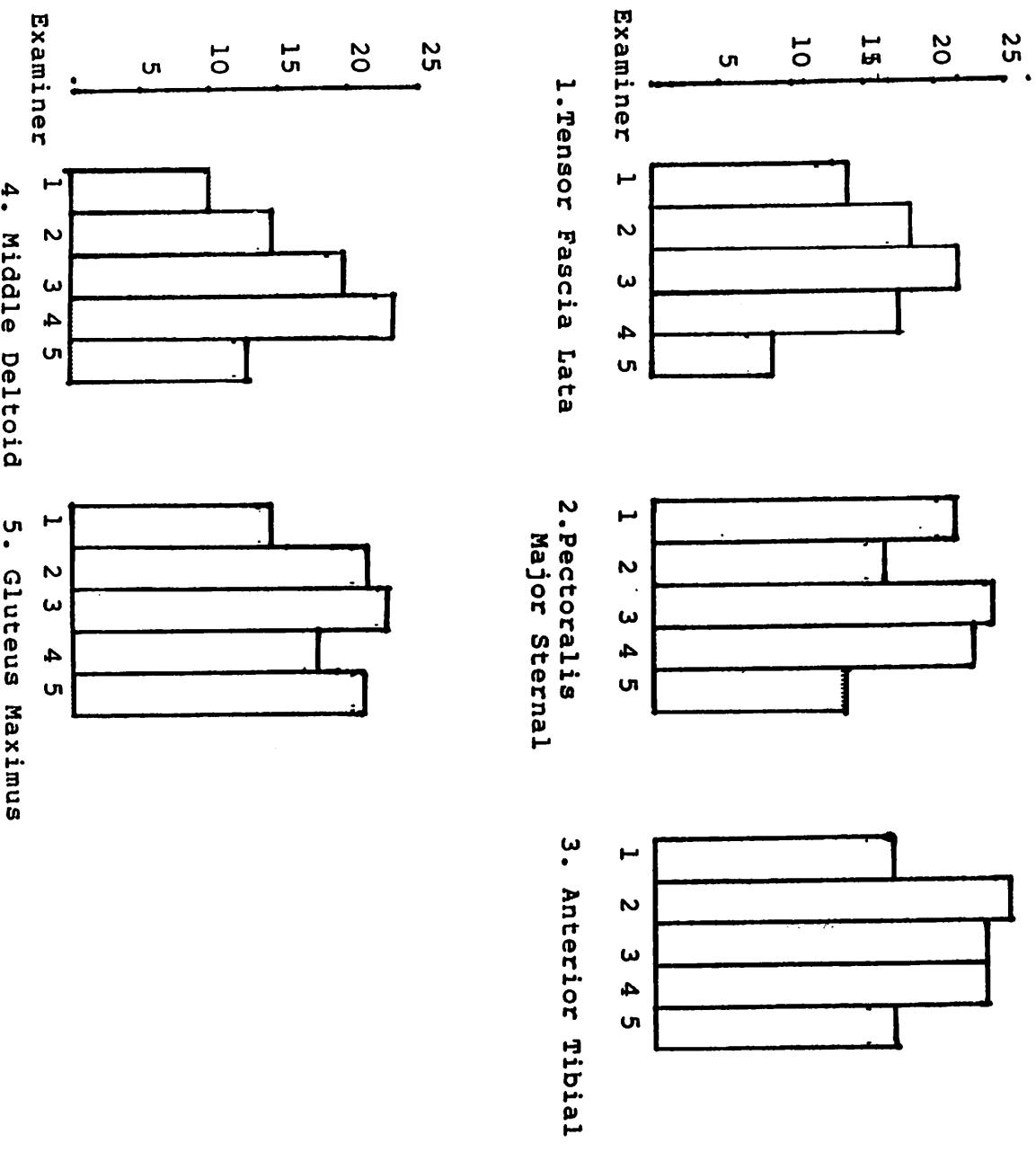
Results are graphically illustrated in histograms Fig. 3 which show the number of 'strong' muscles obtained by each examiner. This may allow some comparison between different examiners for each muscle and also which individual muscle findings were more consistently agreed upon by the examiners.

As a result of using 5 examiners, 27 subjects and testing 5 different muscles on each, a total of 135 muscle tests were performed. These results when subjected to an inferential test, Cochran's Q. test (8), were shown to be extremely significant. This test (see Appendix A) was used because it generalizes the results of the sample to the total population. The figure calculated of $Q=67.2$ was compared to the value from the X table for $m-1=4$ degrees of freedom (D.F.), and was found to exceed the critical value of 18.5 at the 0.001α level.

When Cochran's Q. test was applied to the result for the 3 more experienced practitioners (Appendix B), it resulted in a figure of $Q=11.1$, which is significant at an α level of 0.01; X^2 critical value is 9.2 for 2D.F.

Fig. 3

Histograms showing the number of 'strong' muscles obtained by each examiner for each muscle



DISCUSSION

While the total number of muscles used for all 5 examiners was sufficient for the study, any further breakdown of results is insufficient to draw statistically valid conclusions. However it seems from the histograms that the agreement for Anterior Tibialis and Gluteus maximus is more consistent among examiners while Tensor Fascia Lata and Middle Deltoid less consistent. This may indicate that these two muscles could be more confidently utilized in further research studies involving manual muscle testing.

When comparing the results for all 5 examiners to results for the 3 more experienced examiners only, we find the result to be not as one might expect, i.e. the 3 more experienced to have a higher inter-examiner reliability. This result was may be due to insufficient total muscle tests for valid statistical conclusion to be drawn for the 3 examiners.

CONCLUSION

Results show that manual muscle testing as described previously is reproducible. The Cochran Q. Test result is a powerful test of agreement and the degree of significance achieved in our result is quite impressive. This adds weight to the validation of some of the studies discussed previously and provides the basis for further evaluation of other Applied Kinesiology procedures which to date would still be classed as empirical.

APPENDIX

A. Cochran's test is appropriate in an experiment involving repeated observations where the dependent variable can take on only two values.

$$Q = (m-1) \times \frac{m \sum_{j=1}^m T_j^2 - T^2}{mT - \sum_{n=1}^N S_n^2}$$

Where S_n = no. of strong per muscle tested

T = total no. of strong muscles

T_j = no. of strong per testor

m = no. of testors

For our results $S_n^2 = 1927$

$$T^2 = 466^2$$

$$T_j^2 = \text{i) } 76^2 ; \text{ ii) } 98^2 ; \text{ iii) } 112^2 ; \text{ iv) } 106^2 ; \\ \text{v) } 75^2$$

$$m = 5$$

$$Q = (m-1) \left[\frac{5(76^2 + 98^2 + 112^2 + 106^2 + 75^2) - 466^2}{5 \times 466 - 1927} \right]$$

$$= 4 \times \frac{5 \times 44,785 - 217,156}{2330 - 1927}$$

$$= 4 \times \frac{2330 - 1927}{2330 - 1927}$$

$$= 4 \times 6769$$

$$= 403$$

$$= 67.2$$

From χ^2 tables, Degrees of Freedom (D.F.) = $m-1 - (5-1) = 4$

$$\infty \text{ level } 0.05 : 9.5$$

$$0.01 : 13.3$$

$$0.001 : 18.5$$

APPENDIX CONTINUED

B. For $m = 3$ (experienced)

$$Q = (3-1) \times \frac{[3(76^2 + 106^2 + 75^2) - 260^2]}{3 \times 260 - 641}$$

$$= \frac{2 \times 770}{139}$$

$$Q = 11.1$$

From χ^2 tables, D.F. = $m-1 = (3-1) = 2$

α level 0.05 : 6.0

0.01 : 9.2

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A K N U T R I T I O N A L T R E A T I S E
O N T H E
C O M M O N C O L D A N D F L U
Julius L. Sanna, M.S., D.C.

ABSTRACT

Due to the altered forms of colds and flu reactions the responsive mechanism of the immune system varies considerably with each individual. This presentation attempts to identify the types and isolate the nutritional application thru AK monitoring.

INTRODUCTION

To determine the cause of the offending problem, sublingual testing is done by VFP which is the product name for Penco distributed by Seroyal. The following products are identified by sublingual testing: (Each is checked independently to determine the maximum effectiveness per case).

- 1.) Bacterial - Golden Seal
- 2.) Viral - Red Clover
- 3.) Foods - Opsin
- 4.) Environmental - Envirox
- 5.) Molds and Fungus - Mycox

1.-2.: If found to be bacterial or viral, products checked independently and combined if necessary to determine the most effective response:

Sero Immuno Forte (Seroyal)

Sero Immuno (Thorne Research)

Thymus Plus (Biotics)

Thymus Tissue (Standard Process Labs)

Core Level Thymus (Nutri West)

Vitamins A and C determine if high or low miligram dosage is necessary

Zinc: R or R6 (Seroyal Homeopathic Reckeweg drops)

Common Cold and Flu
Julius L. Sanna D.C., M.S.

Oscillococcinum (Boiron Homeopathic remedy)

- 3.) Opsin supports: Check diet for suspected foods by sublingual testing and eliminate offending foods.
- 4.) Envirox supports: Check environmental for dust, grass, and chemicals by inhalation or sublingual attempt to eliminate or neutralize.
- 5.) Mycox supports: Check for candida and environmental molds (Seroyal Test Kit)

CORRECTIONS

Differentiation of the involved areas and type of support to be applied is done thru patient therapy localization of the major effected region, ie: Sinuses, nose, throat, chest, etc., with simultaneous contact to the acupuncture alarm system (organ association) and then thru a process of elimination determined by the substance or substances that neutralize your testing muscle in the clear, which identifies the specific support necessary by sublingual contact or nasal inhalations.

CONCLUSION

Due to the complexity of the common cold or flu, there has never been a quick fix or simple solution. I invite you to apply these procedures outlined hereto and determine its validity and clinical value.

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PRE-TEST IMAGING

A SCREENING TEST FOR CRANIAL FAULTS

Walter H. Schmitt, Jr., D.C.

ABSTRACT: A change in muscle strength which is caused by the patient imagining doing the test immediately prior to its performance is indicative of a cranial fault.

The initial observations of using muscle testing as functional neurological evaluation revolved around using gamma 1 and gamma 2 types of muscle testing procedures.¹ Gamma 1 testing is doctor-started testing to identify inhibition from spinal level sources and gamma 2 testing is patient-started testing which identifies inhibition arising at supraspinal levels.

Another type of muscle testing phenomenon has been observed which penetrates the nervous system still further and opens up another door for our understanding of the sources of muscle weakness. At this writing, complete analysis and explanation of the phenomenon is incomplete, yet the clinical implications have been reproducible and quite valuable and hence will be discussed at this time.

About a year and a half ago, a very intuitive and insightful long-time patient of mine told me that he felt that he could overcome any muscle testing weakness that I found if he only knew a moment ahead of time what test I would be performing. I challenged him to prove his point, and to my surprise, he proved it.

When I tested his right latissimus dorsi, it tested weak as both a gamma 1 and a gamma 2 weakness. However, when he knew what the test would be, he could first imagine the test procedure

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in his mind, and then upon actual testing, the previously weak muscle would test strong. This was true for both gamma 1 and gamma 2 types of testing. Since this was a new phenomenon, and since the patient responded to other procedures to strengthen his weak muscle patterns, it was relegated to the memory.

Several months ago, the idea of the patient imagining the test prior to its performance was reawakened from a slightly different point of view. In discussing athletic performance with a patient, I pointed out the value in imagining the competition or event prior to actually performing it. In an effort to demonstrate this point, I tested a weak muscle, had the patient imagine doing the test, and then immediately retested. The muscle tested strong. As a happenstance, I decided to demonstrate to the patient what would happen to a strong muscle if he first imagined doing the test prior to the actual test. I expected that the muscle would remain strong, but to my surprise, imagining the test first resulted in weakness of the previously strong muscle.

Upon treating the previously weak muscle, it became strong to testing. But it, too, weakened when the patient imagined doing the test prior to its actual performance.

I immediately realized a change in a muscle test which occurred when prior imagining was performed was associated with a problem which I had not been addressing by correcting gamma 1 and gamma 2 type problems. Since the type of problem was obviously

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send a message through to the muscle, and since it would affect both gamma 1 and gamma 2 type muscle weakness patterns, it was felt that the problem might originate in some type of cranial problem which interferes with the transmission of the normal corticofugal pathways. As of this writing, it does not appear to be significant as to whether the eyes are opened or closed when performing the test or performing the pre-test imaging, so we have tentatively ruled out visual feedback as a part of the problem.

Therapy localization (T.L.) was employed to identify an area which would neutralize this pre-test imaging weakness pattern. In each case, there was a positive T.L. to one or more cranial bones and/or sutures. Any cranial fault may be present, but it is of interest to note that we have observed an unexpectedly large number of lambdoidal suture faults in our series. Correction of the appropriate cranial fault by the standard methods² resulted in strengthening of a weak muscle and neutralization of the pre-test imaging differences. This was true whether a muscle was originally weak in the clear and strengthened on testing after pre-test imaging or whether it was strong in the clear and weakened on testing after pre-test imaging.

The correction of the cranial fault was performed with respiration and with rebreathing to increase CO₂ levels whenever possible as Dr. Goodheart's recent findings have taught us.³ The clinical results have been remarkable, especially since many of

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these patients would never have been suspected to have a cranial fault from symptoms or history. The correction of the cranial fault(s) has affected corrections of many other gamma 1 and gamma 2 weaknesses which had been previously identified, and many of which were recurrent faults on difficult patients. Parameters such as forward flexion range of motion and oral temperature are monitored in each patient and the majority of our patients show demonstrable improvements in these objective findings upon appropriate cranial correction.

The implications of cranial faults as inhibitors of human performance is obvious. When a patient with a cranial fault attempts to enhance an upcoming performance by prior imaging of the event, he or she may well be sabotaging the performance by the very technique which is supposed to aid it. The tremendous work of Dr. Bob Blaich in his human performance research identifies many cranial faults which only appear as patients employ techniques to improve their performance to higher levels.⁴ The parallels between his work and this observation on pre-test imaging is obvious.

As mentioned at the outset of this paper, a proper neurological explanation of this phenomenon of pre-test imaging is still under investigation. But the clinical importance of using this tool for identifying often overlooked cranial faults is so paramount in the care of patients that this paper is written as a clinical observation with theoretical supportive material deferred until a later time. Further investigation in

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this area is ongoing in our office. Feedback from the membership of I.C.A.K. is welcome.

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Note: See following page for summary of paper.

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SUMMARY OF CLINICAL FINDINGS OF THIS PAPER

1. Identify a weak muscle by standard gamma 1 and/or gamma 2 testing.
2. Have the patient imagine performing the test. (It doesn't seem to matter whether the eyes are open or closed)
3. Immediately retest the muscle - if it is now strong - - -
4. T.L. to the cranial bones and cranial sutures to neutralize the original muscle weakness. Do not use pre-test imaging at this time.
5. Correction of the cranial fault abolishes any change in muscle testing by the pre-test imaging technique.

ALTERNATE METHOD:

6. Identify a strong muscle, or one which is on the T.S. Line but is strong in the clear. Use either gamma 1 testing, gamma 2 testing, or both.
7. Have the patient imagine performing the test.
8. Immediately retest the muscle - if it is now weak - - -
9. While T.L.ing to cranial bones and sutures, have the patient imagine doing the test and retest the previous muscle. Do this until you find an area of T.L. that neutralizes the weakness induced by pre-test imaging.
10. Correction of the cranial fault abolishes any weakness induced by pre-test imaging.

CENTERING THE SPINE

Functional Neurological and Biochemical Considerations

Walter H. Schmitt, Jr., D.C.

Abstract: The spine, as a unit, can be off-center in three ranges of motion: 1. flexion - extension, 2. lateral flexion, and 3. rotation such as in gait. Each pattern is related to specific biochemical and neurological patterns. An off-centered spine will result in a gamma 2 weakness pattern which may be corrected structurally, chemically, or both. Diagnosis and treatment procedures are given. A summary chart is included at the end of the paper.

INTRODUCTION

The spine, as a unit, moves in only three ranges of motion:

1. flexion and extension (i.e., anterior to posterior), 2. lateral flexion (i.e., right and left), and 3. rotation around a central axis (which occurs during normal gait). All other movements of the spine, including shortening and lengthening from top to bottom, can be seen as made up of these three basic movements.

The dura mater attaches firmly at two of the upper three cervical segments and is basically unattached from this cervical connection to its firm attachments at the sacral level of S-2 and again at the filum terminale attachment on the coccyx. The dura mater is also inelastic. It is these two important features of the dura to which our attention is directed whenever we consider the spine as a whole unit.

It is well known that the spine as a unit, or any of its individual motor units, cannot move in one range of motion without concurrent movement in one of the other two ranges of motion (eg., the spine cannot flex or extend without also

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rotating and/or laterally flexing at the same time.) This was demonstrated many years ago by Illi¹ and more recently by cineroentgenographic studies. Dr. DeJarnette named his work "Sacro Occipital Technic" and Dr. Lowell Ward teaches "Spinal Column Stressology", both which reflect a whole spine concept of understanding and treating patients' problems.

Recent papers presented at I.C.A.K. by Klepper^{2,3} and Harrison⁴ have elaborated on the dural (meningeal) tension concept, and Goodheart⁵ has been discussing these concepts extensively since 1983. Since 1982, this author has been investigating work on the concept of "The Links Between the Nervous System and the Body Chemistry"⁶ which demonstrates clinical relationships between patterns of muscle imbalances and biochemical (nutritional) imbalances. It is an extension of this work in combination with the concepts of dural tension and looking at the spine as a whole unit which serve as the basis for a functional neurological approach to "centering the spine."

THE LINKS BETWEEN THE NERVOUS SYSTEM AND THE BODY CHEMISTRY:

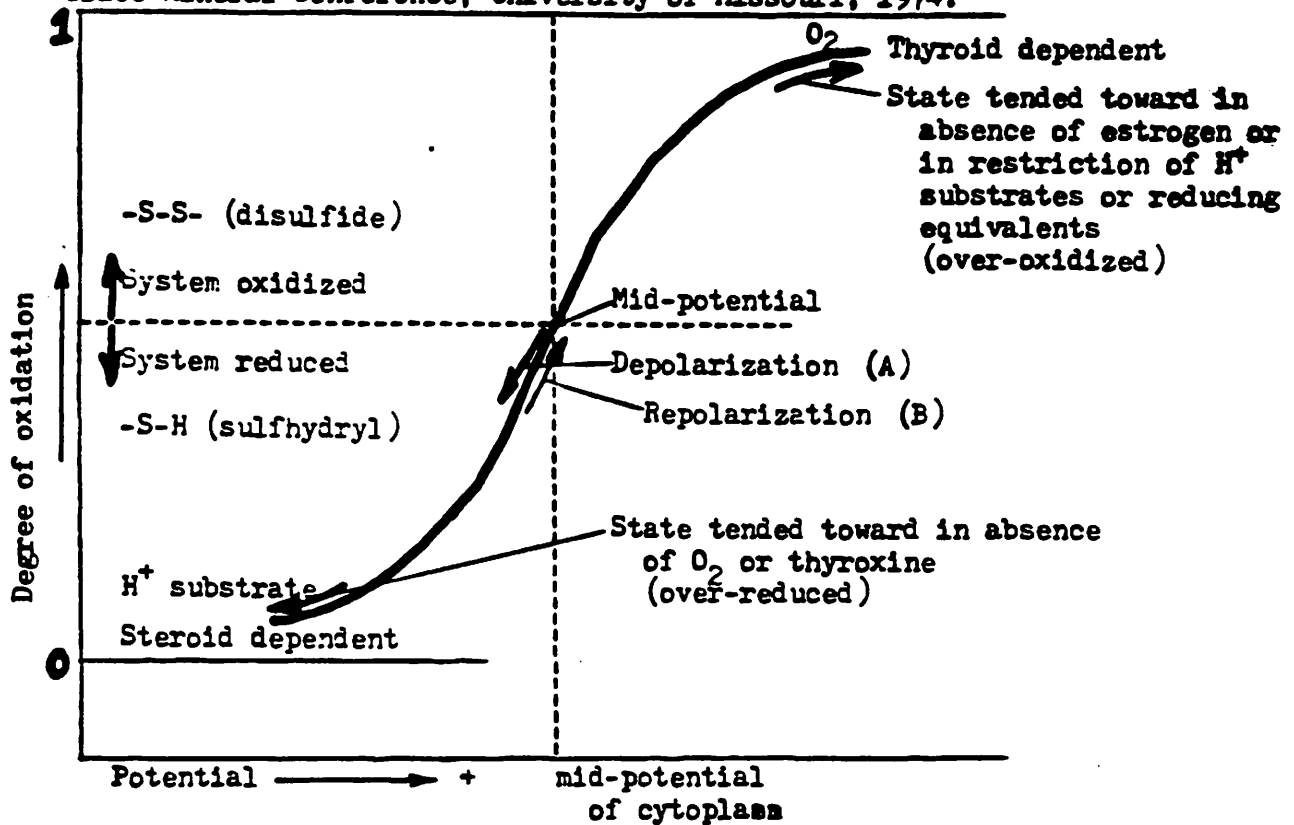
"THE MAN ON THE CURVE"

In 1983, this author first proposed the parallels between the body's chemical relationships expressed by the electron poisoning curve and the body's anatomical structure expressed by patterns of muscle imbalance.⁷ The electron poisoning curve is shown in Figure 1 and a representation of the human anatomy from above is shown superimposed on the electron poisoning curve in Figure 2.

Figure 1: DYNAMICS OF THE ELECTRON POISING ACTION OF

THE SH/SS ENZYME CONTROL SYSTEM

Adapted from "A precis on Cellular Electron Poising, Ergodization, and Molecular Quatnization" by James P. Isaacs and John C. Lamb, 6th Annual Trace Mineral Conference, University of Missouri, 1974.

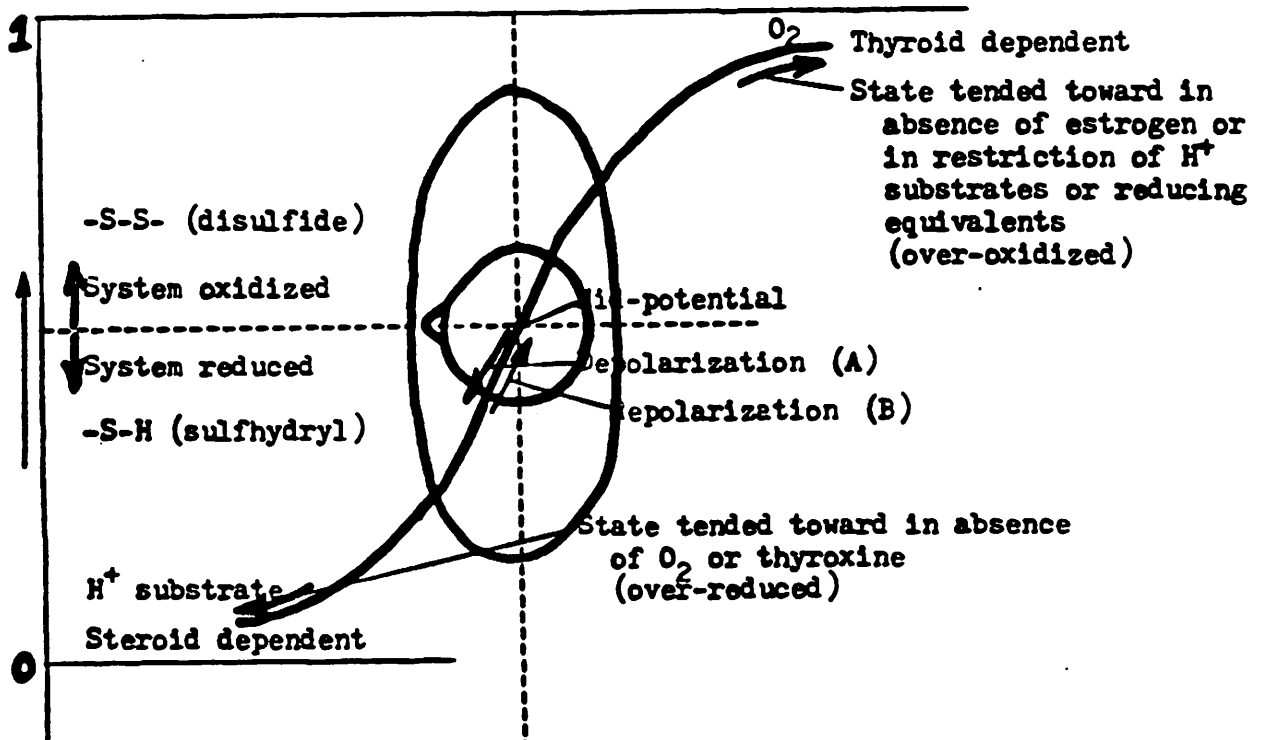


Cell desires to be at the mid-potential for 50:50 ratio of SH:SS molecules. This allows the best options for the activity of: 1) structural proteins, 2) enzymes, and 3) nucleoproteins, chromosomes, and the spindle of the cell.

(A) Depolarization of the cell - change in SH:SS ratio (toward SH)

(B) Repolarization - return toward normal SH:SS ratio

Figure 2:



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Changes in body chemistry which are reflected by alterations or movements of the electron poisoning curve are paralleled by changes in structural (muscular) patterns which are manifested through the neuromuscular system and can be identified by muscle testing procedures. Using muscle testing as functional neurological evaluation, it has been observed that biochemical imbalances which affect fundamental body chemistry regulation appear as muscle imbalances of a gamma 2 type, that is, patient-started testing weaknesses which identify a supraspinal source of weakness.⁸ Therefore, imbalances in the electron poisoning system will be reflected by muscle imbalances and gamma 2 muscle weaknesses.

The electron poisoning curve is like a propeller blade in that it can rotate around a fixed mid-point, the mid-potential, as long as this mid-point is fixed. However, in homeostasis, the ends of the curve are also fixed by proper levels of thyroid and steroid hormones. The level of thyroid hormone "nails down" the upper right end of the curve and the level of steroid hormone "nails down" the lower left end of the curve. The levels of thyroid and steroid hormone regulate oxidation and reduction respectively as can be seen in Figure 3. These are called the long term set points of the electron poisoning curve.

Changes in the levels of thyroid and/or steroid hormones result in changes in the oxidation-reduction regulation at the cellular level, but also result in muscle imbalance patterns associated with gamma 2 weaknesses. Likewise, changes which

Copper catalyzes the coupling of glutathione and ascorbic acid. This Cu^{++} , glutathione, ascorbic acid complex functions to "poise" electrons for the oxidation and reduction potentials of the cell.

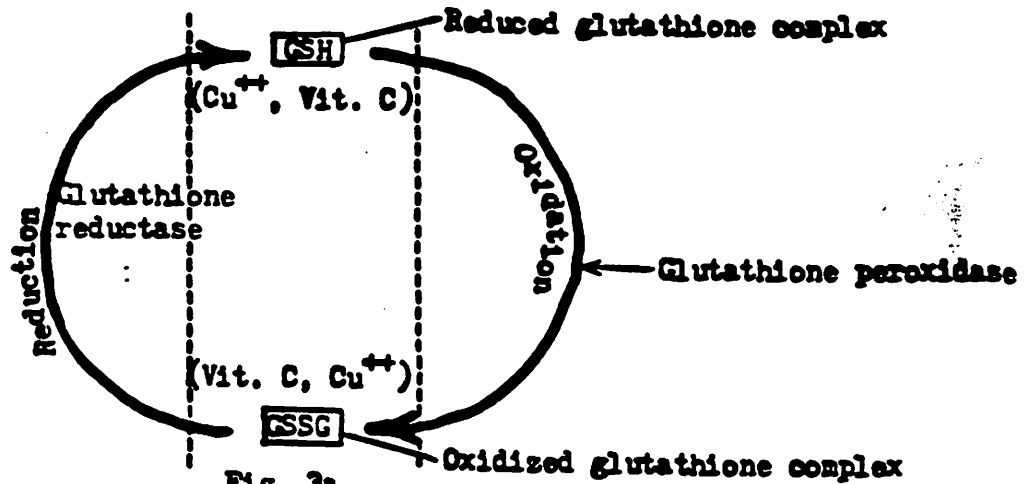


Fig. 3a

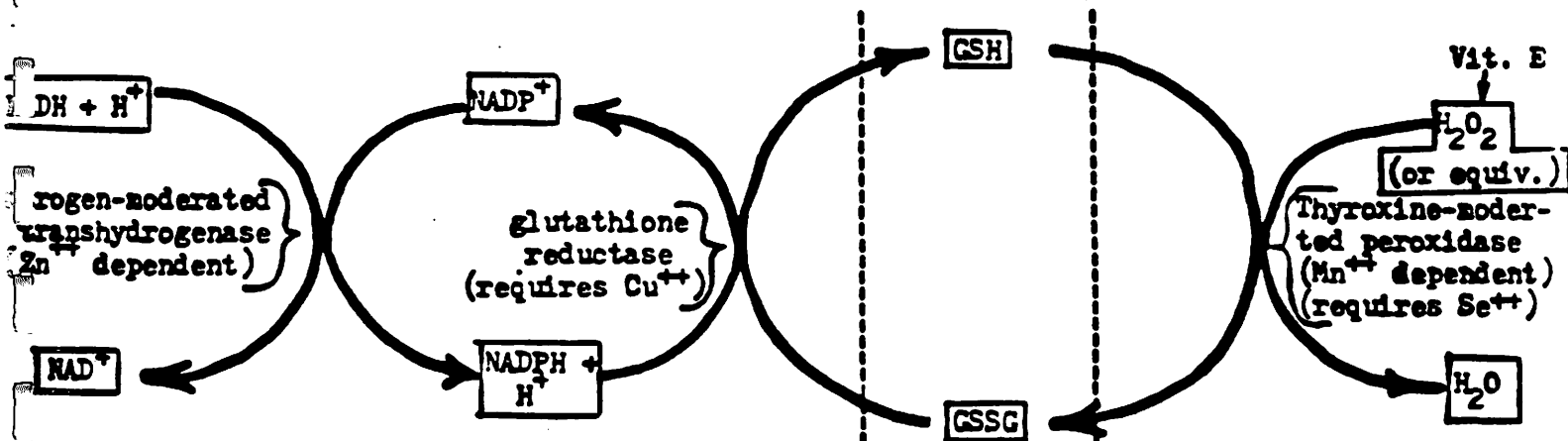


Fig. 3b

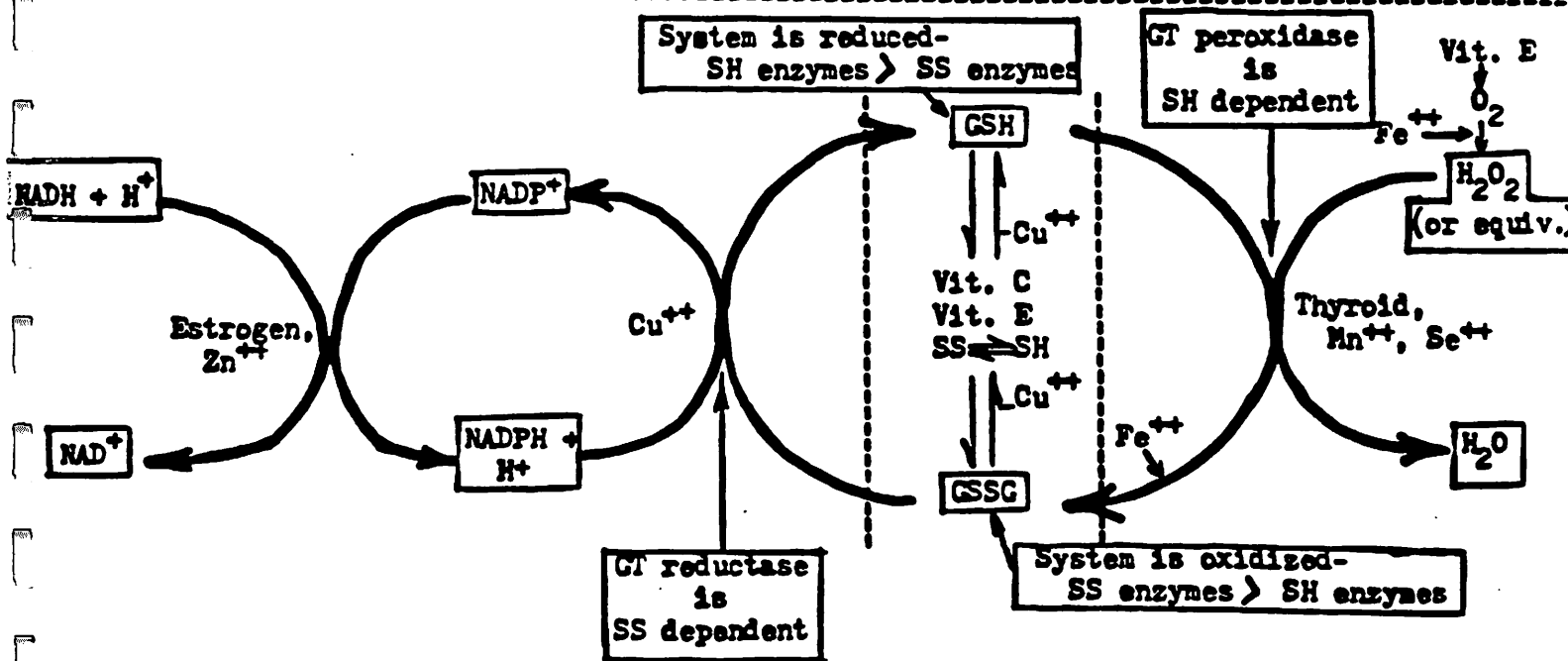


Fig. 3c

Adapted from "A Precise on Cellular Electron Poising, Ergodization, and Molecular Quantization" by James Pershing Isaacs and John C. Lamb, 6th Annual Trace Mineral Conference, University of Missouri, 1974.

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alter the mid-point of the curve will be reflected in gamma 2 weakness patterns.

For a long time, it was wondered what anatomical area was represented by the mid-point of the electron poisoning curve. In 1983, it became apparent that the mid-point was related to the midline of the body, and presumably to the spine, but the exact spinal level was unclear.

It has now been found that the mid-point of the electron poisoning curve is representative of the entire spine, functioning as a unit. Looking from above as in Figure 2, we can see the mid-point as the entire spine superimposed on itself. In Figure 4, if we look from a posterior to anterior projection, we can see the spine as a holographic representation of the mid-point of the curve in all three dimensions at all spinal levels. And yet, if we are to analyze the links between changes in the curve and changes in the structure, we must deal with only the two dimensions we see when looking at the curve and the body from above.

It was at this point that recognizing how the spine moves as a unit became important. Since the spine as a unit can only move in three ways (1. flexion-extension, 2. lateral flexion left or right, and 3. rotation, top to bottom as in gait), it became clear that movements of the mid-point of the curve also reflect these three types of spinal movement.

Movement of the mid-point toward the right or left of the graph represents spinal flexion and extension, respectively.

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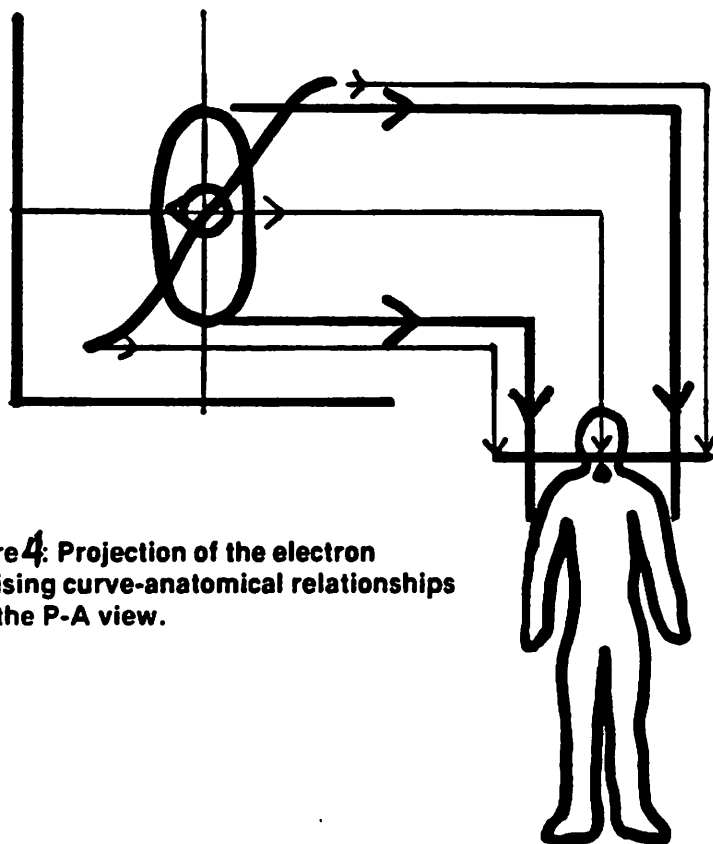


Figure 4: Projection of the electron poising curve-anatomical relationships to the P-A view.

Movement of the midpoint along the curve toward upper right or lower left represents lateral flexion of the spine to the right or left, respectively. And rotation of the spine (and hence the body) is reflected in rotation of the curve (like a propeller blade) in a counterclockwise or a clockwise direction. (Note here that it is the rotation of the pelvis which parallels the movement of the curve, and that the counter-rotation of the upper half of the body is considered as secondary, and is actually the opposite rotation of the pelvis and the curve.)

Each of these three ranges of spinal motion is associated with changes of the mid-point of the electron poising curve,

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hence with changes in the body chemistry which affect oxidation-reduction at the cellular levels. Following a brief review of the mechanics of the electron poisoning curve, we will discuss these links between the nervous system and the body chemistry by looking at spinal rotation first, then lateral flexion, and finally flexion-extension.

WHAT THE ELECTRON POISING CURVE MEANS

In Figure 1, you will notice that the horizontal line which runs through the middle of the graph divides it equally from top to bottom. Above this line, you will notice an arrow with the words "system oxidized" and below the line, an arrow with the words "system reduced". As you can see, the mid-point on the curve is at a point of balanced oxidation-reduction in the cell.

For something to happen in the cell, there must be a temporary change in this balance in order to turn on or turn off the cellular machinery. If the cell is a muscle cell, it is set at neutral at its midpoint. For the cell to contract, there must be an activation of those enzymes which produce contraction and an inactivation of those enzymes which produce relaxation.

Most of the enzymes which function in our bodies have chemical on-off switches. These on-off switches are related to a sulfur (S) group on the enzyme. When the environment around a sulfur containing enzyme is reduced, the sulfur group is converted to a sulfhydryl (-S-H) form. This -S-H form turns some enzymes on, while other enzymes are turned off when in their -S-H form.

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By the same token, when the environment around a sulfur containing enzyme is oxidized, the enzyme is converted to a disulfide (-S-S-) form. The -S-S- form turns on another set of enzymes. Enzymes which are turned off in their -S-H form are turned on in their -S-S- form, and vice versa. In other words, the body has a very elegant set of chemical on-off switches which relate to the chemical balance of oxidation and reduction in the cellular environment, and they are represented by this electron poisoning curve.

If we wish for a muscle cell to contract, we must activate those enzymes for contraction. The enzymes which cause muscle contraction are activated in their -S-H form. As you can see on the curve in Figure 1, when depolarization takes place, there is a movement down and to the left on the curve which will cause the system to be more reduced and thereby convert enzymes to their -S-H form which is necessary for contraction.

Likewise, immediately after contraction, the muscle must relax. For this to take place, the enzymes for relaxation must be turned on and those for contraction turned off. This can be accomplished by making the environment more oxidized (i.e. turning off the -S-H dependent enzymes which cause contraction and turning on the -S-S- dependent enzymes which are necessary for relaxation.)

The same type of chemical on-off switch takes place in cells throughout the body, not just muscle cells. The oxidation (-S-S-) and reduction (-S-H) switches are used in cells to

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regulate energy production from lipolysis and glycolysis, synthesis of new substances, and virtually all essential cellular functions.⁸

Those factors which influence the electron poisoning curve are the vitamins, minerals, and hormones which are summarized in Figure 3. The thyroid and steroid hormones have already been discussed as the long term set points of the system. The importance of the vitamin and mineral factors has been discussed in other articles.^{6, 7, 9, 10}

WHEN TO LOOK FOR A CENTERING THE SPINE PROBLEM

A need for centering the spine may be found whenever there is a gamma 2 weakness present. However, many other factors may cause gamma 2 weaknesses. To isolate a need to center the spine, one must first "blow away some of the body's smoke screen", or in other words, clear out any neurological interference which is present which might obscure or alter the indicators for centering the spine.

The sources of neurological interference referred to here fall into the category of "switching factors". These include (primarily) histamine mediated allergies, small intestine problems, thymus involvement, and hyoid muscle imbalance, and are discussed in depth in this author's seminars on "The Links Between the Nervous System and the Body Chemistry".

NOTE: THIS IS MOST IMPORTANT. Failure to correct these switching factors prior to looking for a need to center the spine will obscure or alter all of the signs which will be discussed.

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If your findings do not fit those in this paper, then something has been missed in the workup of the patient.

Following the correction of switching factors, one can screen for a need to center the spine by using any gamma 2 weak muscle. If the spine is off center at this point, then it can be assumed that any gamma 2 muscle weakness found will be associated with the uncentered spine. By placing the supine patient in various positions on the treatment table, we can screen for an uncentered spine. If a gamma 2 weakness becomes strong in any of the following body positions, we have found a need for centering the spine:

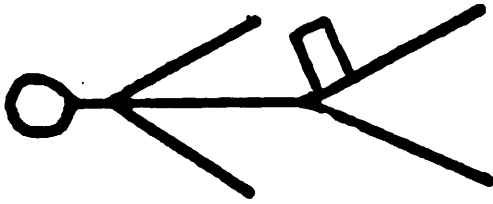
1. Torquing the spine by placing DeJarnette blocks under one hip and the opposite shoulder (screens for spinal torque).
2. Placing the body in a "C" curve on the table - convex right and convex left (screens for spinal lateral flexion).
3. Placing the patient's spine in flexion or extension or rolling the eyes straight up or straight down (screens for spinal flexion-extension).

CLOCKWISE AND COUNTERCLOCKWISE ROTATION OF THE PELVIS

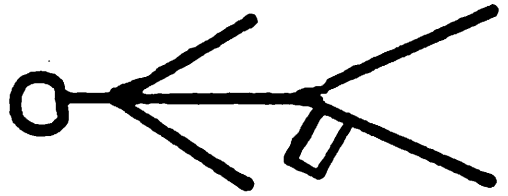
DECREASED PITUITARY - INCREASED PINEAL PATTERN

When a gamma 2 weakness becomes strong when the supine patient is torqued by placing DeJarnette blocks under one hip and the opposite shoulder, a spinal torque pattern is identified. An alternative method of finding a spinal torque is to have the patient lift an arm or a leg or both off the table to simulate the torque pattern. See Figures 5a through 5f. We identify

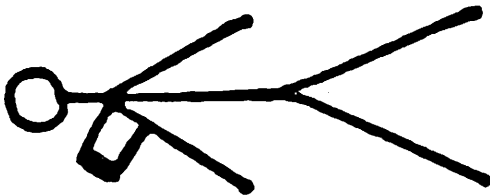
GAIT PATTERNS - PATIENT SUPINE



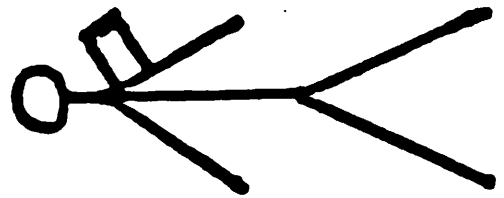
5A: LEFT LEG FORWARD GAIT
CW TORQUE



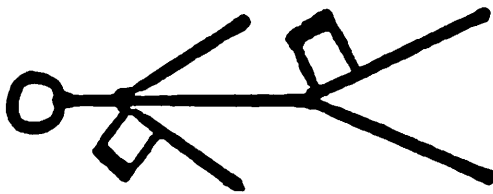
5D: RIGHT LEG FORWARD GAIT
CCW TORQUE



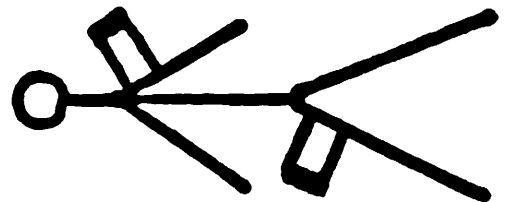
5B: RIGHT ARM FORWARD GAIT
CW TORQUE



5E: LEFT ARM FORWARD GAIT
CCW TORQUE

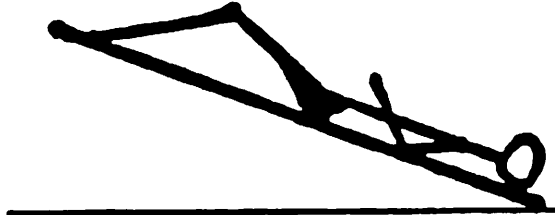


5C: LEFT LEG GAIT PATTERN
CW TORQUE



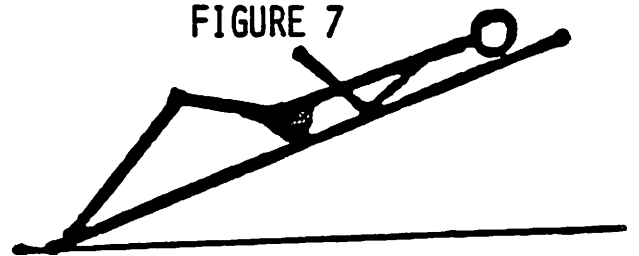
5F: RIGHT LEG GAIT PATTERN
CCW TORQUE

FIGURE 6



RETROGRADE

FIGURE 7



ANTEROGRADE

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these torque patterns as clockwise (CW) and counterclockwise (CCW) based on the rotation of the pelvis as it parallels the rotation of the electron poisoning curve.

A patient who is stuck with a CW rotation of the pelvis is stuck as if they were taking a step forward with the left foot. Gamma 2 muscle weaknesses will be present in one or more muscles which would normally be inhibited during taking a step forward with the left foot. These weaknesses will be negated in the supine patient by placing DeJarnette blocks under the right hip and/or left shoulder (Figures 5d, 5e, and 5f) or by otherwise simulating the right foot forward (CCW torque) gait position.

Looking at Figure 8a, we see that when the electron poisoning curve is rotated in a CW direction, this is associated with a decreased pituitary drive and increased pineal activity. The endocrinological effects of this pattern are a dampening of the thyroid and steroid (adrenal cortex - ovarian) activity and subsequent change in the long term set points at the ends of the curve. In Figure 8b, we see the structural equivalent of this pattern remembering that it is the pelvis that we are observing from above.

To correct this pattern, both structurally and chemically, we must improve pituitary function and/or supply the precursors and cofactors of the neurotransmitter, norepinephrine (NE). In the seminal paper, "The Link Between the Nervous System and The Body Chemistry"⁶ the relationship of amino acids as precursors of both hormones and neurotransmitters was discussed. Tyrosine is

Fig. 8a

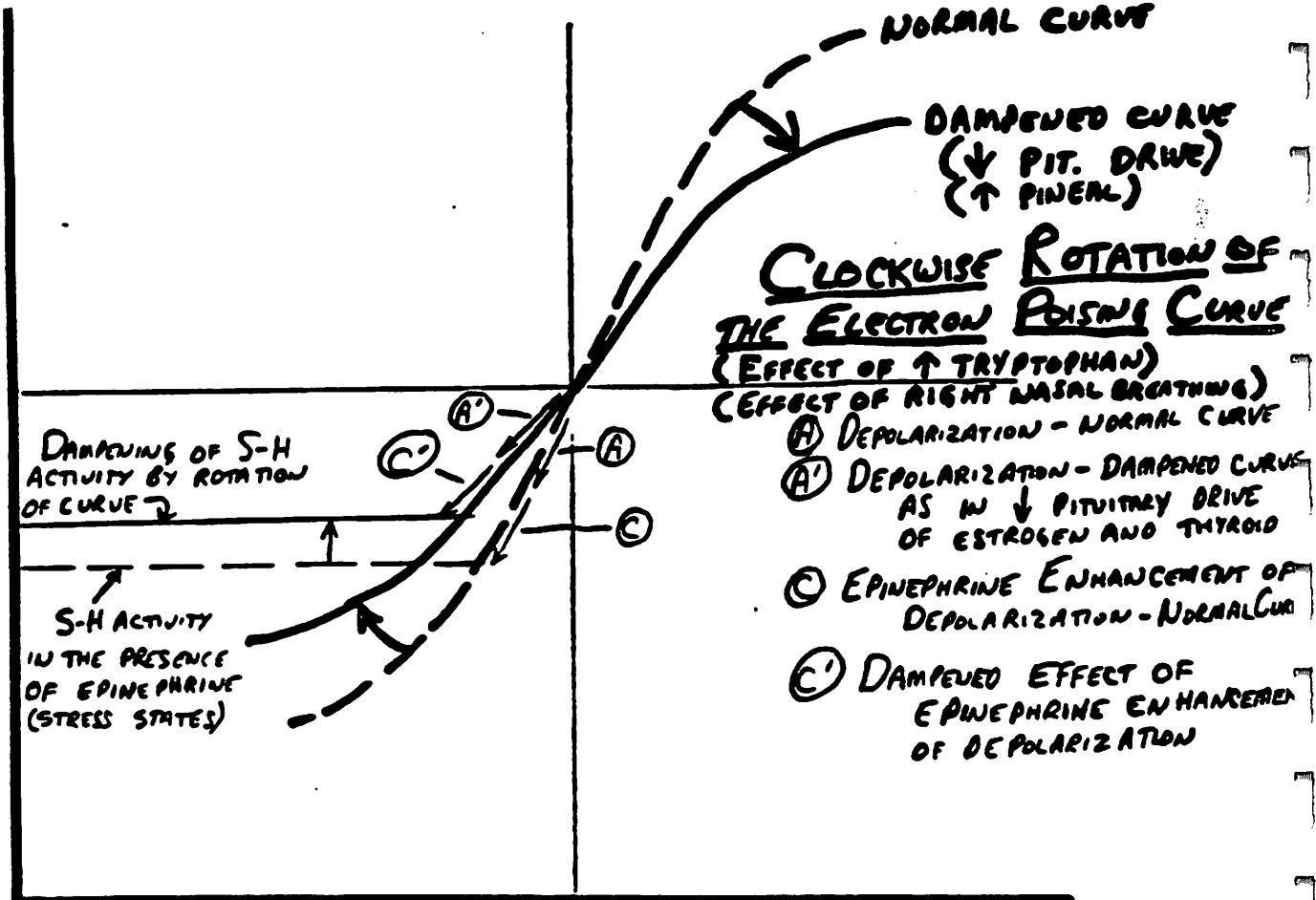


Fig. 8b

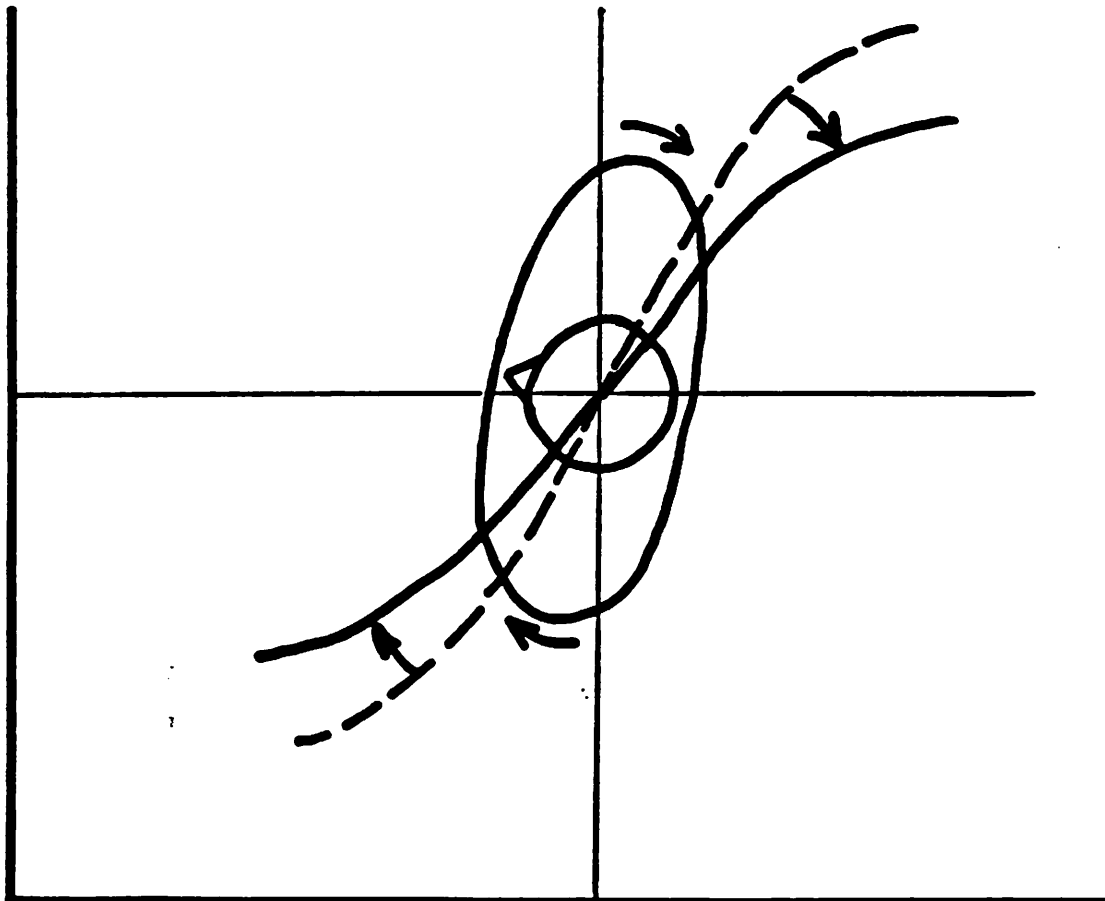
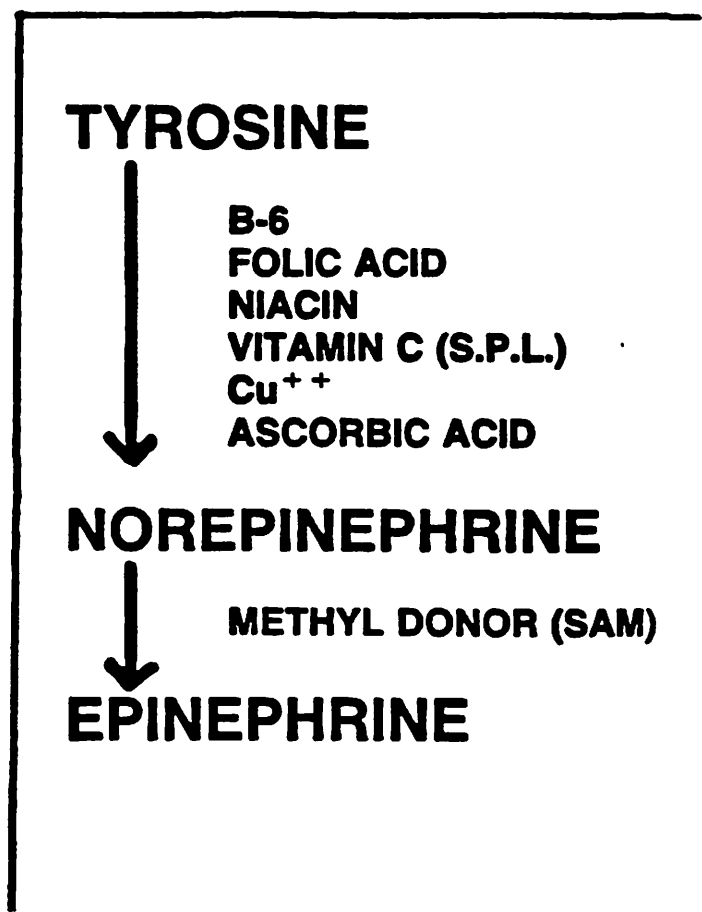
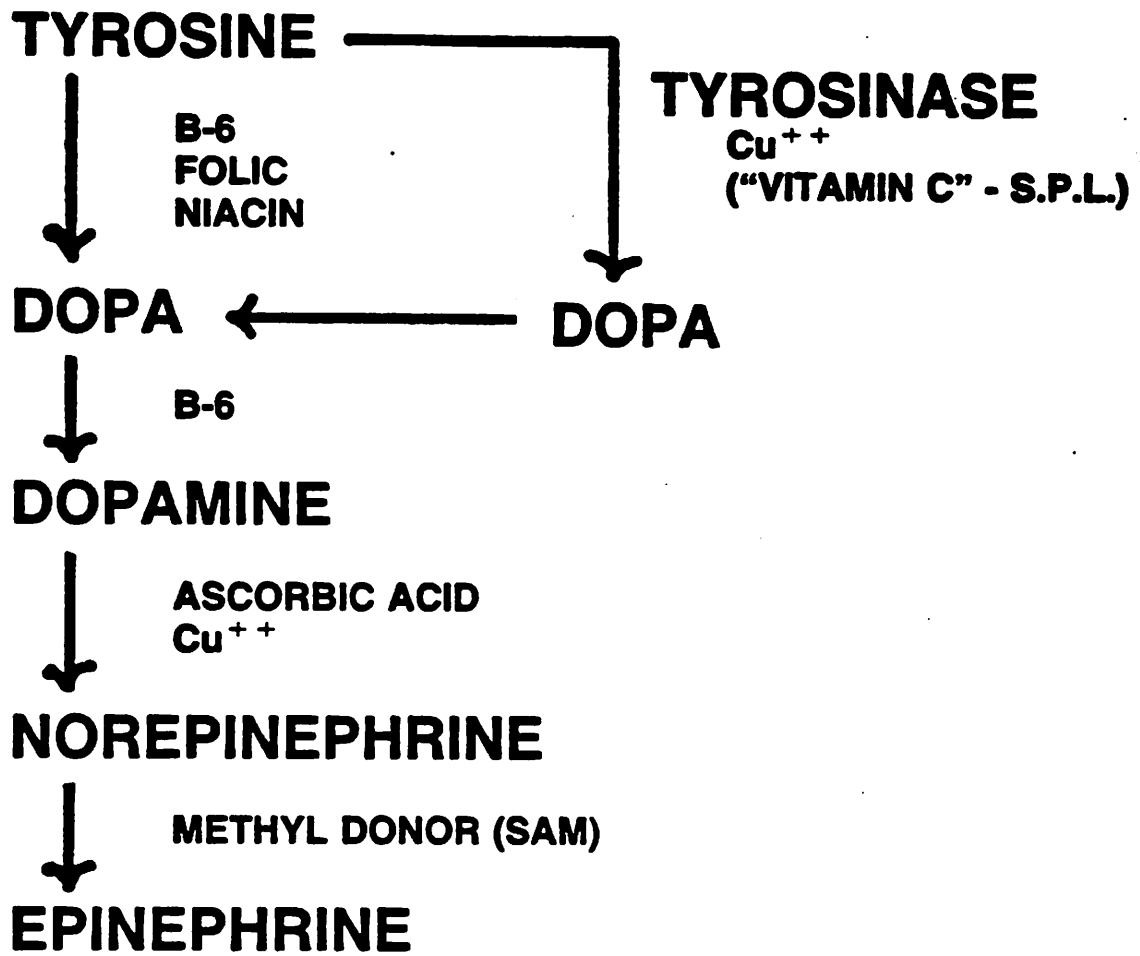


Figure 8 b
 Clockwise (CW) Rotation

FIG. 9



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the precursor to the major "uppers" in both the hormonal (thyroxine, epinephrine) and neurotransmitter (NE) systems. A direct relationship has been observed between a need for pituitary drive technique and a need for precursors and/or cofactors of NE. (Pituitary drive technique, as you know, is a cranial respiratory assistance technique based on two hand therapy localization (T.L). to the pituitary neurolymphatic (NL) and one other endocrine NL.)

In patients with a gamma 2 weakness which strengthens by placing them in a right leg forward position, there is a need for either pituitary drive technique and/or the precursors and/or cofactors for the production of NE. The metabolism including the necessary vitamin and mineral cofactors of tyrosine to NE and epinephrine is shown in Figure 9.

To differentiate between a need for pituitary drive technique and a need for supplementation from the NE pathway, the patient's temperature is often a useful guide. A lower than normal temperature would be expected in a patient who has a need for pituitary drive technique. In light of a normal or high temperature, one would suspect that the pattern was due to a need for nutritional supplementation of one or more of the factors shown in Figure 9. Often, both supplementation and pituitary drive technique are necessary for correction of the patient's pattern.

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DECREASED PINEAL - INCREASED PITUITARY PATTERN

A patient who is stuck with a CCW rotation of the pelvis is stuck as if they are taking a step forward with their right foot. This patient will have one or more gamma 2 muscle weaknesses of muscles which would normally be inhibited during the right foot forward phase of gait. These weaknesses will be negated in the supine patient by placing DeJarnette blocks under the left hip and/or right shoulder (Figures 5a, 5b, and 5c) or by otherwise stimulating the left foot forward (CW torque) gait position.

In Figure 10a the electron poisoning curve is rotated in a CCW direction which is associated with a decreased pineal activity and increased pituitary drive. The effects of this pattern on the endocrine system is one of increasing both thyroid and steroid (adrenal cortex - ovarian) activity with the subsequent change in the long term set points at the ends of the curve. In Figure 10b, we can see the structural equivalent of this pattern with the pelvis rotating anterior on the right similar to taking a step with the right foot.

The correction of this pattern, both structurally and chemically, involves improving pineal function (which will dampen the increased pituitary drive) and/or supplying the needed precursors and cofactors for the production of the neurotransmitter, serotonin. The precursors, cofactors, and metabolic pathways for the synthesis of serotonin are shown in Figure 11.

Tryptophan is the amino acid precursor to serotonin as well

Fig. 10a

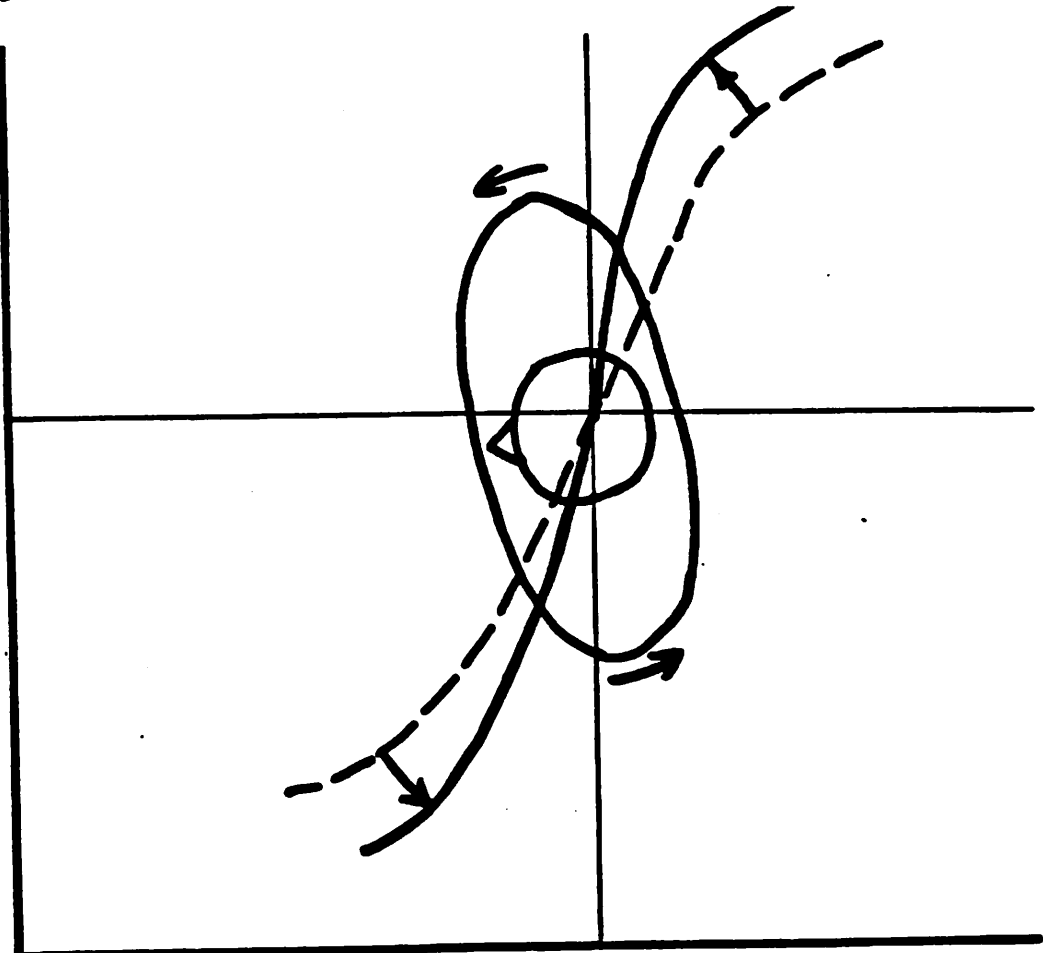
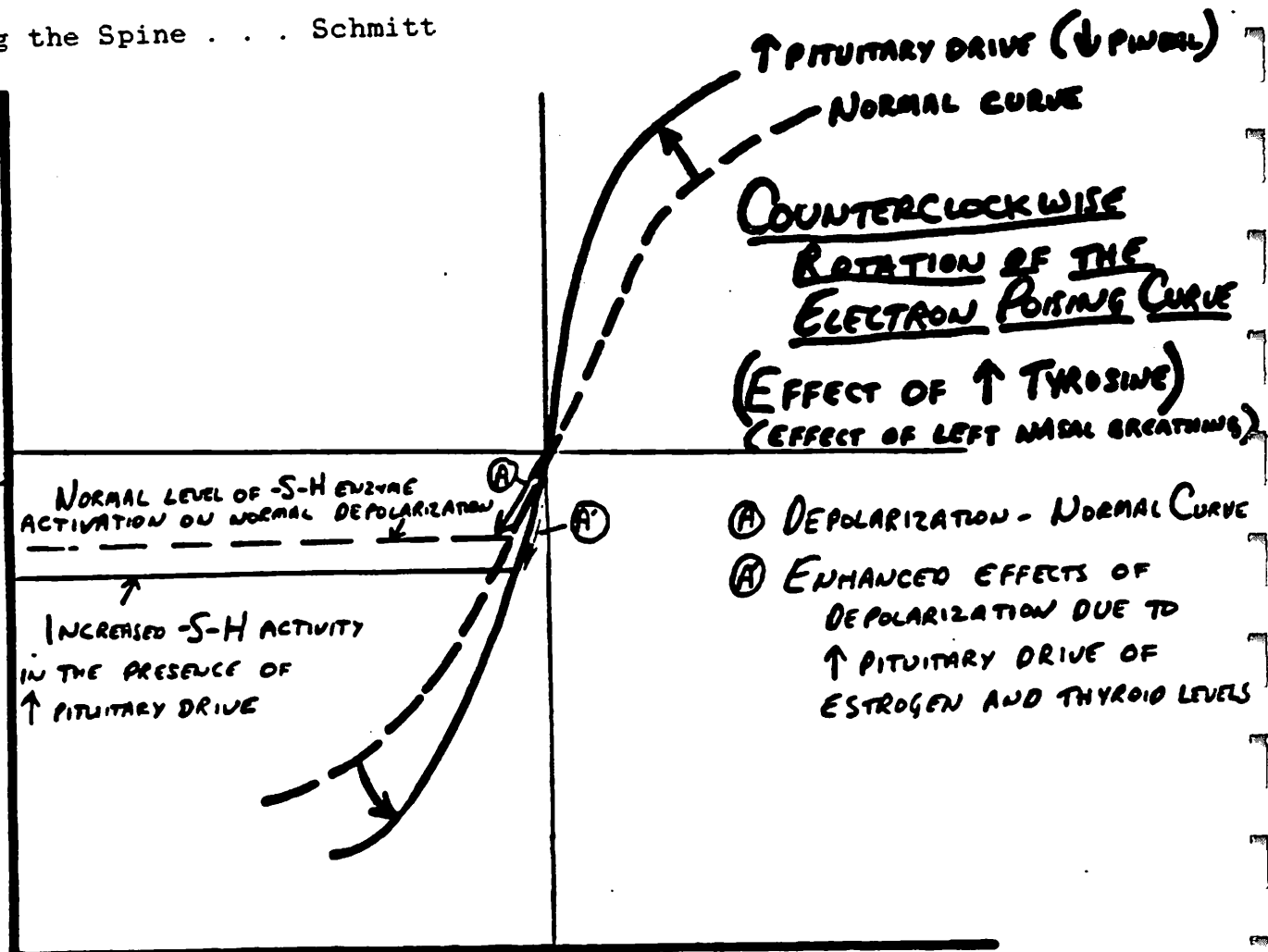


Figure 10b
Counterclockwise (CCW) Rotation

Fig. 11

TRYPTOPHAN



**B-6
FOLIC ACID
NIACIN
Fe⁺⁺**

5 - HYDROXYTRYPTOPHAN



B-6

SEROTONIN (5 - HYDROXYTRYPTAMINE)



PANTOTHENIC ACID

N - ACETYLSEROTONIN



METHYL DONOR (SAM)

MELATONIN

TRYPTOPHAN



**B-6
FOLIC ACID
NIACIN
Fe⁺⁺**

SEROTONIN



**PANTOTHENIC ACID
METHYL DONOR (SAM)**

MELATONIN

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as the pineal hormone, melatonin. Serotonin as a neurotransmitter plays a major role in turning off the nervous system, for example, when we go to sleep. Melatonin's effects are dampening to the endocrine system. Serotonin also has a hormonal dampening effect at the tissue level as will be discussed later. Again we see the elegant fashion in which our bodies are designed where the same amino acid, tryptophan, is the precursor for the "downers" in both the hormonal and neurotransmitter systems just as tyrosine is the precursor for the "uppers" in both systems.

In patients with gamma 2 weaknesses which are strengthened by placing them in a left foot forward position, there is a need for correcting pineal function by employing the sphenoid spread cranial technique and/or for supplying the precursors and/or cofactors for the metabolism of serotonin and melatonin in Figure 11. The patient's temperature is a guide to differentiating between a need for the pineal-related cranial fault correction and a need for the supplying a nutritional factor. Since the pineal has a dampening effect on the endocrine system, in lowered pineal function there is usually an elevated temperature pattern.

In patient who strengthens when taking a left forward step, a low or normal temperature, would lead you to first investigate the need for nutritional support in Figure 11. A higher than normal temperature (for example, oral temperature greater than 99.0) would direct you toward checking for the need to perform the sphenoid spread technique. It is sometimes necessary to make

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the cranial correction and supply one or more nutrients.

"SYMPATHETIC" VERSUS "PARASYMPATHETIC"

The terms "sympathetic dominant" and "parasympathetic dominant" mean different things to different people and are quite confusing in this context. In reality, a sympathetic or parasympathetic dominant pattern must originate in the hypothalamus. The anterior hypothalamic nuclei are the source of parasympathetic outflow and the posterior nuclei are the source of sympathetic outflow.

One often hears the terms sympathetic and parasympathetic being used in terms of acid ash and alkaline ash mineral balance. Phosphoric acid is a source of acid ash minerals and it is said to improve sympathetic function. Potassium and magnesium and other minerals such as those found in Standard Process Laboratories "Organic Minerals" are alkaline ash minerals. These are said to improve parasympathetic function.

In reality, the acid ash or alkaline ash predominance of the diet probably does not affect hypothalamic sympathetic or parasympathetic outflow. But the acid or alkaline state of the tissues affects the tissue response to sympathetic and parasympathetic activity. That is, an acid ash dominance will enhance sympathetic stimulation of the tissues and dampen parasympathetic stimulation of the tissues. The alkaline ash dominance will enhance tissue response to parasympathetic stimulation and dampen tissue response to sympathetic

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stimulation.

The acid - alkaline balance of the body is very important and there are centers in the hypothalamus which help to regulate this balance such as the supra-optic and paraventricular nuclei which regulate osmotic balance. These are not the sympathetic and parasympathetic centers, however. So there must be a distinction made between sympathetic and parasympathetic autonomic outflow and acid ash and alkaline ash tissue response factors.

This becomes quite clear in relationship to centering the spine. Acid - alkaline imbalances are reflected in spinal lateral flexion patterns and sympathetic - parasympathetic outflow imbalances are reflected in spinal flexion - extension patterns.

RIGHT AND LEFT LATERAL FLEXION OF THE SPINE

Lateral flexion of the spine must be associated with the movement of the mid-point of the electron poising curve along the curve, either down and to the left or up and to the right. In Figures 12 and 13 are shown the effects of epinephrine and serotonin on depolarization. Epinephrine enhances depolarization and causes an increase in -S-H activation. In muscle tissue, this would result in more forcible contraction of the muscle.

Serotonin, on the other hand, works by dampening the effects of depolarization, or in the exact opposite direction of epinephrine. In the presence of increased serotonin, a muscle would contract with less force.

FIG. 12

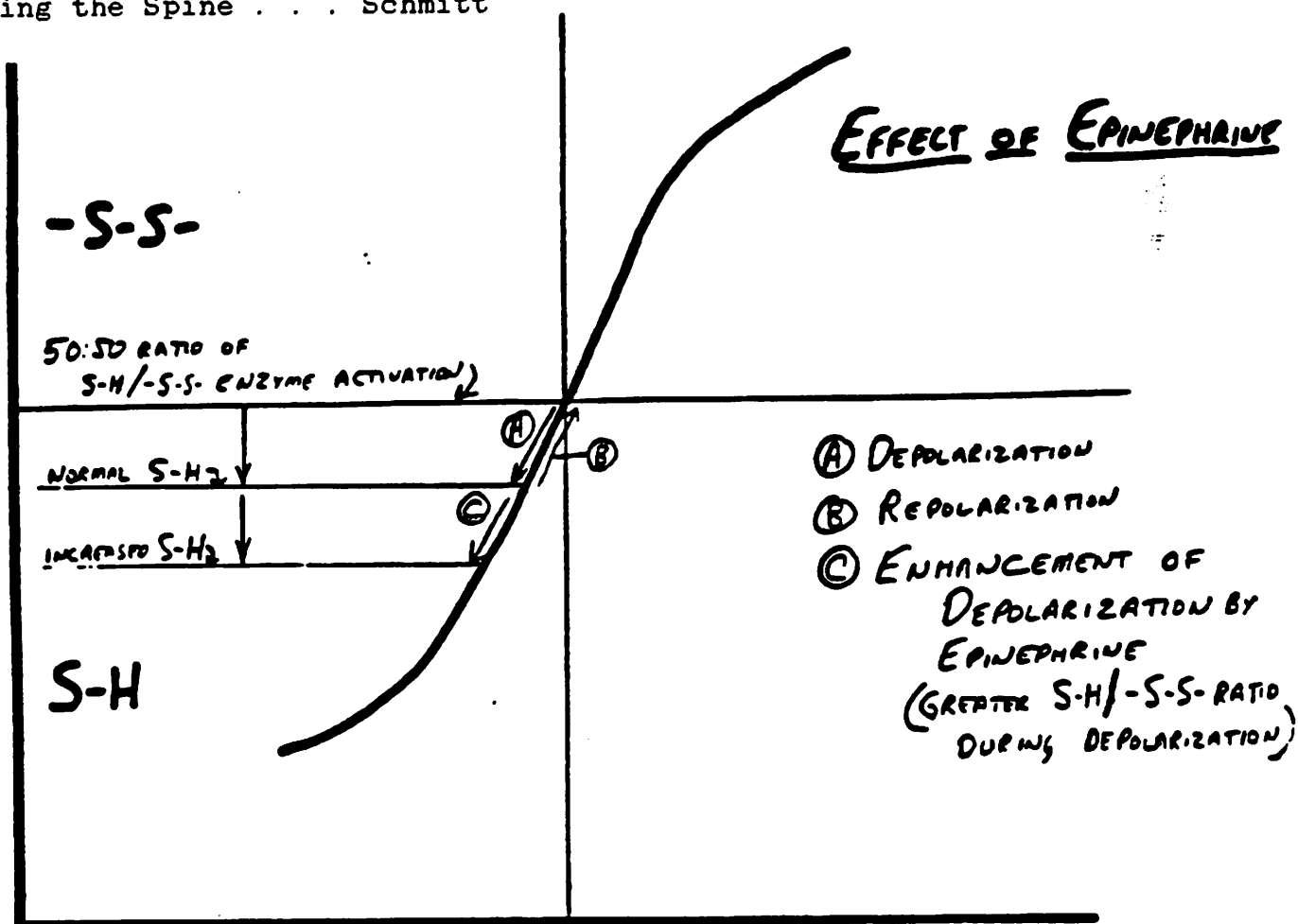
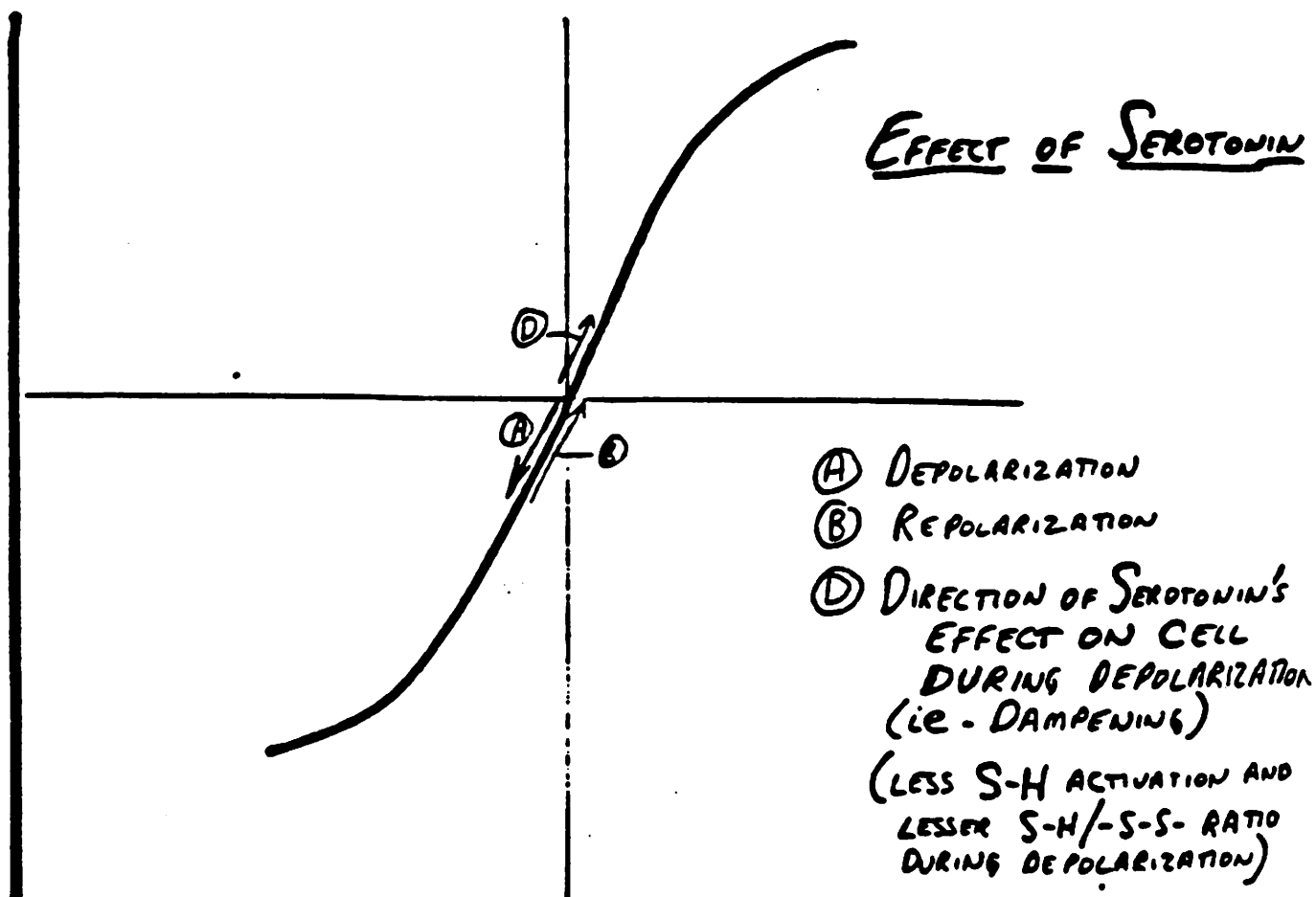


FIG. 13



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We know that sympathetic dominance results in increased epinephrine release. In 1982, this author postulated that in a chronic sympathetic dominance, there would be an adaptation of the mid-point of the electron poisoning curve so that the resting mid-potential would move down and to the left on the curve.⁶ This pattern is represented in Figure 14. We now know that this is actually an acid ash dominant pattern.

Likewise, in a alkaline ash dominant situation (i.e. increased parasympathetic tissue response) the mid-potential is postulated to move up and to the right. See Figure 15.

Treatment of this type of pattern was associated with tapping acupuncture points Sp-21 and K-27. Sp-21 and K-27 tapping is felt to balance body chemistry by moving the mid-potential back to the original mid-point which results in a balancing of -S-H and -S-S- enzyme activity and the observed normalization of body chemistry.

Sp-21 and K-27 activity seems to balance body chemistry whether the patient is "sympathetic" or "parasympathetic" dominant and whether the mid-potential is stuck down and to the left or up and to the right. But we observed a large number of patients who had a recurrence of the need for this often spectacular technique. Learning about the relationships of the mid-point on the curve to the spine helped to understand this pattern.

FIG. 14

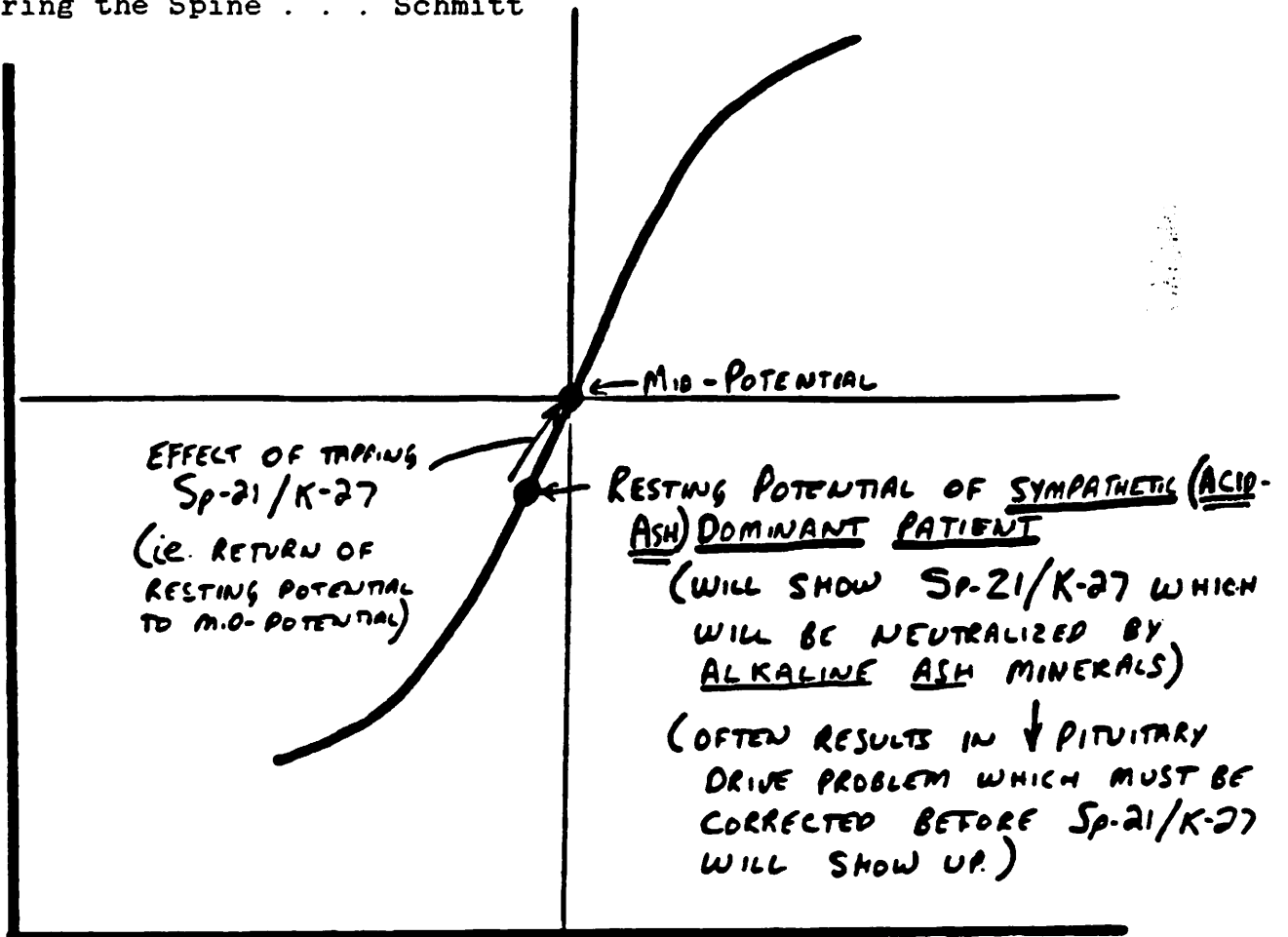
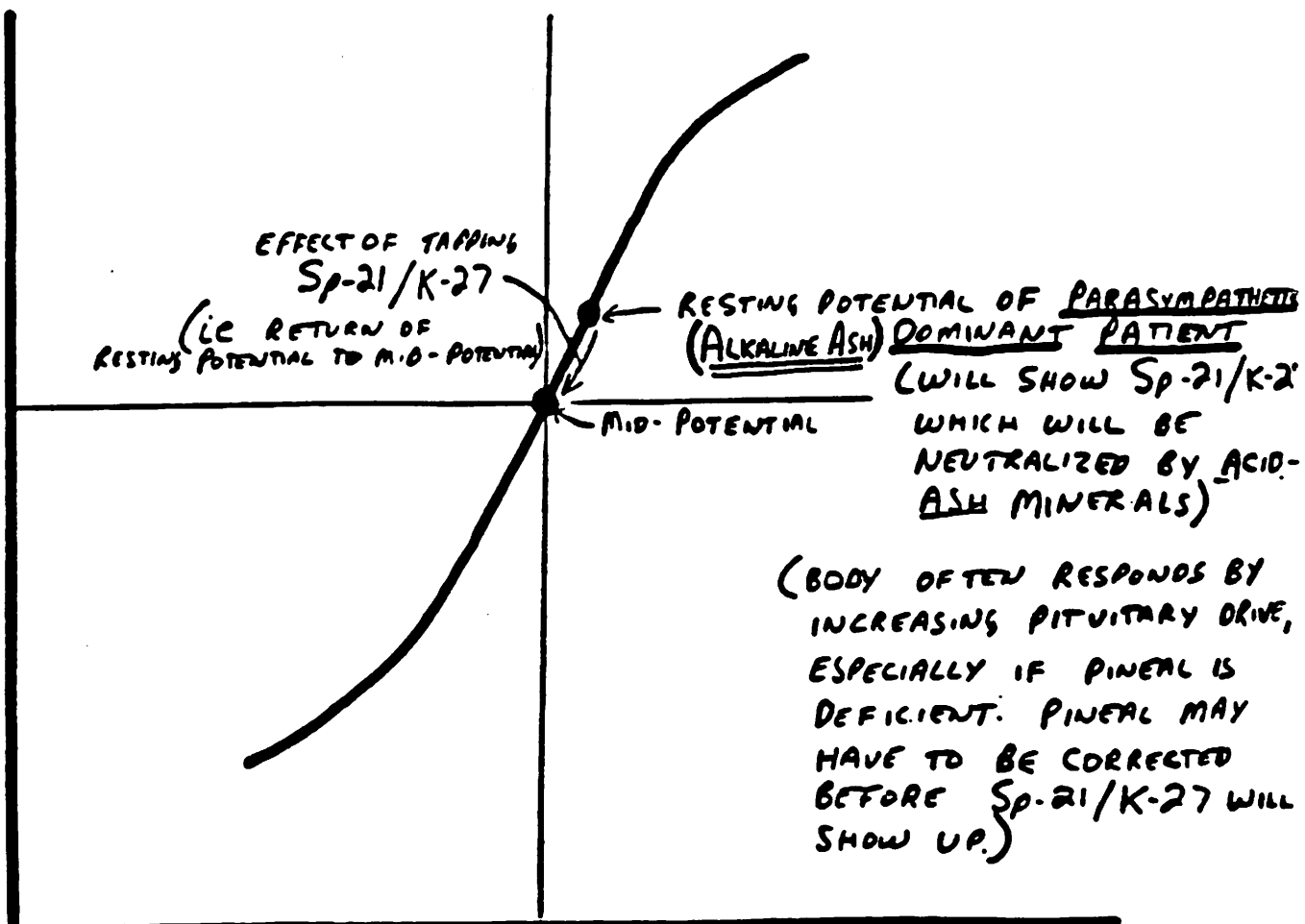


FIG. 15



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INCREASED ACID ASH MINERAL ACTIVITY

When an acid ash pattern is dominant, there will be an enhancement of tissue response to sympathetic stimulation and a dampening of tissue response to parasympathetic stimulation. These patients may have a number of sympathetic dominant signs and symptoms including a closed ileocecal valve syndrome, but they originate in tissue response factors rather than autonomic outflow.

If we project the acid ash man on the electron poisoning curve, we see a pattern as in Figures 16a and 16b. The spine, superimposed on the electron poisoning curve from above (16a), has moved toward the left side of the patient. From the posterior view (16b), we see that this results in a spinal curve in lateral flexion. We will call this lateral flexion, convex to the left, implying that it is the apex of the curve which moves to the left side.

All other things considered equal, when looking at the patient from behind, we would expect to see a postural pattern of a "C" type scoliosis, convex to the left. However, almost never do we have all other things equal. Therefore, in order to pick up this pattern, we must place the patient's body in a "C" curve while lying on the table.

In a patient with an acid - alkaline imbalance which results in an off-centering of the mid-point of the curve, there will be a parallel off-centering of the spine in lateral flexion. When the patient is overly acid, the spine will be stuck in lateral

Fig. 16a

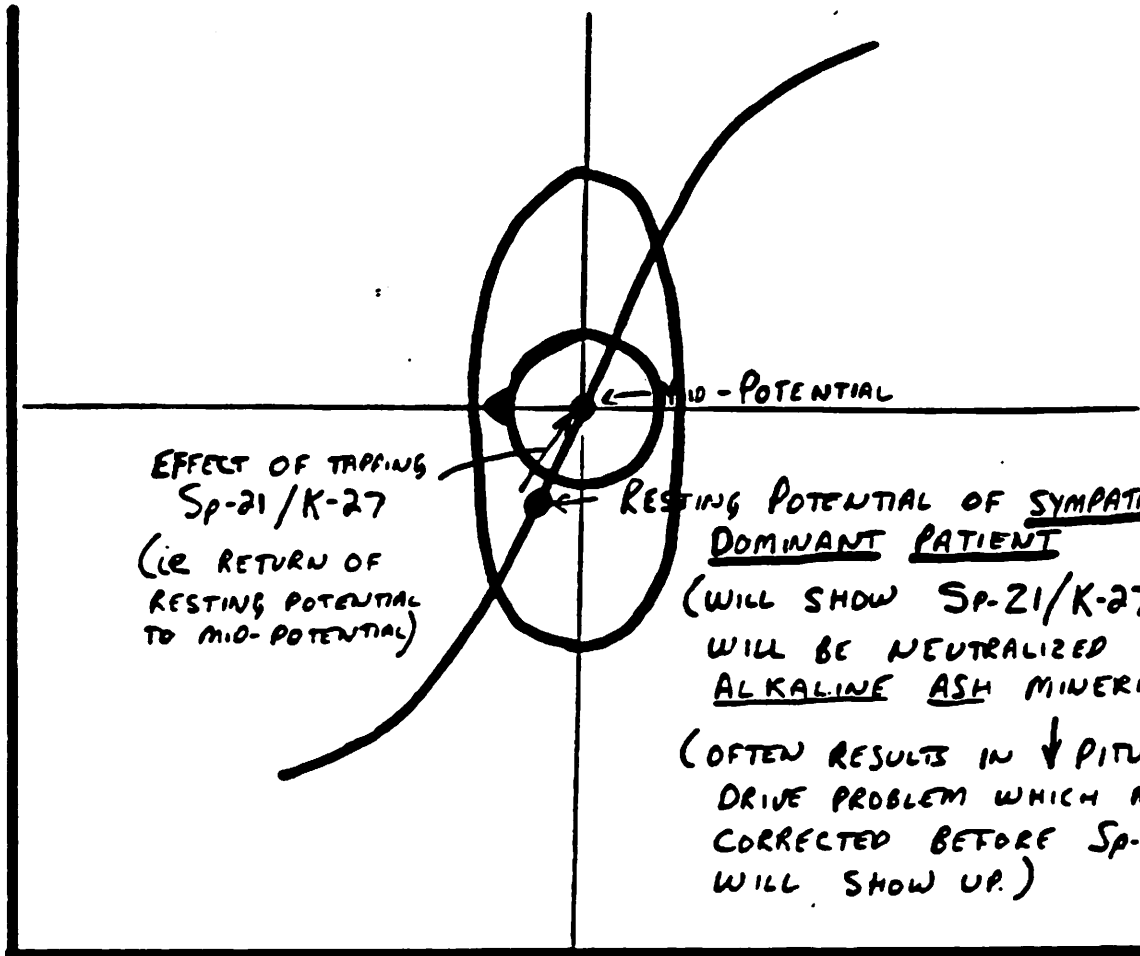


Fig. 16b.

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P TO A

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flexion, convex to the left. This will result in gamma 2 weaknesses (including a closed ileocecal valve) which will strengthen when you put the supine patient in lateral flexion, convex to the right. In other words, if the patient's problem is that the spine is laterally flexed convex to the left, it can be neutralized (temporarily) by placing the patient laterally flexed, convex to the right on the table.

Gamma 2 weaknesses in this overly acid ash patient should also be corrected by the insalivation of a source of alkaline ash minerals such as the Organic Minerals product previously mentioned. It is important to note that there should always be agreement between your structural and chemical findings.

For example, in a patient who is overly acid, gamma 2 weaknesses should be strengthened by both Organic Minerals and lateral flexion to the right. If a gamma 2 weakness is strengthened by Organic Minerals and lateral flexion, convex to the left, the patient is switched. In this and all other centering the spine patients, switching must be corrected first.

INCREASED ALKALINE ASH MINERAL ACTIVITY

When an alkaline ash pattern is dominant, the patient will have enhanced tissue response to parasympathetic stimulation and dampened tissue response to sympathetic stimulation. There may be a number of parasympathetic dominant signs and symptoms including a recurrent open ileocecal valve syndrome.

The overly alkaline patient, superimposed on the electron poisoning curve from above, will have the spine/mid-point moved

Fig. 17a

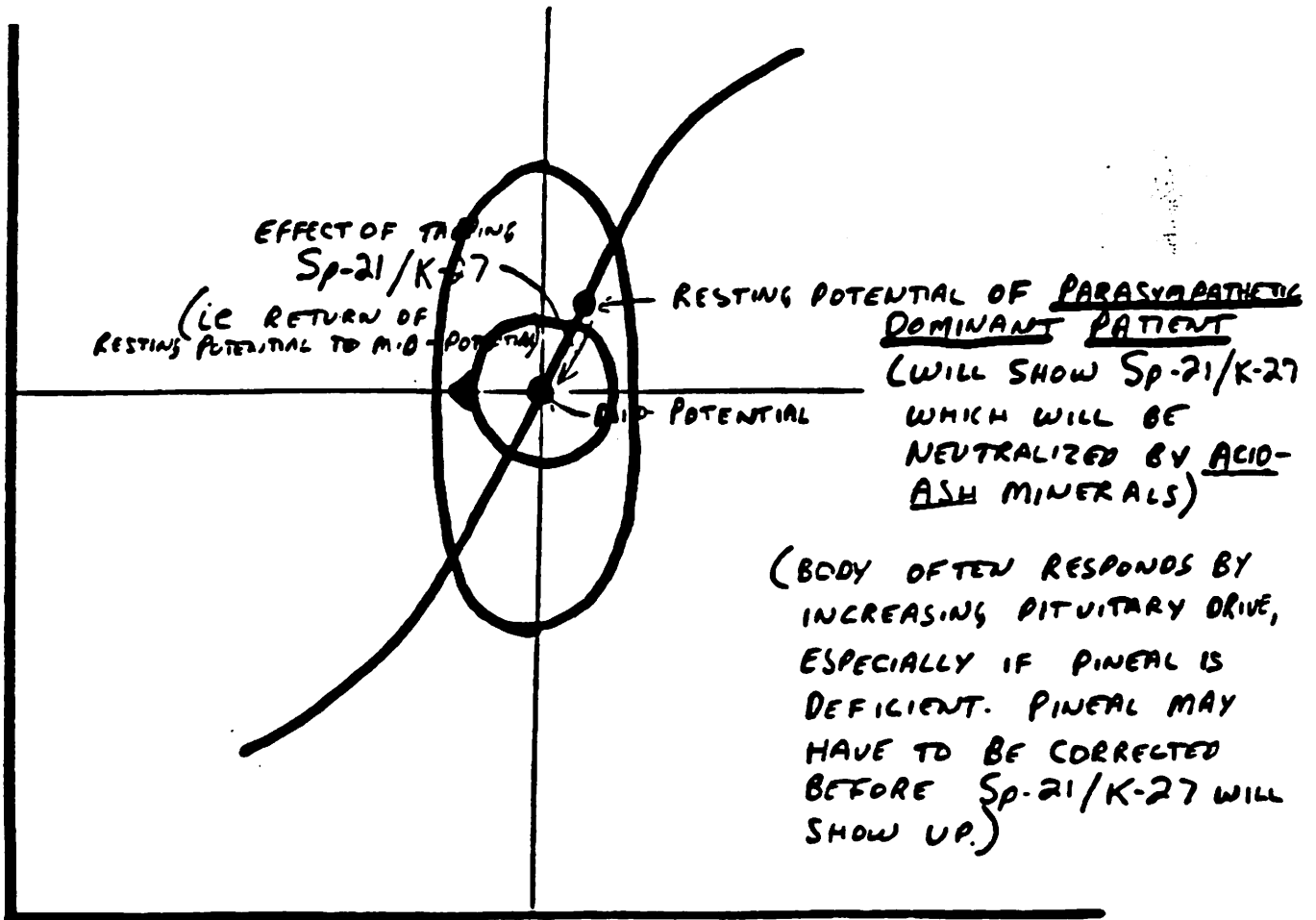


Fig. 17b
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toward the right side of the body as in Figure 17a. Looking at this patient from behind, there will be a tendency (all other things equal) for the spine to be laterally flexed, convex to the right as in Figure 17b.

With the alkaline ash dominant patient supine, a gamma 2 weakness (including an open ileocecal valve) will strengthen when you place the patient in a "C" curve, laterally flexing the spine convex to the left. That is, if a patient is stuck in a lateral flexion pattern, convex to the right, a gamma 2 weakness will be neutralized (temporarily) by placing the patient laterally flexed, convex to the left.

Likewise, this patient's gamma 2 weaknesses should be strengthened by insalivation of an acid ash substance. We often use hydrochloric acid (HCl) tablets for this purpose, although HCl is not as accurate as phosphoric acid. Phosphoric acid, however, is only available in liquid form and must be diluted with water and sipped by the patient. Since this procedure is time consuming and clumsy, we usually use the HCl unless there is a questionable finding. A patient who shows strengthening with lateral flexion, convex to the left and strengthens with an alkaline substance is switched.

STRUCTURAL CORRECTION OF A LATERAL FLEXION PROBLEM

To identify a patient with a spinal lateral flexion-acid/alkaline ash imbalance, we simply find a gamma 2 weakness with the patient supine and place the spine in lateral flexion, convex to the left, and then convex to the right. If a gamma 2

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weakness strengthens in either condition, we can then place phosphoric acid (or hydrochloric acid) and Organic Minerals in the patient's mouth to ascertain that the acid - alkaline pattern parallels the structural pattern.

The structural correction of the lateral flexion problem involves the application of the Logan basic (sacral apex) contact. Anyone who has practiced Logan basic technique can tell you many miraculous stories of this technique in treating a vast array of problems, but especially "sympathetic - parasympathetic" type problems. I had seen occasional success with this contact, but really had no indicator for when to use it in preference to another technique. In 1984, when I observed Dr. Goodheart take all of the discomfort out of my father's adenocarcinoma-filled abdomen using primarily Logan basic technique (after I had done everything else that I knew to control the pain) my interest in this technique was rekindled. It was about one and a half years later, however, until the relationship of Logan basic to the off-centered, laterally flexed spine became clear.

There is some controversy regarding the actual changes brought about in the spine by the Logan basic contact. The rule that will be presented here is based on our clinical observations using muscle testing and changes in range of motion and oral temperature : "The spine moves toward the side of the Logan basic contact." This means that the apex of the spinal curve will move toward the side of contact. In other words, the spinal convexity will move toward the side of contact.

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In a patient who is stuck in lateral flexion, convex to the left, you would want to move his spinal convexity back toward the right in order to center the spine. Therefore, you would use a right Logan basic contact.

If a patient's spine is stuck laterally flexed, convex to the right, you would want to move it back toward the left to center the spine and you would use a left Logan basic contact.

Using muscle testing, it is easy to determine the side of Logan basic contact by using the challenge technique. In the prone patient, find the contact point in the sacrotuberous ligament by pressing your thumb about halfway between the ischial tuberosity and the coccyx. Your thumb will find its way between the tissues up into a groove and onto the sacrotuberous ligament. Give a gentle push type of a challenge and test a muscle. Weakness of an indicator muscle will be neutralized by respiration. Treat on the side of challenging which causes weakness on the phase of respiration which neutralizes the weakness. It should not be painful.

The side of challenging should be the side to which the spine needs to move. In an acid ash dominant, spine laterally flexed, convex to the left patient, you will find the Logan basic contact to challenge on the right. Treating the right Logan basic contact will center the spine by moving the spine convexity toward the right, i.e. center.

In an alkaline ash dominant, spine laterally flexed, convex to the right patient, you will find the Logan basic challenge

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positive on the left. Remember that this is the type of patient who tends to have an open ileocecal valve. Treating the left Logan basic contact will center the spine by moving its convexity toward the left, i.e. center, and also correct many recurrent open ileocecal valves. (Recurrent closed ileocecal valve problems will be corrected if the patient requires right Logan basic contact as previously described.)

If the Logan basic challenge is positive on the opposite side from what you would predict based laterally flexing the spine in the supine position, then the patient is switched and must be unswitched prior to proceeding.

When the spine is off-center in lateral flexion, we always attempt a structural correction first. We reserve nutritional supplementation for those patients who show recurrence of the same lateral flexion problem. It must be kept in mind that the acid - alkaline balance is due to both dietary intake and the body's self-regulating, homeostatic mechanisms.

Most often, when we structurally center the spine, we achieve a normalization of the homeostatic mechanisms and we do not have to rely on dietary measures or supplementation. This is where chiropractic leads all other natural healing professions in the care of functional illness. That is, instead of treating a chemical imbalance with another chemical imbalance, we can through manipulative efforts, reset the homeostatic mechanisms and set-points and allow the body to regulate itself and thereby heal itself. Using muscle testing as functional neurological

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evaluation, we can do this with regularity, on purpose instead of haphazardly, by accident.

SPINAL FLEXION AND SPINAL EXTENSION IMBALANCES

Spinal flexion and extension imbalances are directly associated with sympathetic and parasympathetic outflow from the hypothalamus. For the rest of this paper, the terms "sympathetic" and "parasympathetic" will imply autonomic outflow originating at the hypothalamus.

What happens when you scare a cat? Besides the fact that its hair stands on end (every chiropractic college student's first answer), the cat arches its back. In other words, when you put a cat in a sympathetic (fight or flee) situation, its first response is to flex the spine (and yes, the sympathetic-mediated erector pilae muscles cause the hair to stand on end also).

In man, we see the same pattern. Sympathetic dominance is associated with spinal flexion. This paper postulates, conversely, that parasympathetic dominance is associated with a pattern of spinal extension. But in man at least, the pattern is somewhat more involved than it seems at first.

Spinal flexion and spinal extension are controlled by a graceful interaction of the intrinsic spinal muscles. The overall movement of the torso is controlled by the larger extrinsic extensors and flexors such as the erector spinae and the psoas or the abdominals. The activity of the intrinsic spinal muscles and the extrinsic muscles is often out of harmony

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in sympathetic or parasympathetic dominance. In other words, the intrinsic spinal muscles may be causing the spine to flex while the extrinsic, paraspinal muscles are contracting as if to extend the body. Or vice versa. This is why sympathetic-parasympathetic imbalanced patients are often so difficult to adjust.

The dura mater is innervated only in its anterior one-third. It is for this reason that spinal fluid taps and myelograms can be performed through the dural port without eliciting a pain response from the dura.

Illi¹ showed in dissected human cadavers that the relatively inelastic dura would become stretched and limit spinal flexion unless a factor of rotation was added as was mentioned at the beginning of this paper. The dura (and not coincidentally, the anterior part of the dura) comes in contact with the vertebrae during spinal flexion and limits motion.

In meningitis, the characteristic finding is opisthotonos, or spasm of the paraspinal extensor muscles.

Since the only part of the dura which is innervated is the anterior one-third, and since it is this area which comes in contact with the vertebral canal at the limits of spinal flexion, and since stimulation of the dura in meningitis results in paraspinal extensor activity, we can see that a sympathetic dominant pattern of spinal flexion will result in stretching the anterior part of the dura which results in a facilitation of the paraspinal extensor muscles. To summarize, sympathetic dominance

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causes the intrinsic spinal muscles to put the spine in flexion (the scared cat routine), which affects the dura, which reflexly causes the extrinsic paraspinal extensors to contract.

And so in a sympathetic dominant individual, the result is a pattern of increased extensor tone, secondary to increased spinal flexion. This causes the appearance of the body moving posteriorly off center due to the increased extensor tone as in Figure 18.

By contrast, the parasympathetic dominant individual's spine will be more in extension, which will decrease dural stimulation, and hence will lower paraspinal extensor tone. Therefore, the parasympathetic dominant patient will have increased body flexor tone and decreased extensor tone. This will pull the body somewhat forward of center as is seen in Figure 19.

Although there are several methods for screening for this flexor - extensor imbalance associated with spinal off-centering A to P, only the most useful one will be presented here. It involves using eye movements to facilitate extensor and flexor patterns in the body.

It is said by football coaches that to control the body, you must control the head. In other words, the body follows the head. And the head follows the eyes. If you roll your eyes up toward the top of your head, your neck and trunk extensors will reflexly contract to follow the eyes. The same is true if you roll your eyes footward. Your head and trunk will tend to flex to follow your eyes.

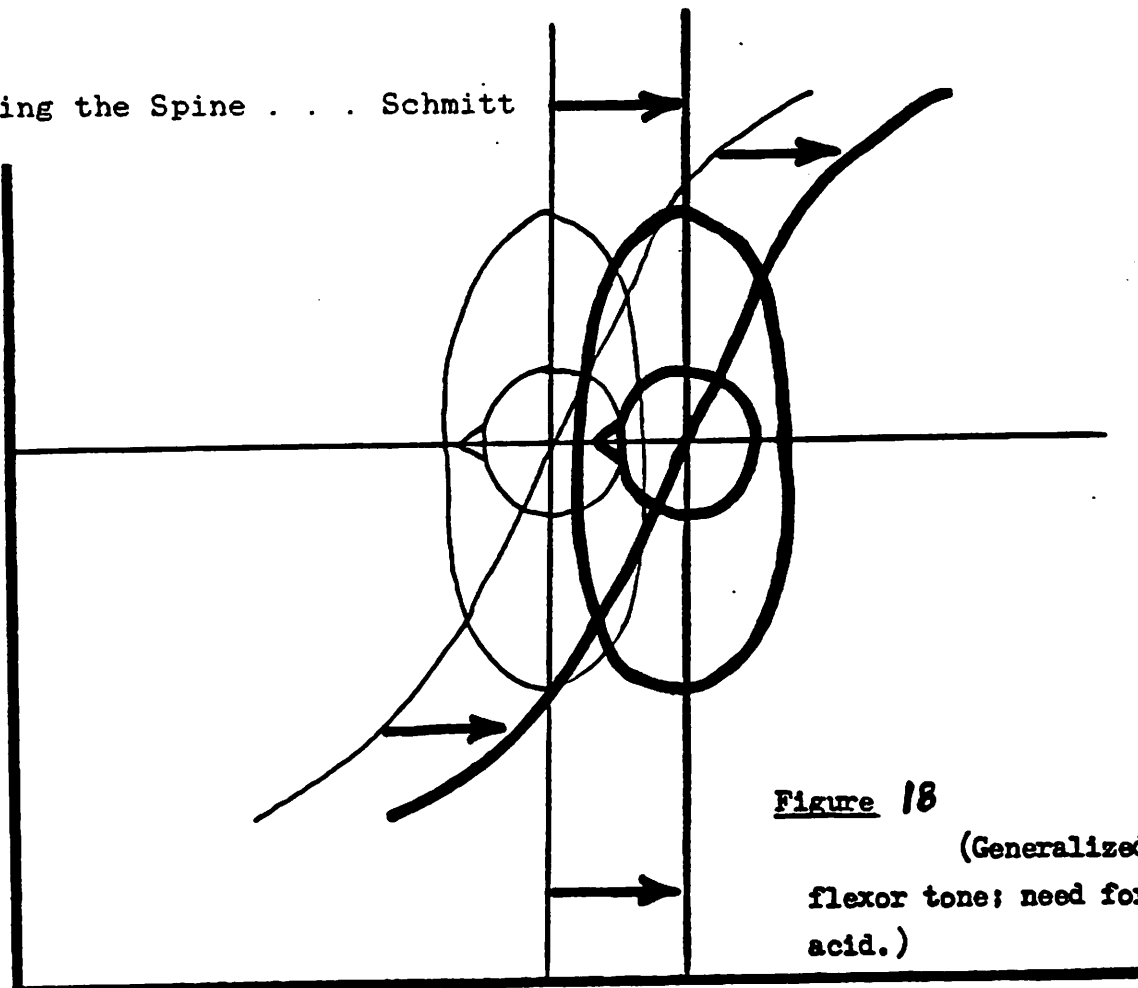


Figure 18

(Generalized lack of flexor tone; need for pantothenic acid.)

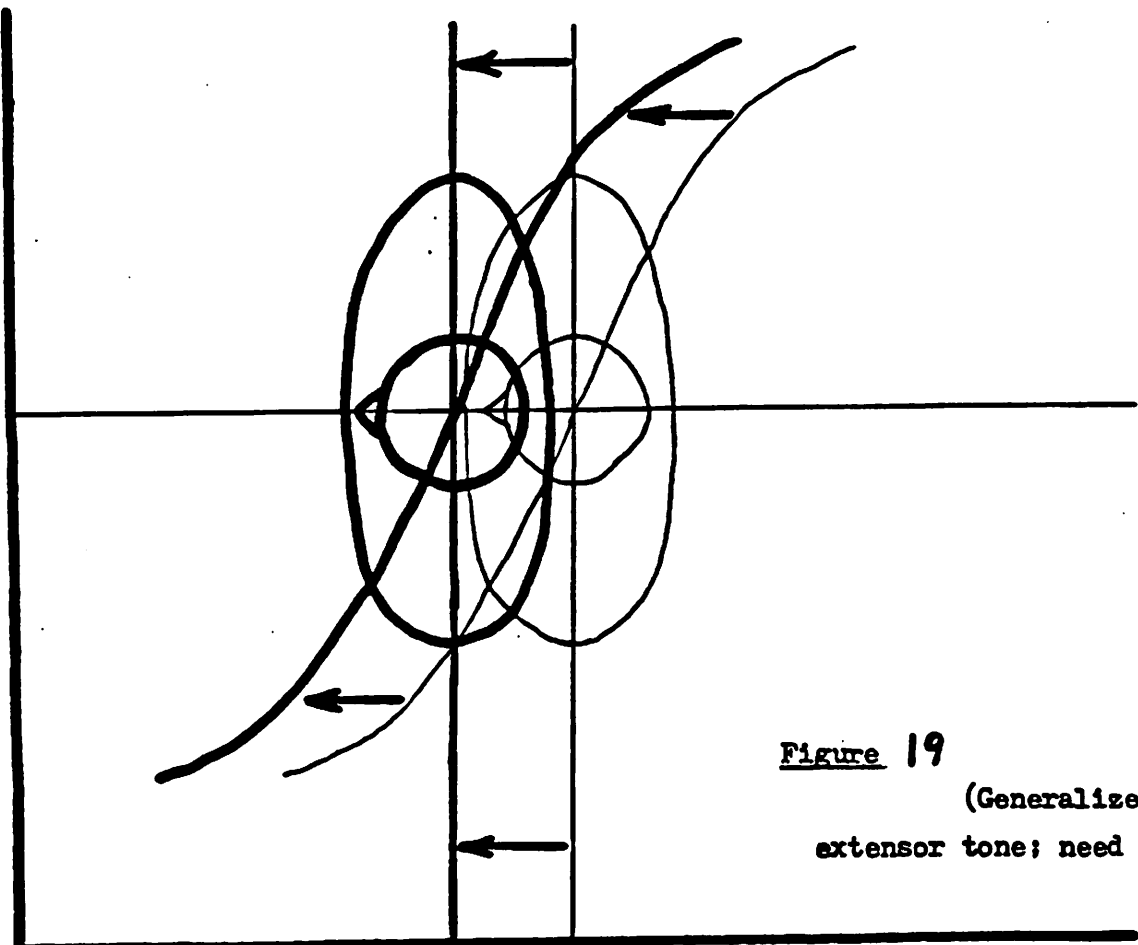


Figure 19

(Generalized lack of extensor tone; need for iron.)

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Goodheart developed eyes into distortion (EID) technique to use the eyes to bring out hidden weak muscles. This author found it useful to employ eyes out of distortion (EOD) technique to find a direction of gaze that would strengthen a weak muscle.

Using EOD technique, it is easy and quick to screen for extensor - flexor imbalances. EOD straight inferior will facilitate, in general, the flexor muscles (and inhibit the body extensors) when the eyes are rolled toward the feet. A gamma 2 weakness associated with a spine off-center A to P will strengthen during EOD straight inferior if there is decreased flexor tone and increased extensor tone as in Figure 18. This is the case of sympathetic dominance (spinal flexion - body extension.) By the same token, EOD straight superior would only serve to aggravate the problem and have no effect on a gamma 2 weakness in the sympathetic dominant patient.

In the parasympathetic dominant patient, the spine is in extension and there is decreased tone of the body extensors and increased tone of the body flexors. See Figure 19. EOD straight superior would strengthen a gamma 2 weakness associated with the off-centered spine. EOD straight inferior would have no effect on a gamma 2 weakness.

Summarizing, EOD straight inferior strengthening means the body needs more flexor tone (because it has too much extensor tone because the spine is in flexion.) It implies a sympathetic dominant patient.

EOD straight superior strengthening means the body needs

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more extensor tone (because it has too much flexor tone because the spine is in extension.) It implies a parasympathetic dominance.

CORRECTION OF FLEXOR - EXTENSOR IMBALANCES

SYMPATHETIC DOMINANT - SPINAL FLEXION - DECREASED FLEXOR TONE

When EOOD straight inferior strengthens a gamma 2 weakness, the patient needs more flexor tone, has too much extensor tone, and/or has a spine which is in flexion due to sympathetic dominance. The factors which will correct a gamma 2 weakness in this style of patient will be discussed in the following paragraphs.

1. Choline : Many of these patients will weaken on whole adrenal tissue due to their overly sympathetic nature. When adrenal tissue generally weakens a patient, the patient will usually respond to choline. This is because choline is the precursor for acetylcholine, the parasympathetic postganglionic (and sympathetic and parasympathetic preganglionic) neurotransmitter.

2. Pantothenic acid : Acetylcholine depends on pantothenic acid as well as choline for its production. Pantothenic acid is also the nutrient associated with anaerobic muscle testing weakness patterns. In general, aerobic muscles are extensors, and anaerobic muscles are flexors. So in this patient with decreased flexor tone, pantothenic acid may be necessary to aid in increasing anaerobic muscle activity, and/or for helping to produce acetylcholine.

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3. Vitamin G : This is the Canadian name for riboflavin. In commercial forms, it actually contains riboflavin and niacin or niacinamide, the alcohol insoluble factors of the B complex. These nutrients aid in the production of cholinesterase, the enzyme that breaks down acetylcholine. The need for this seems paradoxical until it is recognized acetylcholine must be broken down so the body can recycle choline into acetylcholine again. But the "secret ingredient" of these vitamin G products is calf brain which is high in lecithinase enzyme. It is this enzyme which helps to free up choline from lecithin and make it available for acetylcholine production.

4. Flexors Exercise : Feldenkrais developed many brilliant exercises. The flexors exercise is one of them. It is designed to make all the body's flexors, and only the body's flexors, work at the same time. The supine patient bends both knees, puts the right hand behind the right knee and the left hand behind the head. Slowly and gently, the patient approximates the left elbow and the right knee, curling the body, and then relaxes. This is done five times one way, then the hands are switched and it is repeated five times. It is an excellent exercise to have these patients do at home.

5. Coccyx lift technique : Goodheart devised the coccygeal lift to take tension off the dura. The dura is under maximum tension when the spine is in flexion. In these patients, this technique tends to be temporary only. Since the spine never flexes or extends without rotation (and/or lateral flexion), you

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can enhance the effectiveness of the coccyx lift by using DeJarnette blocks. Put one block under the prone patient's hip and another under the opposite shoulder and challenge for the need for coccyx lift. One torque pattern will enhance the challenge, the other torque will negate it. It is most effective to treat coccyx lift with the blocks in the position which enhances the challenge.

When the spine is in flexion, the spinous processes are farther apart. Relaxing dural tension with coccyx lift allows the spine to assume a more relaxed position and the spinous processes can move closer together again. This is why Goodheart finds that the "length of the spine" from the external occipital protuberance to the sacrum becomes shorter after coccyx lift technique.

6. Upper cervical fixation and/or TMJ fault : Fixations of the spine have been shown by this author to be related to the spine stuck in flexion and/or extension. If there is an upper cervical fixation, the body might think that the spine is in flexion. Also, upper cervical fix may interfere with visual feedback and create an EOOD pattern. In either case, correction of the fixation will neutralize this pattern and correct the associated gamma 2 weaknesses.

Temporomandibular joint (TMJ) involvements interfere with upper cervical function and are the cause of many recurrent upper cervical fixations. Check for TMJ faults, especially closing faults and wide opening faults with temporoparietal jamming.

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PARASYMPATH. DOMINANT - SPINAL EXTENSION - DECREASED EXTENSOR TONE

When EOOD straight superior strengthens a gamma 2 weakness, the patient needs more extensor tone, has too much flexor tone, and/or has a spine which is in extension due to parasympathetic dominance. The following paragraphs discuss the factors to consider in the correction of this patient's pattern.

1. Pectoralis minor neurolymphatic (NL) : Goodheart describes the use of this NL, located on the sternum about the level of the fourth rib, in the treatment of retrograde patients. This author discussed the retrograde pattern in relationship to flexor - extensor tone imbalances where there is decreased extensor tone.⁷ When EOOD straight up strengthens, very often, so will therapy localization and manipulation to the pectoralis minor NL.

2. Iron : Iron is associated with aerobic muscle activity. Since most extensor muscles are aerobic in nature, many of these patients respond to iron.

3. Molybdenum : Anytime there is a need for iron, there may be a need for molybdenum. Iron and molybdenum work together in several pathways in biochemistry.

4. Gamma-aminobutyric acid (GABA) - its precursors and/or cofactors : GABA is the most important inhibitory neurotransmitter in the nervous system. One-third of the synapses in our brains use GABA. Originally observed by accident, GABA's ability to strengthen when there is decreased extensor tone has shown to be regularly, but not consistently

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found.

GABA is derived from glutamic acid which is derived from alpha-ketoglutaric acid. Alpha-ketoglutaric acid is produced in the citric acid cycle. If GABA strengthens, you must check for the following nutrients which play a role in its synthesis (more or less in order of importance) : B-6 and B-6 activators (i.e., zinc, magnesium, B-2, and phosphorus), B-1, niacinamide, manganese, pantothenic acid.

5. Whole adrenal tissue : Whole adrenal tissue concentrate tends to stimulate the adrenal medulla and the sympathetic nervous system. If choline weakens a patient, then whole adrenal will usually strengthen. It will tend to move the spine more toward flexion by its sympathetic stimulation. It is particularly useful in patients with low blood pressure.

6. Upper cervical fixation and/or TMJ fault ; for the same reasons as previously mentioned.

CONCLUSIONS

The use of muscle testing as functional neurology has opened many doors for applied kinesiology, chiropractic, and natural health care by employing a combination of standard neurology, standard biochemistry, and clinical observations backed up by objective measurements. The importance of the inextricable interrelationships of the general mechanics of the spine as a unit as a holographic representation of the body chemistry has been presented.

Although this concept may be revolutionary to some and

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heretical to others, it is based on the chiropractic principle as espoused by the profession's founder D. D. Palmer in 1910: "Too much or not enough nerve energy is disease." Dr. Palmer did not know of the terms facilitation or inhibition which we use in modern neurology, but he must have had a sense of the importance of the spine, its centering, and the far-reaching relationships between structure and function. Today we know that "too much" is associated with facilitation and increased muscle tone, and "not enough" is associated with inhibition and muscle weakness which we can test and use as a guide in our treatment.

By employing the most up-to-date principles of physiology, we often find ourselves seeming to stray far from the spine. It is the intention of this paper to demonstrate that, the farther we seem to get away from the spine in our endeavors to help ease the health problems of our fellow man, the more strongly we are drawn back to it.

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SUMMARY OF CLINICAL APPLICATIONS OF THIS PAPER

CENTERING THE SPINE - check supine patient using gamma 2 weakness(es):

- A. LATERAL FLEXION** - spine in "C" curve-convex left or right
(Checks for systemic acid-sympathetic / alkaline-parasympathetic balance)
1. Convex left -) - strengthens
 - a. Acid ash minerals also strengthens
(1) if alk. ash strengthen-check: switching
 - b. Correct with left Logan basic - treat with appropriate hip-shoulder torque
 2. Convex right - (- strengthens
 - a. Alkaline ash minerals also strengthens
(1) if acid ash strengthen-check: switching
 - b. Correct with right Logan basic - treat with appropriate hip-shoulder torque
- B. ANTERIOR-POSTERIOR (Flexion-extension)**
(Checks for sympathetic/parasympathetic drive pattern)
1. If EOOD straight superior strengthens, check:
 - a. Pectoralis minor NL
 - b. Iron, molybdenum
 - c. GABA (Glutamic acid, B-6)
 - d. Whole adrenal (esp. if choline weakens)
 - e. Upper cervical fixation and/or TMJ fault
 2. If EOOD straight inferior strengthens, check:
 - a. Flexors exercise (Feldenkrais)
 - b. Upper cervical fixation and/or TMJ fault
 - c. Coccyx lift - treat with hip/shoulder torque
 - d. Pantothenic acid, choline (esp. if whole adrenal weakens), vitamin G
- C. GAIT PATTERNS (CCW and CW torque patterns)**
(Checks for pituitary - pineal balance)
1. CCW torque (i.e., right leg forward) strengthens
 - a. Pituitary Drive technique (esp. if low temp.)
 - b. Tyrosine and cofactors for norepinephrine
 2. CW torque (i.e., left leg forward) strengthens
 - a. Pineal technique (sphenoid spread technique)
 - b. Tryptophan and cofactors for serotonin

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THE USE OF PHONOCARDIOGRAPHY
IN THE IDENTIFICATION OF FUNCTIONAL PROBLEMS

Basic Principles of Interpretation

Walter H. Schmitt, Jr., D.C.

ABSTRACT: The fundamental principles of using clinical phonocardiography as a screening procedure for nutritional and functional illness patterns are discussed. The normal patterns of the relative heights, widths, and spacing of S₁ and S₂ are reviewed and common deviations from these normals are related to empirical observations of nutritional imbalances and other functional problems. The phonocardiograph tracings correlate well with other common diagnostic screening tools used in identifying specific functional problems in our patients.

INTRODUCTION

The use of phonocardiography has a long history of medical application in the diagnosis of cardiovascular problems. It has been more of a research tool than a practical tool for most cardiologists, and its use in diagnosis has been primarily for the identification of pathological problems such as valvular stenosis or insufficiency.

Phonocardiography for the identification of functional illness patterns has been confined to an interdisciplinary group of practitioners who have been particularly concerned with the nutritional status of the body. These doctors claim to be able to identify numerous faults of a functional and nutritional nature which are reflected in the recorded sounds of the heart.

Our experience has been excellent in using a

phonocardiograph (PCG) for screening for many functional problems and nutritional imbalances as a part of a comprehensive diagnostic workup. Moreover, the use of the PCG as a before and after objective measurement has elicited many reproducible changes from both manipulative therapy and nutritional supplementation. The observed changes are even more fascinating when it is realized that they often occur within minutes or even seconds following the appropriate manipulation or the oral insalivation of an appropriate nutrient.

Although most of the large number of reports of rapid before and after changes in PCG recordings have gone undocumented and are thus anecdotal, we are now designing research projects to quantify the results of these numerous observations. In the meantime, the growing interest in phonocardiography as a clinical tool in the practice of natural health care of functional disorders has prompted this review of the basic, fundamental interpretations of standard PCG recordings.

The three most fundamental areas of PCG interpretation are those which we look at first, and on which we base our other findings. A normal heart sound tracing is shown in Figure 1 which displays normal first and second sounds, S_1 and S_2 , respectively. The three fundamental patterns which we observe on PCG recordings are based on deviations from the normal PCG tracing shown in Figures a, b, and c. These diagnostic patterns, shown in Figure 2 are:

- a) the relative heights of the sounds S_1 and S_2 ,

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- b) the actual widths of S_1 and S_2 , and
- c) the relative spacing between S_1 and S_2 , and the next S_1 .

FIGURE 1: NORMAL

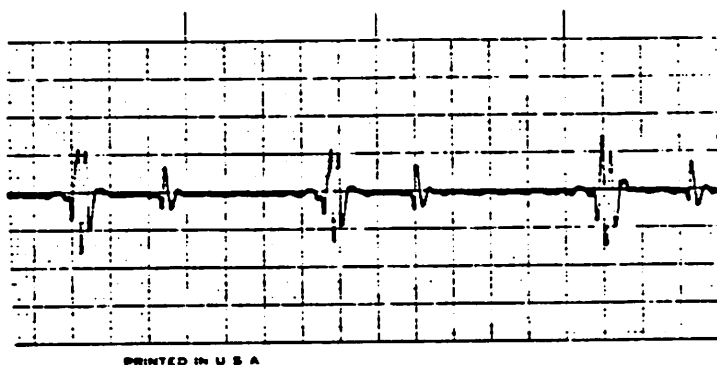
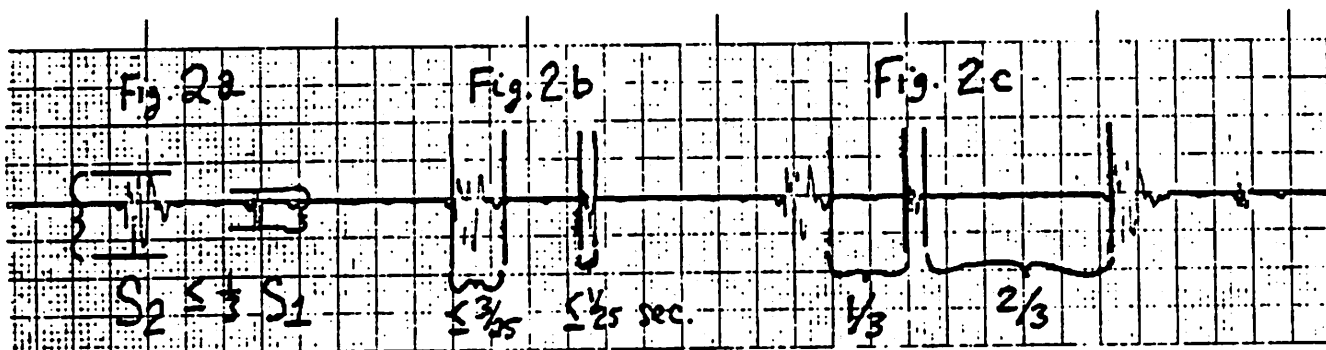


FIGURE 2: NORMALS FOR HEIGHT, WIDTH, AND SPACING OF S_1 AND S_2



RELATIVE HEIGHTS

WIDTHS

RELATIVE SPACING

Other factors such as heart rate and heart rhythm will be discussed in relation to the above three patterns.

The traditional four areas of auscultation, mitral, tricuspid, aortic, and pulmonary (see Fig. 3a), are in need of some revision. A more appropriate set of auscultation areas as defined by Luisada¹ (1982) and Tilkian² (1984) includes (see

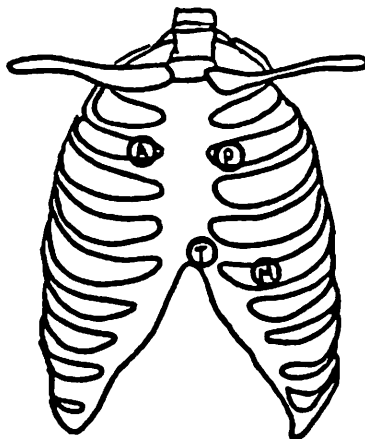
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Figure 3b) :

- 1) Left Ventricular Area (LVA) - approximately the mitral area
- 2) Right Ventricular Area (RVA) - approximately the tricuspid area
- 3) Left Atrial Area (LAA) - above and to the left of the LVA
- 4) Right Atrial Area (RAA) - above and to the right of the RVA
- 5) Aortic Area (AO) - approximately the traditional aortic area
- 6) Pulmonic Area (PA) - approximately the traditional pulmonic area.

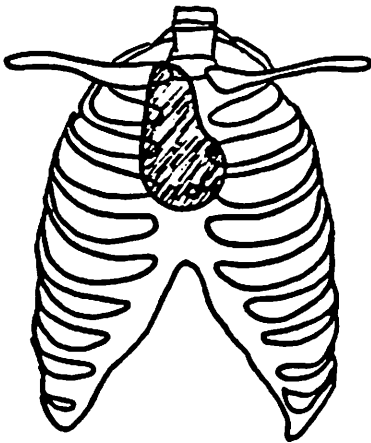
It is beyond the scope of this review to discuss areas of auscultation, but the reader is referred to modern cardiology

FIGURE 3A
THE FOUR TRADITIONAL AREAS OF AUSCULTATION

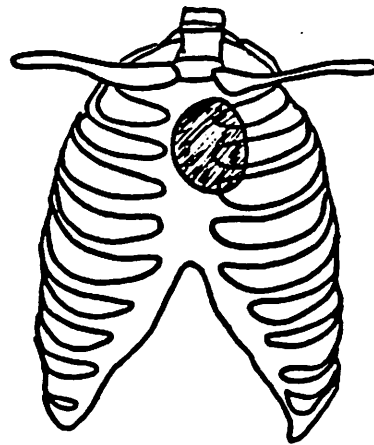


A = AORTIC
P = PULMONARY
T = TRICUSPID
M = MITRAL

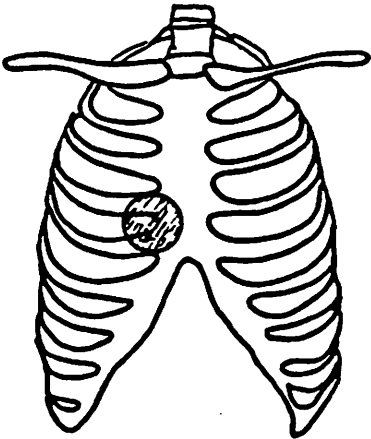
FIGURE 3B
THE SIX REVISED AREAS OF AUSCULTATION



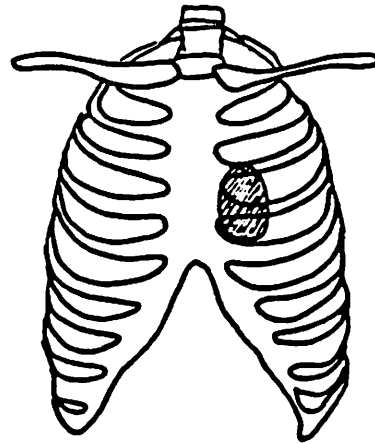
AORTIC AREA



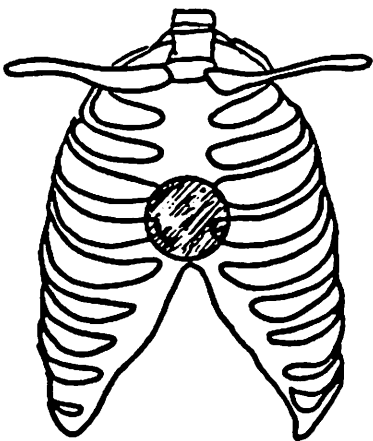
PULMONARY AREA



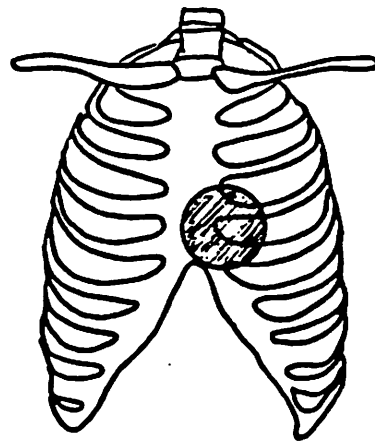
RIGHT ATRIAL AREA



LEFT ATRIAL AREA



RIGHT VENTRICULAR AREA



LEFT VENTRICULAR AREA

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texts such as those of Luisada¹, Tilkian and Conover², and Tavel³.

There is significance to the location of the sounds and the PCG technician must be accurate in placement of the stethoscope head. The comparison of differences of the sound tracings at each separate valve sound location is one of the primary points of interest in interpreting the graphs.

It must be remembered that what we are hearing when we listen to the heart and what we are recording when we make PCG recordings is a complicated series of interrelated events. Acceleration and deceleration of the blood, pressure gradients between chambers, muscular dynamics, valve openings and closings, and the filtering of sounds as they are transmitted through various tissues are all interrelated phenomena and should not be separated¹. Thus, it is insufficient to say one heart structure is solely responsible for what is observed at the chest wall. However, we will use some of the traditional simplistic, if technically outdated, models for the purpose of aiding in the qualitative interpretation of PCG recordings. Keeping this in mind helps us to interpret what we are hearing and seeing.

We use the PCG as part of our diagnostic work-up regime, and as with any other tool, it must be used in correlation with other diagnostic screening approaches. This correlation has led us to the interpretative comments contained herein and is the basis for the design of our future research.

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RELATIVE HEIGHTS OF S_1 AND S_2

The actual recorded heights of S_1 and S_2 depend, of course, on the amplifier settings used to make the graph. We are primarily concerned with the relative heights of S_1 and S_2 . These relative heights of S_1 and S_2 are independent of the amplifier settings. Normal graphs will show that S_2 will be close to one-third of the height of S_1 at each auscultation area (Figure 2a).

One of the most common patterns we find in our office is that the height of S_2 is equal or greater than the height of S_1 . (See Figure 4) This pattern usually occurs at only one area, but may occur at any or all areas. It is most commonly observed at the pulmonary area, second most commonly at the tricuspid or RV area, and occasionally seen at all areas simultaneously.

We also observe a pattern in which S_2 is so small that it barely shows up on the graph. This pattern can be at one or more areas. The location where a diminished S_2 is observed does not have as much significance as an increased S_2 .

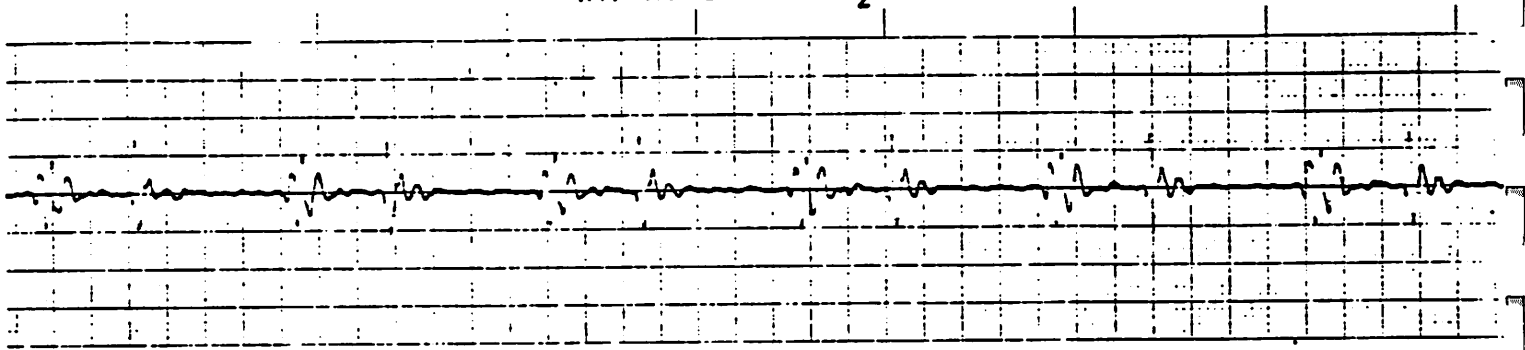
LARGE S_2 AT THE PULMONARY AREA

The most common aberrant PCG pattern observed in our office is that of an S_2 height which is greater than one-third the height of S_1 (Figure 4) at the pulmonary area. The pathological processes which could cause this finding include pulmonary tuberculosis, lung malignancy, and similar destructive processes. In typical practice, a doctor specializing in treating functional illness will rarely see patients with these pathologies.

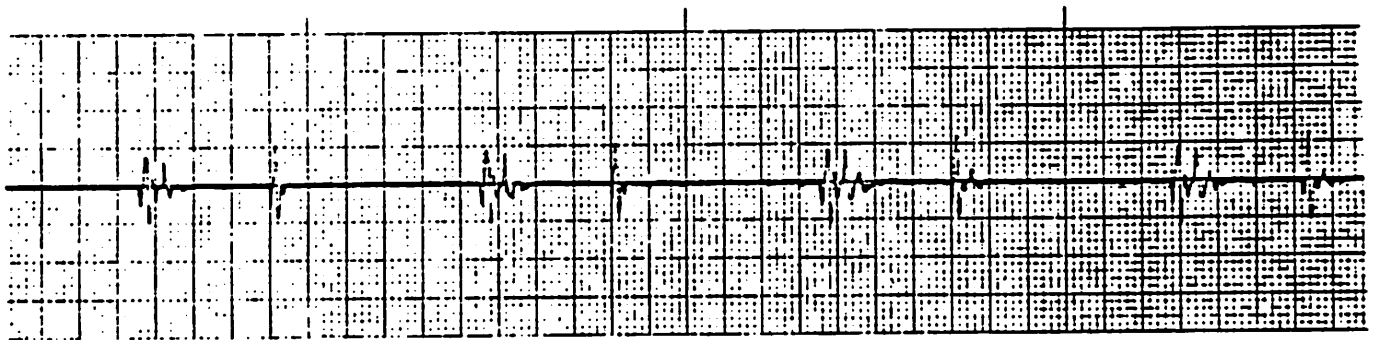
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FIGURE 4
INCREASED S_2 ($S_2 \approx S_1$)

4A: NOTE WIDE S_2



4B



However, it is important to recognize that, on occasion, a pathological process may be masquerading a functional problem.

By contrast, we observe loud S_2 patterns from a functional problem on practically a daily basis. This loud S_2 at the pulmonary area is due to increased blood pressure in the lungs, or functional pulmonary hypertension. The cause of this type of pulmonary hypertension is almost always a functional hypoadrenia, in which the adrenal glands are in a partially compromised state due to prolonged and/or severe stress to the patient.

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The patient with a pulmonary S_2 which is close to S_1 in height or greater than S_1 in height usually has a number of other characteristic signs and symptoms of functional hypoadrenia. These include a positive Ragland sign (postural hypotension), paradoxical pupillary reflex, and an elevated sodium excretion in the first morning urine specimen.³ Applied kinesiology muscle testing findings include weakness of the sartorius, gracilis, and/or posterior tibialis which have been related to adrenal function.⁴

LARGE S_2 AT THE TRICUSPID AREA

Another common finding is a larger than normal S_2 at the tricuspid or RV area. (See Figure 4.) The tricuspid valve is between the right atrium and the right ventricle and a relatively large S_2 with a relatively small S_1 in this area has been associated with liver involvement.

Since a major portion of the blood entering the right atrium comes from the liver via the inferior vena cava, the sound associated with the closing of the tricuspid valve may be influenced by the amount of blood passing through the right side of the heart. If there is a hepatic congestion or a portal congestion due to liver dysfunction, there may be a backup of the circulation on the portal side of the liver, hence a lesser amount of blood entering the inferior vena cava and therefore a lesser amount of blood passing through the tricuspid valve area. This results in less sound energy from the tricuspid area and a reduced S_1 , hence a relatively elevated S_2 at this location.

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Applied kinesiology findings show a very high general correlation with this low S_1 /high S_2 at the tricuspid (RV) area and a weakness of the pectoralis major, sternal division (PMS), the AK muscle associated with the liver. Of course, the PMS may be weak for a number of other reasons, and there can be functional liver involvement without this PCG finding. But traditionally, large S_2 (smaller S_1) at the tricuspid (RV) area is thought of as relating to liver congestion and backup of the portal circulation.

DIMINISHED S_2 AT ANY AREA

Another finding we often see is a very small, sometimes non-existent (depending on the sensitivity of the recording system) record of S_2 . (See Figure 5.) This can occur at any area and often is present at all areas. Of course, there is always some form of S_2 since this sound is associated with cardiac activity during the closure of the pulmonary and aortic valves. (If they were not closing, it would mean that our patient was in the process of expiring, i.e., incomplete closure of these valves is incompatible with normal life.)

What we are observing when the S_2 is very small or too small to be recorded on normal PCG graph settings is a problem which has been associated with calcium metabolism of the tissues including the heart. As you recall, the first chemical factor associated with muscle (i.e., heart muscle) contraction is a depolarization of the cell membrane which allows a rapid influx of sodium ions followed by calcium ions. The calcium then

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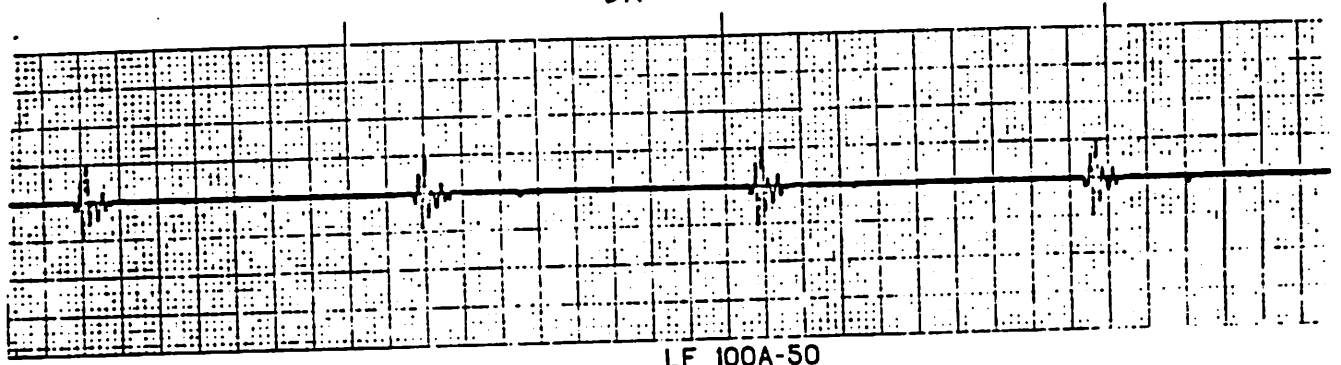
initiates muscular contraction by activating the enzymes which cause the interdigitation of the actin and myosin fibers.

In a situation where there is insufficient or unavailable tissue calcium, or where there is interference with the cell membrane calcium channels or a cell membrane pump which affects calcium transport, there will be a reduced influx of calcium ions and therefore a reduced activation of the enzymes for muscle contraction, hence a weaker contraction of the heart. When the heart muscle contraction is less forceful, blood is ejected from the ventricles with less acceleration and pressure. The result is reduced back pressure against the pulmonary and aortic valves, hence a smaller S_2 sound either locally at these valve areas or in general at all valve areas.

Factors which affect a change of increasing a diminished S_2 toward normal are calcium and those nutritional factors which aid calcium metabolism. In the case of improving the calcium activity in order to improve the S_2 level the most appropriate factors are the essential fatty acid factors (EFA) which reside in the cell membranes and affect calcium transport across the cell membrane.

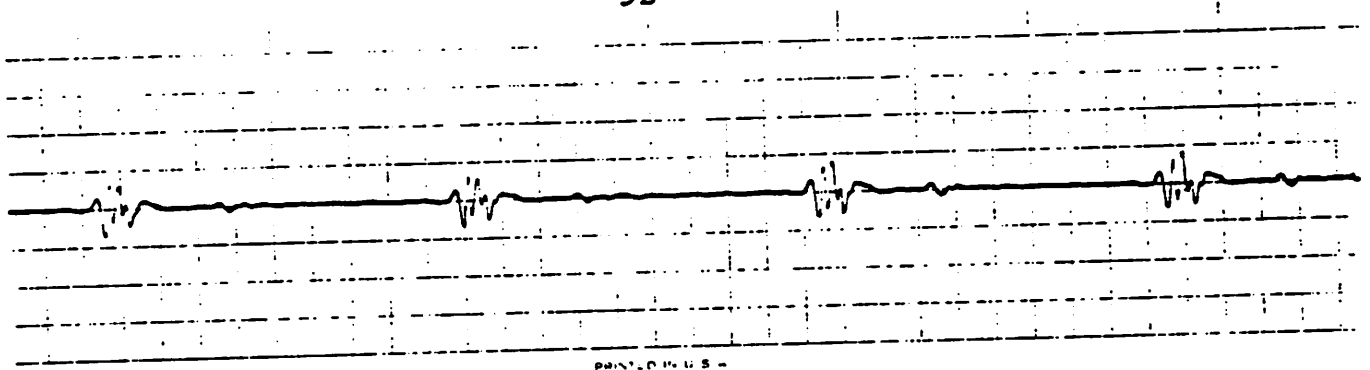
An EFA deficiency pattern is usually accompanied by an acid oral pH. The oral pH normals are controversial, but the healthiest patients we see have a slightly alkaline oral pH, that is 7.2 (to 7.6). Goodheart places normals at 7.6 for adults and 7.8 for children.² Most patients have oral pH's of between 6.0 and 6.8. For this reason, this range is considered normal by

5A



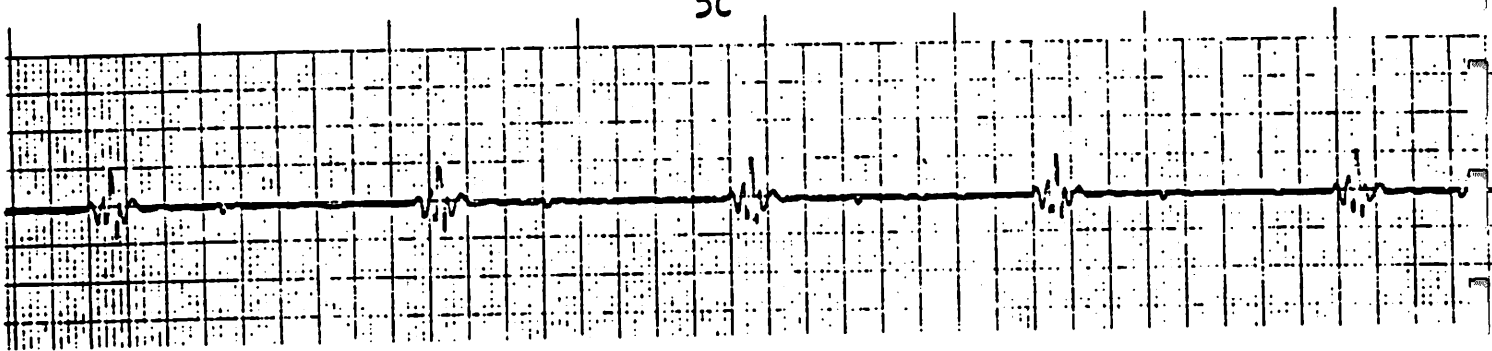
LF 100A-50

5B

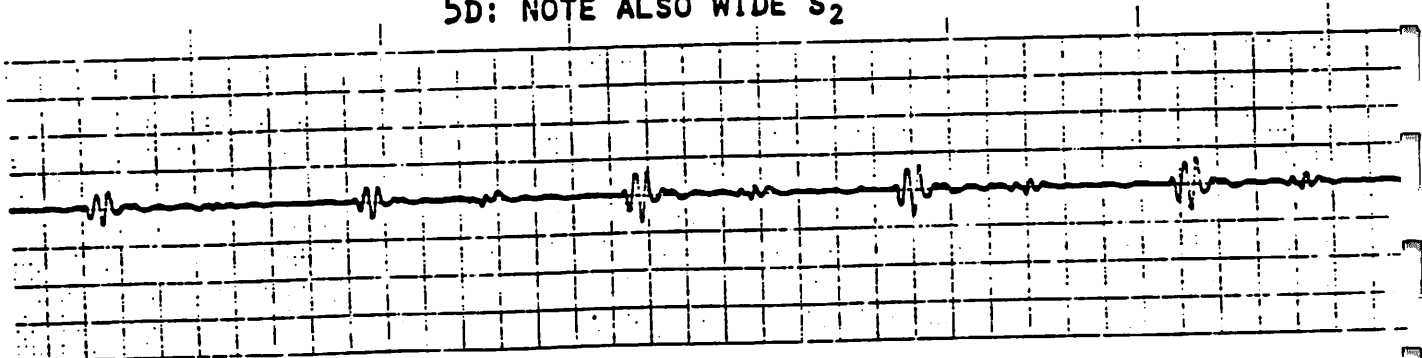


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5C



5D: NOTE ALSO WIDE S₂



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some people. However, an acid oral pH is probably the average, but not the normal optimum for our patients.

Supplying natural sources of EFA^s and ridding the diet of processed hydrogenated and partially hydrogenated oils results in improved well-being for the patient, an increase toward alkalinity of the oral pH, and a return of the diminished S₂. Although the S₂ may normalize quite rapidly after oral ingestion of the proper EFA, it is more common for the body to require at least three weeks on the supplement before changes are noted.

Other factors which must be ruled in or out when attempting to normalize calcium metabolism and S₂ levels are calcium itself and its association with other minerals, stomach and gastrointestinal acidity to aid in its absorption, vitamin D, and parathyroid activity, but the most common factors are a need for the EFA associated with an acid oral pH.

WIDTH OF S₁ AND S₂

On PCG tracings which are made at speeds of 50mm per second on recording paper marked in millimeters, each small line represents one millimeter (mm) or one-fiftieth (1/50) of a second. We consider a normal width of S₁ to be equal to or less than 3/25 (6/50) of a second, or 6mm wide. (See Figure 2b.) Normal maximum width of S₂ is considered to be 2mm or 1/25 (22/50) second. (See Figure 2b.)

Sounds which are recorded as wider than this can imply one of several things. For example, if there is a murmur at one auscultation area, this will lengthen the time the heart sound

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will be recorded, as there is no "clean" closing of the valve. Also, if there is a heart conduction problem, the contraction of the two ventricles is out of synchrony, which can create a split sound type of phenomenon which will be recorded as a wider than normal S_1 or S_2 .

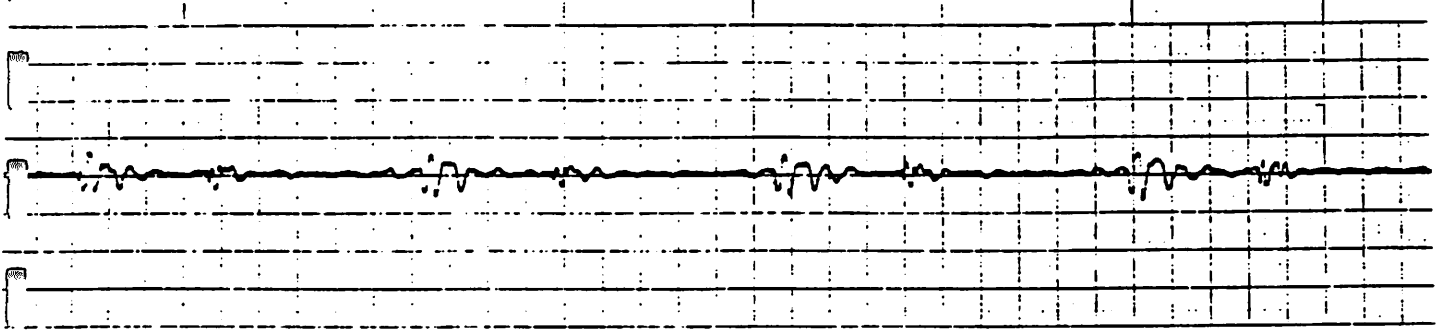
Murmurs are a result of turbulent blood flow and have characteristic patterns which often appear as a wide, wavy curve. A murmur may also be seen in a low amplitude, high frequency, jagged type tracing. Various murmur type patterns are shown in Figure 6. We will leave a discussion of heart murmurs to texts dealing with those patterns exclusively.

We have had good experience identifying functional patterns of wide or split S_1 patterns. (See Figures 7 & 8.) The typical pattern of a wide S_1 as seen in Figure 7 is associated with a need for natural sources of vitamin B, particularly from a source such as yeast. The proper sources of vitamin B referred to here are those factors of the B complex which are water soluble and alcohol soluble and will be referred to as vitamin B. The primary nutrient here is Thiamin (B-1), although the B-4 (anti-paralysis) factor seems an essential component.

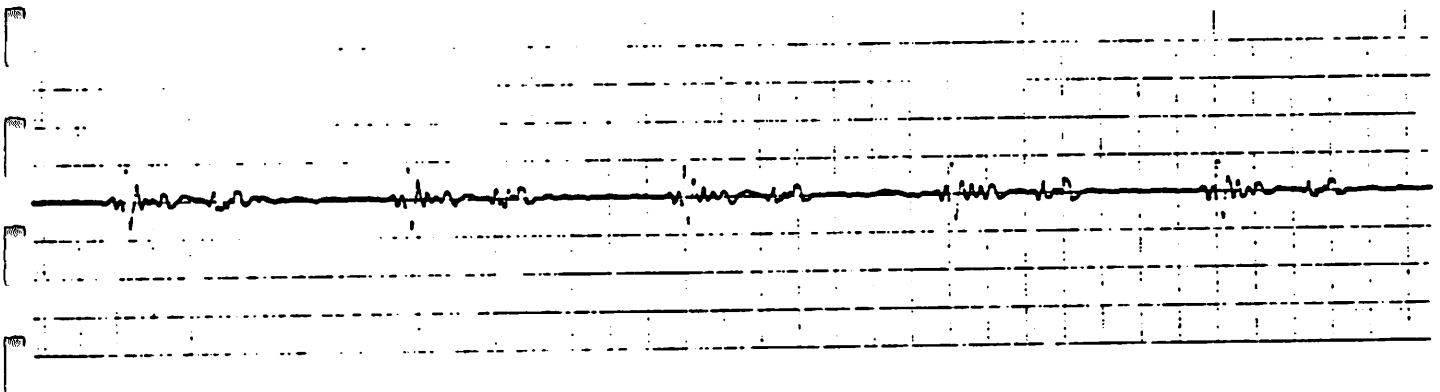
Those parts of the vitamin B complex which are water soluble only and insoluble in alcohol (primarily riboflavin and niacin) will be referred to in this discussion as vitamin "G" factors, based on the early Canadian name of vitamin G for riboflavin. (For a more thorough discussion of these differences in the vitamin B family factors see Advanced Applied Kinesiology -

FIGURE 6: MURMURS

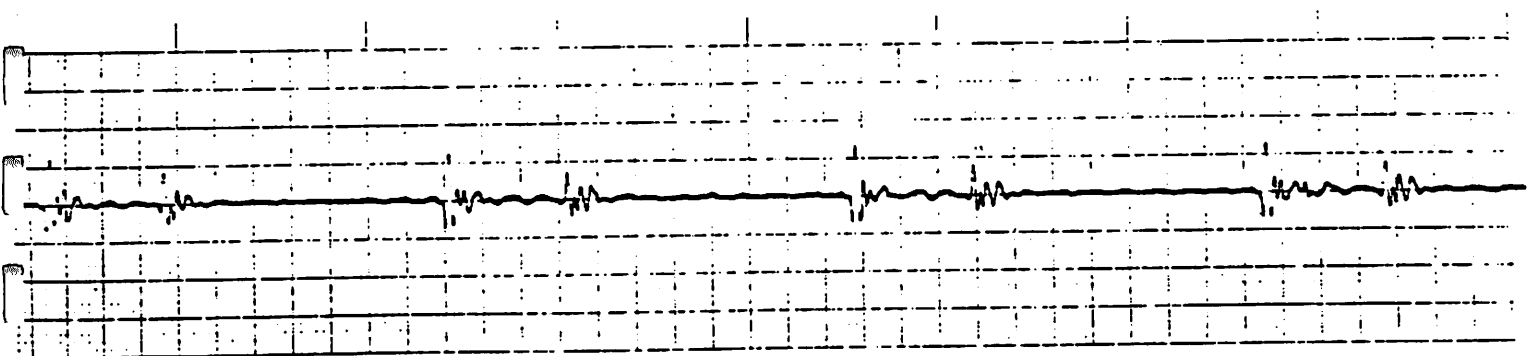
6A: SYSTOLIC MURMUR, NOTE WIDTH AND SPLITTING OF S₂



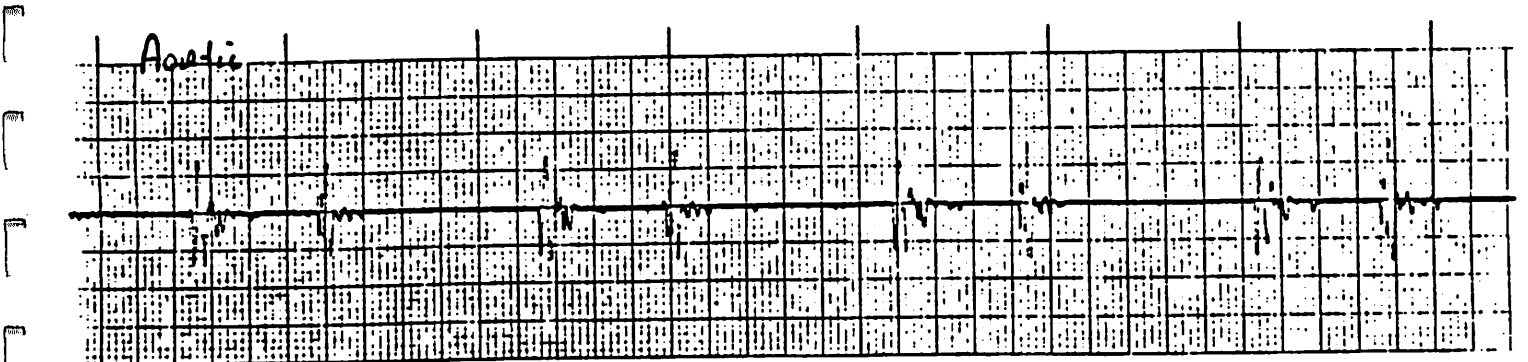
6B: SYSTOLIC MURMUR, NOTE ALSO WIDTH, SPLITTING, AND MURMUR OF S₂



6C: DIASTOLIC MURMUR

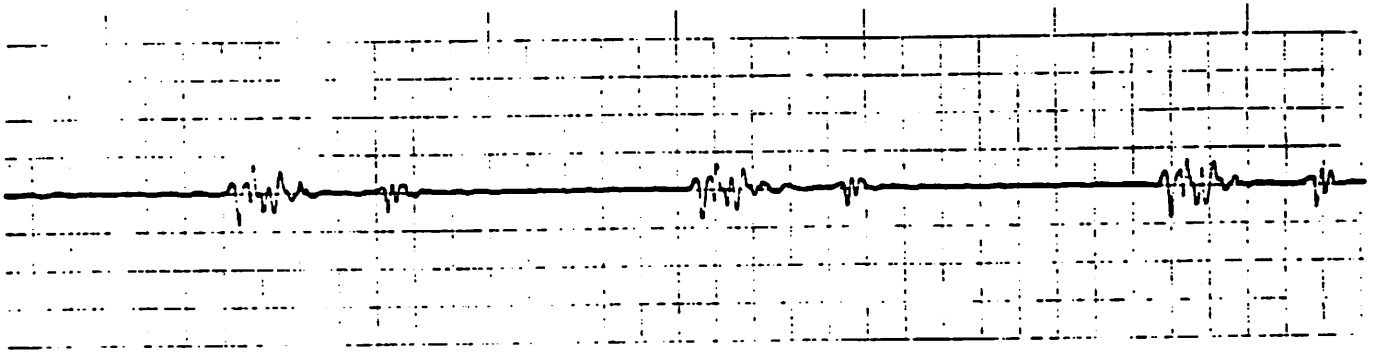


6D: DIASTOLIC MURMUR

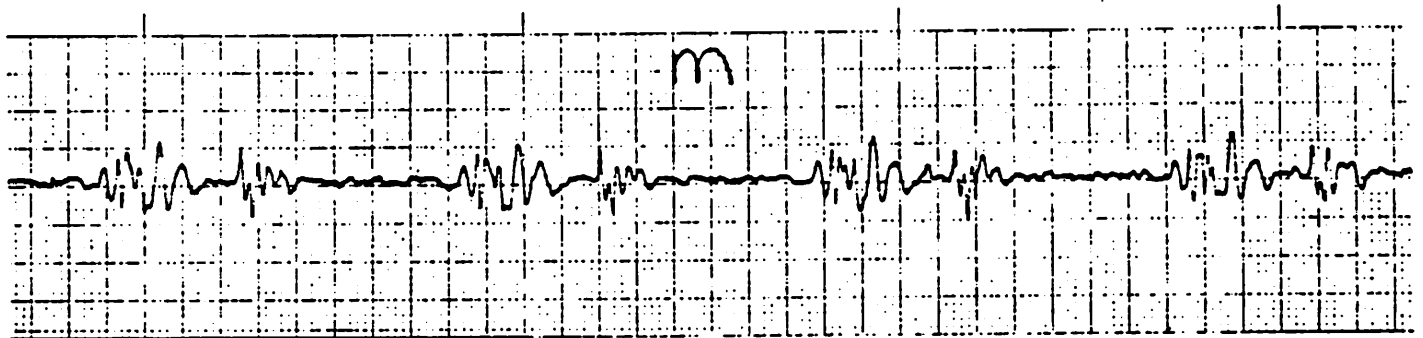


396 FIGURE 7: WIDE S₁. NOTE SIMILARITIES TO SPLITTING OF S₁ (FIGURE 8)

7A

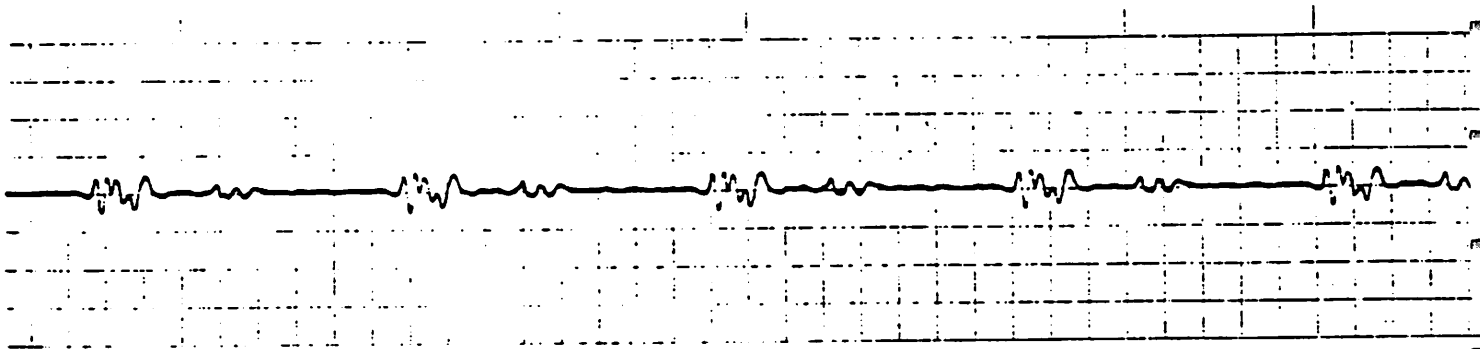


7B: NOTE ALSO WIDE S₂ AND SIMILARITY TO S₂ MURMUR (FIGURE 6)

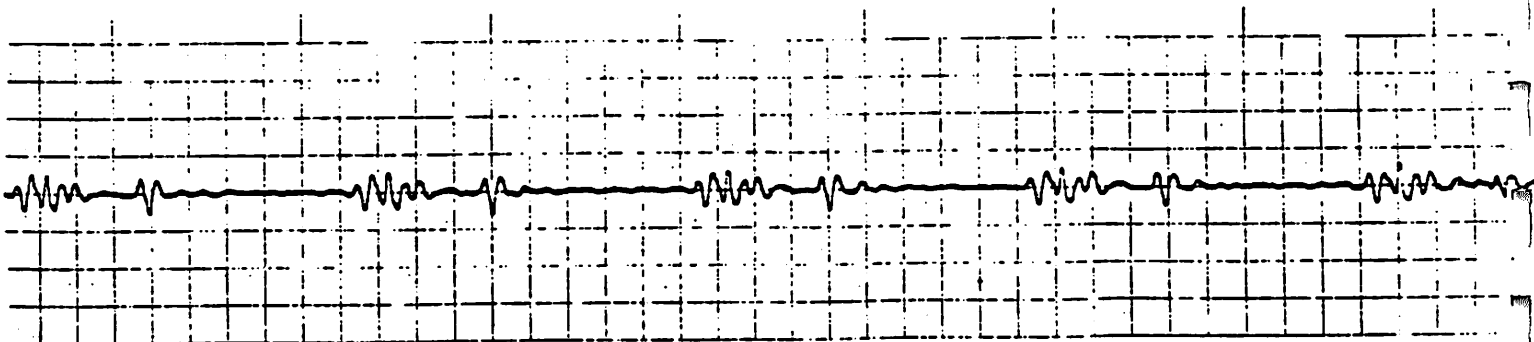


TECHNOLOGY APPLICATIONS ASSOCIATES INC.

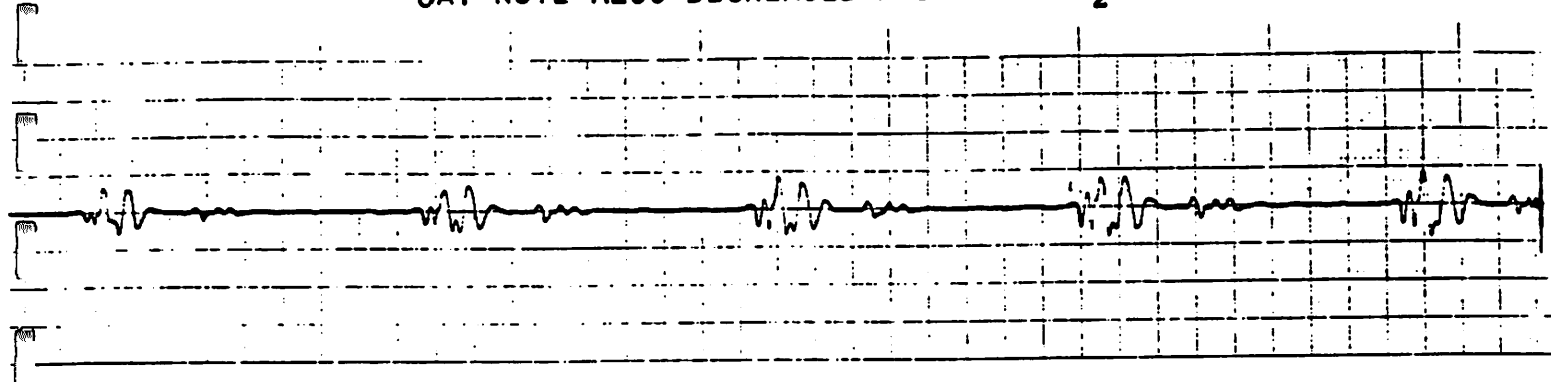
7C: NOTE ALSO SPLITTING OF S₂



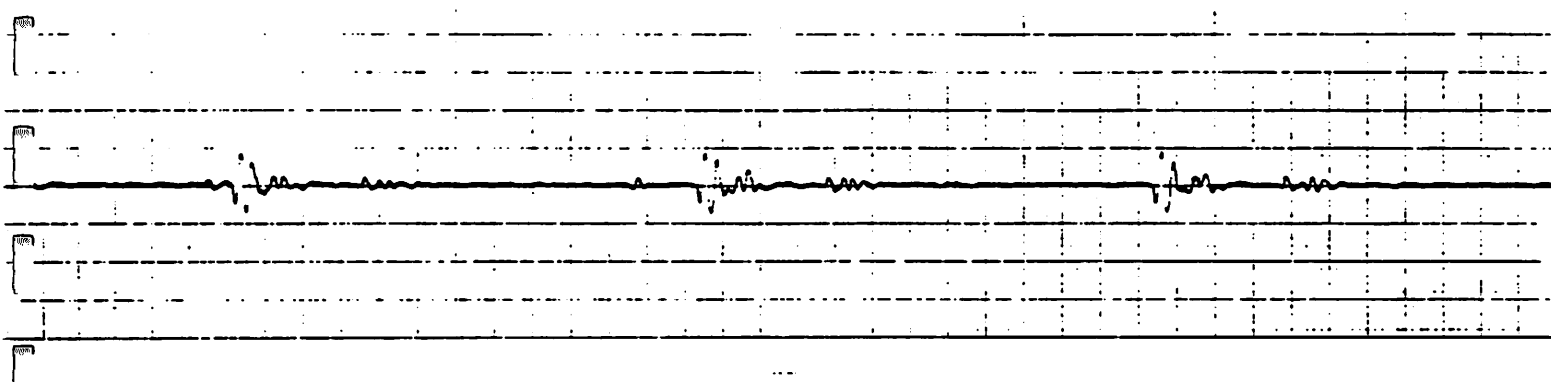
7D



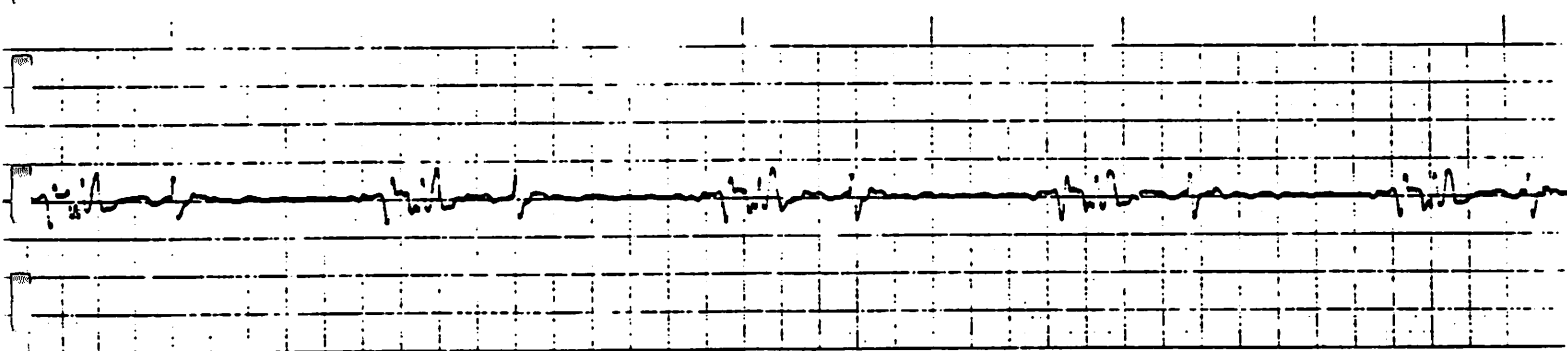
8A: NOTE ALSO DECREASED AND SPLIT S₂



8B: NOTE ALSO DECREASED AND SPLIT S₂

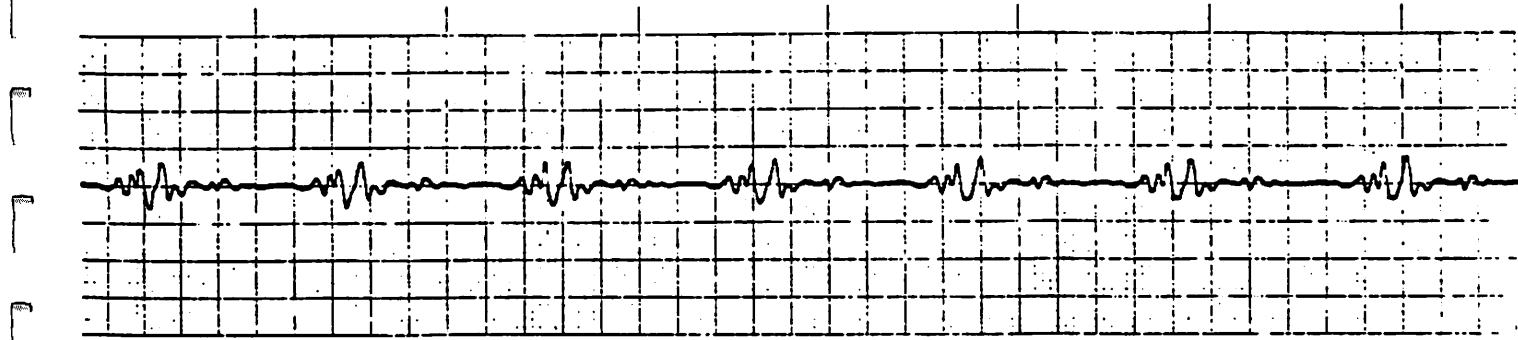


8c



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8D: NOTE ALSO DECREASED S₂

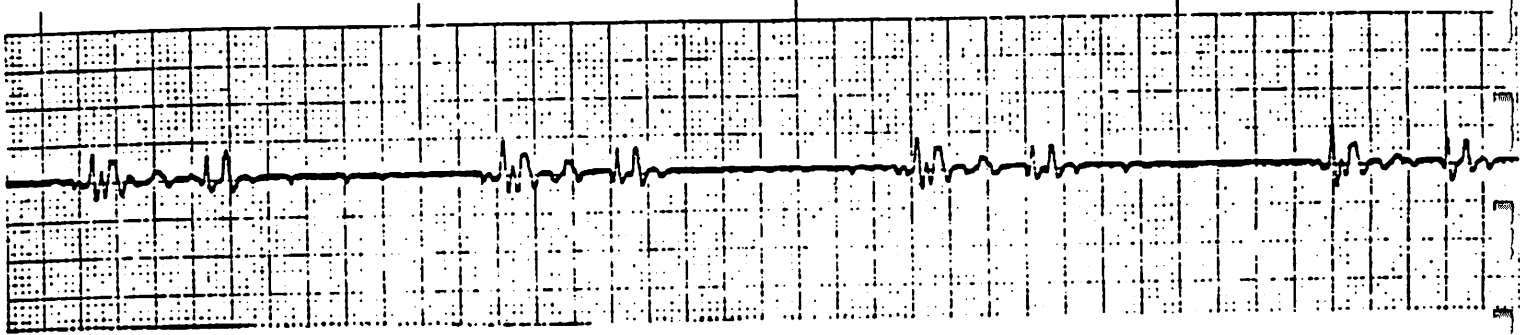


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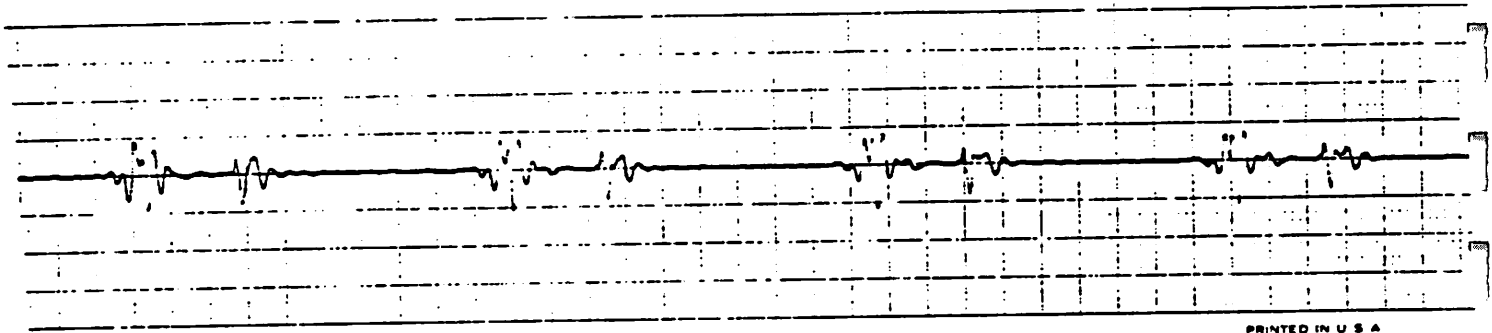
FIGURE 9: SPLITTING OF S₂

398

9A: NOTE ALSO EXTRA SOUND BETWEEN S₁ AND S₂

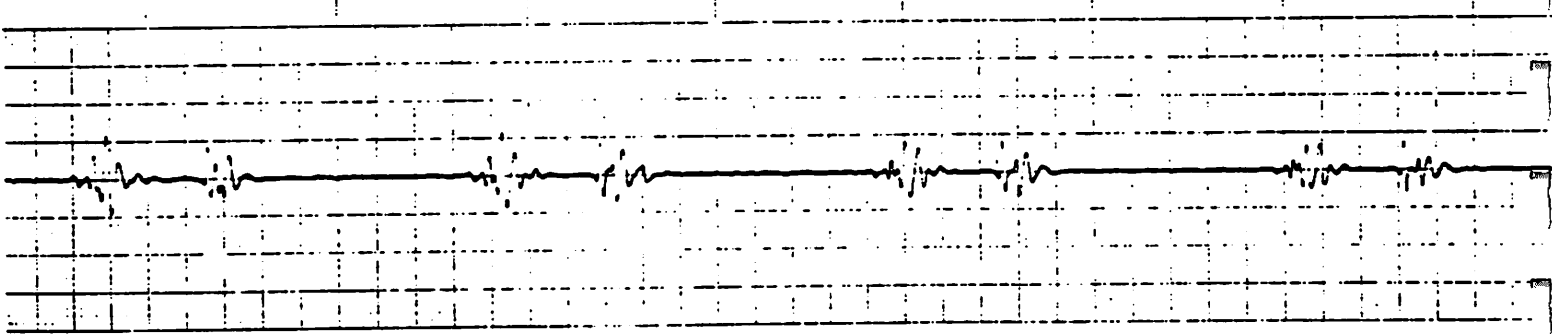


9B: NOTE ALSO WIDE S₁



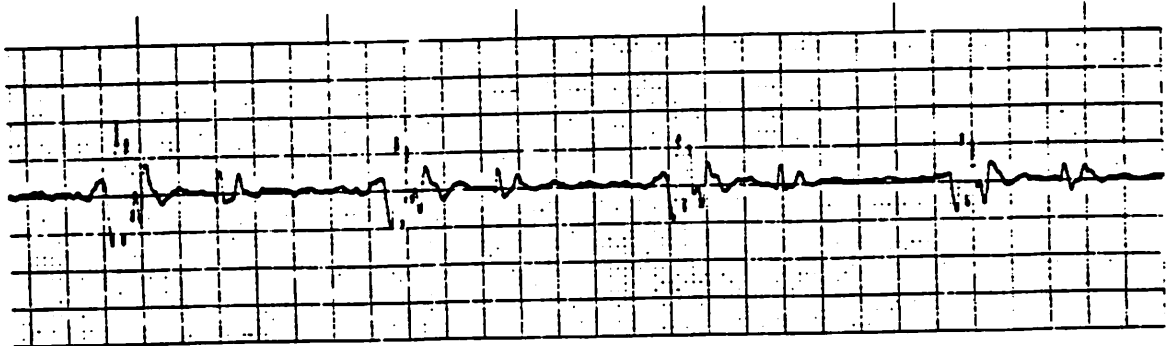
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9C: NOTE ALSO WIDE S₁



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9D: NOTE ALSO WIDTH (SPLITTING?) OF S₁



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Session "A" Notes.7)

A split S_1 occurs when the mitral and tricuspid valves are closing one slightly after the other rather than simultaneously. This would also cause a prolongation of S_1 . When we supply proper sources of vitamin B we have observed widening and/or splitting of S_1 disappear, sometimes within the length of time it takes for the patient to thoroughly chew the vitamin B tablet.

Occasionally an increased width and/or a splitting of S_2 is observed. An S_2 which is split is usually wider than the $1/25$ th second which we consider normal. (See Figure 9.) The splitting of S_2 may be due to the same factors which can affect the splitting of S_1 . That is, a need for the vitamin B factors just discussed. Also, it has been reported that an increased width of S_2 may be associated with an anemic (i.e., low hemoglobin) type patient.

SPACING OF S_1 AND S_2

The spacing between S_1 and S_2 can be determined by measuring the flat (silent) portion of the graph between S_1 and S_2 and between S_2 and the following S_1 . (See Figure 2c.) The general rule we have followed for this spacing is that the ratio of the time between S_1 and S_2 to the time between S_2 and the next S_1 should be 1:2.

The time between S_1 and S_2 is during the systolic period of the heart. In other words, S_1 is occurring as the ventricles are contracting (systole). S_2 signals the relaxation of the ventricles as the blood in the pulmonary artery and the aorta

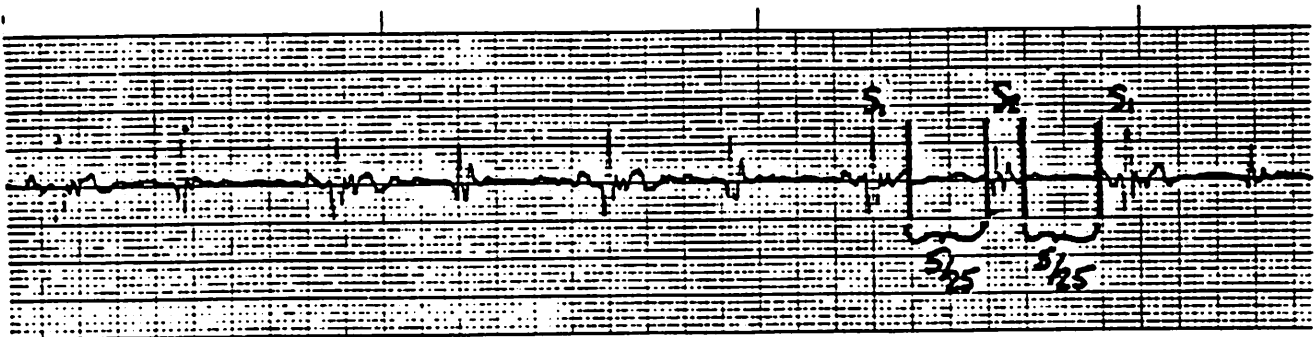
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rushes back against the respective valves.

The time between S_2 and the next S_1 is the relaxation time for the heart (diastole). At an average heart rate of 72, the time between S_2 and the next S_1 should be twice as long as the time between S_1 and S_2 . It is during the diastolic rest period of the heart that coronary arteries are able to perfuse with blood carrying oxygen and vital nutrients to the heart muscle.

If there is an inadequate diastolic rest period (i.e., a greater than 1:2 ratio at heart rate 72 (See Figure 10), then the patient may be in a compromised situation regarding the ability of his heart muscle to receive its full complement of oxygen. This is a patient who needs more diastolic relaxation time for the heart.

FIGURE 10: TIC-TAC RHYTHM
NOTE ALSO WIDE S_1 AND MURMUR TYPE PATTERN



LF 100A-50

The type of patient who shows a decreased diastolic rest period responds to vitamin G when we test with nutritional muscle testing. This same type patient may have other symptoms which are characteristic of a need for vitamin G. The symptoms which

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these patients frequently complain about include lying in bed at night and hearing their heart pounding, feeling their pillow vibrating to the beat of their heart, or even seeing their chest vibrate with the heartbeat. These are worrisome symptoms to patients, and we have observed a fairly rapid normalization of these symptoms and PCG tracings when the appropriate measures are employed.

It must be noted that the ratio of the systolic period to the diastolic period is somewhat dependent on the heart rate. A simple calculation can be performed to correct for an increased or decreased heart rate.

When checking for the normal 1:2 ratio, we consider the segment between S_1 and S_2 as the standard to which we compare the segment between S_2 and the next S_1 . If the heart rate is greater than 72, the S_2 to S_1 segment will of necessity be shorter. Likewise, if the heart rate is less than 72, the S_2 to S_1 segment should be longer.

To correct for a heart rate that is greater or less than 72, we must first find the difference between the actual heart rate and 72 by subtraction. Then we multiply the difference by 0.2. The resulting conversion factor is the number of 25ths of a second (i.e., twice the number of small box widths) we add or subtract to the S_2 to S_1 segment before determining the ratio to the S_1 to S_2 segment.

If the heart rate is greater than 72, we add the conversion factor in 25ths of a second to the measured S_2 to S_1 segment (in

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25ths of a second). We then compare the S_1 to S_2 segment in 25ths of a second to the corrected S_2 to S_1 segment. It should be very close to 1:2.

If the heart rate is less than 72, we subtract the conversion factor from the measured S_2 to S_1 segment and compare this number to the measured S_1 to S_2 segment. Again, it should be very close to 1:2. When this ratio is less than 1:2, we must check the patient for vitamin G factors.

Example 1: Heart rate = 92. $92 \text{ minus } 72 = 20$. $20 \times 0.2 = 4$
We add 4/25ths of a second to the measured S_2 to S_1 segment and compare this number to the measured number of 25ths of a second of S_1 to S_2 .

Example 2: Heart rate = 62. $72 \text{ minus } 62 = 10$. $10 \times 0.2 = 2$.
We subtract 2/25ths of a second from the measured S_2 to S_1 segment and compare this number to the measured number of 25ths of a second of the S_1 to S_2 segment.

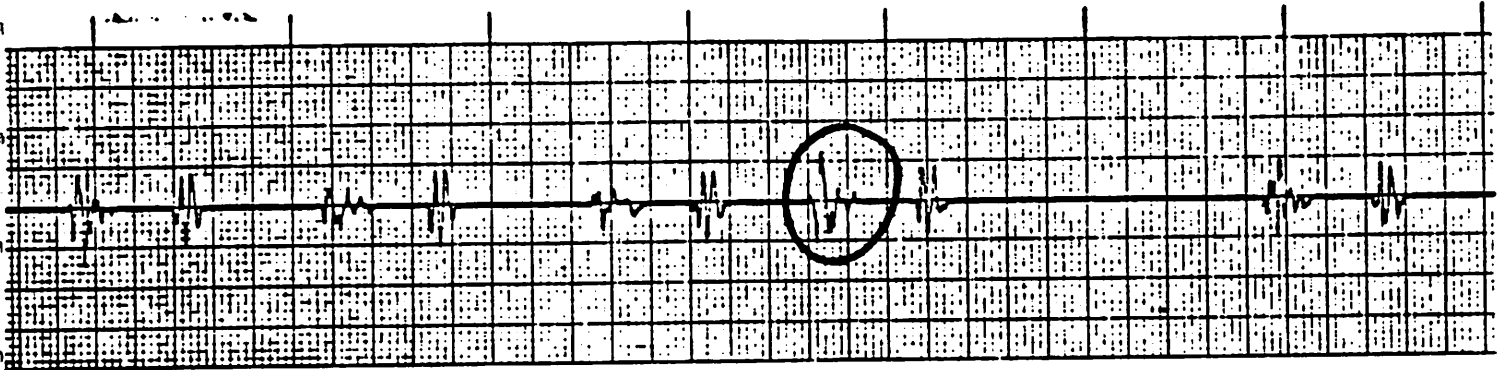
By necessity, the faster the heart beats, the less time it has to rest. Therefore, as the heart rate increases, the ratio of S_1 to S_2 to S_2 to S_1 will normally approach 1:1. Following exercise, or in a tachycardia patient, the 1:1 ratio may be normal. A 1:1 ratio in a patient with a heart rate of 72 is called a tic-tac rhythm and is a situation for concern.

The vitamin G type patient is commonly one who complains of palpitations or of the heart "skipping a beat." These symptoms are often due to ventricular ectopic beats (premature ventricular contractions or PVCs) on the PCG tracings. (See Figure 11.)

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**FIGURE 11: PREMATURE VENTRICULAR ECTOPIC BEAT
(PREMATURE VENTRICULAR CONTRACTION)
(PVC)**

NOTE: PREVIOUS TWO S₁ SOUNDS



These patients' PVCs and other related functional symptoms resolve readily when the appropriate measures such as vitamin G therapy are applied.

It is important to note here that a patient's symptom of a "skipping heartbeat" is not adequate reason to apply vitamin G therapy. Some functional arrhythmias in the heart are due to problems which are related to a need for the vitamin B factors which function just the opposite from the vitamin G factors.⁷ So it is important to properly diagnosis the various possible causes of functional problems, especially those which can be seen on PCG tracings.

CONCLUSIONS

The use of phonocardiography as an aid in the screening for functional problems and nutritional imbalances has a rich 40 year long history of clinical usefulness based on repeated anecdotal observations. In fact, many practitioners have been heard to say

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that they do not know how they could have practiced without the PCG as a part of the diagnostic process and follow-up monitoring.

The fundamental principles of interpreting a PCG tracing in this light have been outlined, but this paper is merely scratching the surface of potential for the use of this tool. Many more subtle characteristics and patterns may be observed by the trained eye and it is hoped that this paper will stimulate interest in pursuing the use of this tool, based on the fundamentals presented herein. Further, it is planned that formal research studies to verify these anecdotal observations be initiated with the goal of furthering the use of the PCG as a diagnostic screening tool.

**PHONOCARDIOGRAPHY INTERPRETATION CHART
FOR FUNCTIONAL AND NUTRITIONAL PROBLEMS**

Walter H. Schmitt, Jr., D.C.

	WIDE/ SPLIT S ₁	WIDE/ SPLIT S ₂	INCREASED S ₂	DECREASED S ₂	ALTERED S ₁ - S ₂ SPACING TIC-TAC RHYTHM	ARRHY- THMIAS (RATE IRREGU- LARITIES)
AORTIC	B	B (MAY BE NORMAL)	ANEMIA (MAY BE NORMAL)	TISSUE CALCIUM NEED : CALCIUM, HCl, EFA.	G	PRE- AND POST- CORDIAL TAP (PPCT)
PULMON- ARY	B	B	FUNCTIONAL HYPOADRENIA (MAY SPILL- OVER TO OTHER AREAS)	SAME AS ABOVE	G	PPCT
TRI- CUSPID	B	B	FUNCTIONAL LIVER PROBLEMS	SAME AS ABOVE	G	PPCT
MITRAL	B	B	- -	SAME AS ABOVE	G	PPCT

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THE TREE OF LIFE

Dale Schusterman, D.C.
Diplomate ICAK

Abstract:

This paper will explore an ancient philosophical system, the Kabbalah, and how it relates to human anatomy and neurology. It will be postulated that the developers of this system of thought were tuning into their own inner neurology and that they explained it in mathematical and alphabetical symbology. The relationship between the five factors of the IVF as taught in applied kinesiology and this model will be discussed.

Science is a system of knowledge that attempts to explain reality based upon concrete, repeatable, observable phenomena which can be catalogued, understood and reproduced. Mysticism, however, is a system of knowledge that attempts to explain reality based on observations of the flow of consciousness and the mind which can also be catalogued, understood and reproduced. Both science and mysticism attempt to understand the deeper meaning behind observable phenomena. The scientist externalizes the search whereas the mystic internalizes it. The attempt in this paper is to blend the two approaches.

For many years science was quite closed to concepts of consciousness, energy fields, mind/body interrelationships, etc. More recently however, scientists and physicians have begun investigating these phenomena. Hindu, Tibetan and Chinese

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philosophies have had tremendous effect on our culture in recent years, especially in the areas of health and psychology. This cross pollination of western science and eastern philosophy has given us many new understandings of ourselves.

What of the western mystical tradition? Does it have something of value to teach us? There is a very rich body of mystical knowledge in our own Judeo-Christian system of thought. Notice that I don't use the word religion here, because I want to differentiate the philosophical aspects from dogma and belief systems.

The term for the Jewish system of mystical thought is "Kabbalah". This term means "to receive" and it consists of knowledge that has been received through written, oral and experiential means. The first recorded writings of Kabbalistic (Qabbalistic or Cabbalistic) thought are attributed to the second or third century, although prior to that the traditions (another meaning of the word Kabbalah) were handed down orally. This system of knowledge attempts to explain the origin of creation, consciousness, and man through mathematical symbols and relationships.

Central to Kabbalistic thought, and of prime importance to us as physicians is the concept of the Tree of Life. This Tree, first referred to in the Book of Genesis, is known as the cosmic diagram of God or the universe. (Figure 1) The diagram of the Tree consists of ten points known in Hebrew as 'Sephirot', which might be translated as 'shells' or 'spiritual fields' or more

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accurately as 'numbered energy fields'. For consistency, let us call the Sephirot, spheres. These ten spheres make up the body of the Tree. The ten spheres are arranged in a fashion so as to be connected through twenty two pathways. In Kabbalistic thought, this is the basic diagram of human consciousness, the human body, creation etc. The spheres represent the ten basic principles of creation and the paths represent the twenty two relationships existent between these principles. These principles and pathways can be used to explore any organized system, from the balance of the ecosystem, to the philosophy of Pythagorus, to the cosmology of Carl Jung, to the study of language. The Hebrew language, for example, consists of twenty two basic letters and ten additional letters making thirty two in all. The Hebrew language also is unique in that each letter represents a number. Each of the twenty two pathways is said to correspond to a different letter. (Figure 2) The diagram of the Tree and its thirty two paths (ten spheres and twenty two paths) provides a full alphabet (aleph-bet, the first two Hebrew letters) and a base ten numerical system. Out of this system any word or equation can be formed.

Many lengthy books have been written explaining the meanings of these various spheres and pathways. The ideas are both simple and complex. All major scientific, religious and philosophical systems can be explained in terms of the Kabbalistic Tree. A reading list will be provided at the end of this article for those interested in pursuing more knowledge of the Kabbalah.

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ancient philosophical system based on the western mystical tradition can lead to a better understanding of human anatomy, neurology and consciousness. The Tree is said to be the diagram or blueprint of the macrocosm. So if 'God made man in His own image', where does the human microcosm come in? It is said that within each sphere on the tree there is another tree and within each sphere on this tree there exists another tree and so on infinitely. (Figure 3) What happens on one level effects all other levels by resonance. Each level contains a complete tree, therefore, the whole is manifested in each segment. The lowest level represents the microcosm, the human being. This "as above, so below" concept represents the link between humanity and the universal forces or innate and universal intelligence.

How does this help us understand the body? Well, if there is tree within tree within tree, then we should have a good diagram for following the flow of energy and function through the body. Kabbalistic literature is full of drawings relating the symbols, numbers, letters to parts of the body. Figure 4 shows the relationship of the ten spheres to the body. These energy centers can be therapy localized once the energy circuit of the Tree is activated. In turn by therapy localizing two spheres at the same time a pathway may be tested.

Let us look for a moment at some of the symbolism in the body that relates to the Tree. There are four major areas in the body that reflect the thirty two pathways of the Tree. First, is the thirty two segments of the spine. The atlas is not included as one of the pathways of the Tree as it has a special

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significance of its own. Figure 4 shows a dotted sphere at the level of the throat. This atlas level is called the area of Knowledge and represents the area that activates the Tree.

In consciousness, it relates to the Will and won't be discussed in this paper other than to suggest that this might indicate part of the importance in proper upper cervical alignment.

There are thirty two teeth in the adult mouth which likewise correlate to the pathways of the Tree. The teeth relate to the sound vibrations of the corresponding letters of the alphabet.

Another major area in the human body that represents the full thirty two pathways is the hands. Figure 5 shows the correlation to the hands, spine and muscles. There are sixteen reflexes on each hand. Fourteen of the reflexes are located at each digit and two are located at the base of each hand at the proximal second and fourth metacarpals. These reflexes are located on both sides of the hands. There are ancient diagrams in books on the Kabbalah that depict these energy points on the hands as well as the various hand modes that can be used to activate this higher circuitry. There are also thirty two major muscle groups which can be tested in standard kinesiological fashion.

Through my research of this energy circuit, I have correlated the ten spheres of the Tree to ten therapy circuits. Five of these circuits relate to the IVF factors used in applied kinesiology: neurolymphatic, neurovascular, spinal subluxation,

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meridian and nutrition. One sphere relates to the balance of the occiput on the atlas and one sphere relates to the various structural therapies that we use in applied kinesiology such as hidden cervical disc, PYRT, strain counterstrain, etc. The other three therapy circuits relate to polarity type reflex pathways. Each of these categories has thirty two sub categories which designate which neurolymphatic to stimulate and so forth. (Figure 5) The remaining twenty two pathways that connect the ten therapy spheres relate to the twenty two cranial bones.

Thus we can see that the diagram of the Tree provides a complete rendition of the human microcosm. This diagram, like the caduceus, can represent the human spinal system. It can represent the ten systems of the body with the skull superimposed. It can represent the map of the dentition or the relationship of language and the alphabet to the base ten numerical system. Or it can relate to the description of creation as told in the Book of Genesis or the organization of the Hindu gods and chakras.

Everything in nature works in a hierarchical fashion. There is a pecking order or sequence of rank to all organized life systems. The human nervous system certainly functions in this manner. Since the most important aspect of therapy is the diagnosis, if we are able to diagnose a problem from the highest level within the hierarchy of the nervous system, we will have the greatest therapeutic result.

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It makes sense that there is order to the nervous system. We know in applied kinesiology that there is order, and our many testing procedures attest to that. However when we get into the higher functions of the brain, order begins to vanish from our view and we are required to develop more and more complex parameters, testing procedures, body positions, humming and counting, hand modes, etc. in order to find hidden problems and to delineate one function from another. It is found from the perspective of this system that the deeper parts of the nervous system already know what is needed for balance. Therefore, by addressing this level, the body instantly displays the pathway to follow and the therapy to provide. There is never any switching or incongruance from this level as it operates well beyond left brain, right brain dominance patterns.

The various pathways described are being researched and correlated to one another and a system of diagnosis and treatment is being developed. It is possible to follow a priority system based upon the neurological organization of these deep levels. Unfortunately it is much too involved to describe in this paper.

The power of the Kabbalah in understanding consciousness and the psyche has not even been tapped in this article. Kabbalists believe that through study and meditation on the symbols of the Tree, expansion and purification of consciousness is possible. Today there are many psychologists using imagery from the Kabbalah in their study and therapy.

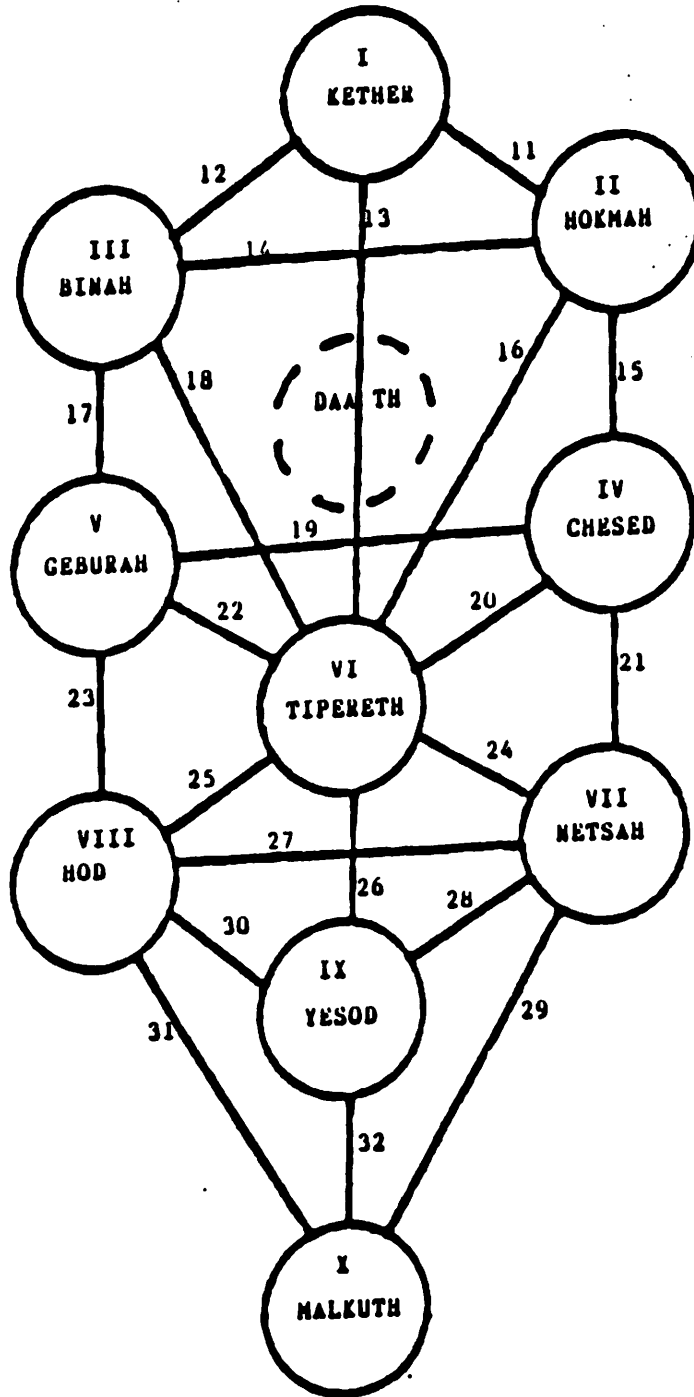
It is entirely possible that ancient sages through their simple lifestyle, contemplations and meditations, developed attunement to their own psyche/nervous system and evolved a system to describe their findings. The Kabbalists developed a map of consciousness after which the human nervous system and structure was patterned.

The purpose of this paper has been to explore ideas already existent in western culture concerning the function of consciousness and the human form. We have looked to the east for inspiration when the knowledge we seek may be at the roots of our own culture. I hope this very brief essay will encourage you to further investigation into this comprehensive system of philosophic thought.

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KABBALISTIC TREE OF LIFE



KETHER--CROWN
 HOKMAH--WISDOM
 BINAH--UNDERSTANDING
 (DAATH--KNOWLEDGE)
 CHESED--MERCY
 GEBURAH--MIGHT
 TIPHERETH--BEAUTY
 NETSAH--VICTORY
 HOD--GLORY
 YESOD--THE FOUNDATION
 MALKUTH--THE KINGDOM

FIGURE 1

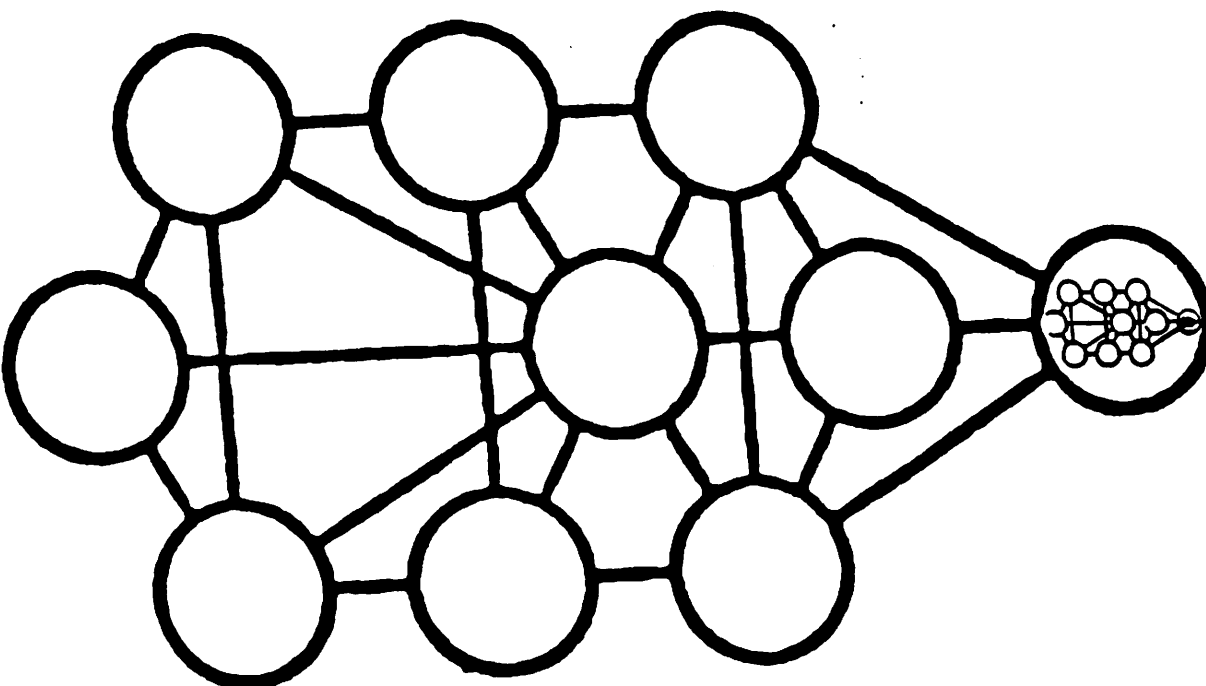


FIGURE 3 TREE WITHIN TREE

HEBREW SYMBOL	NAME	LETTER	NUMBER VALUE	PATH
א	ALEPH	A	1	11
ב	BET	B	2	12
ג	GIMEL	G	3	13
ד	DALETH	D	4	14
ה	HE	H	5	15
ו	VAV	V	6	16
ז	ZAIN	Z	7	17
ח	CHET	CH	8	18
ט	THET	TH	9	19
י	YOD	Y	10	22
כ	CAPH	C	20	21
ל	LAMED	L	30	22
מ	MEM	M	40	23
נ	MUN	N	50	24
ס	SAMEK	S	60	25
ע	AYIN	O	70	26
פ	PE	P	80	27
צ	TZADDIK	TZ	90	28
ק	QOPH	Q	100	29
ר	BESH	R	200	30
ש	SHIN	S	300	31
ת	TAU	T	400	32

א ב ג ד ה ו ז ח ט י כ ל מ נ ס ע פ צ ק ר ש ת

FIGURE 2

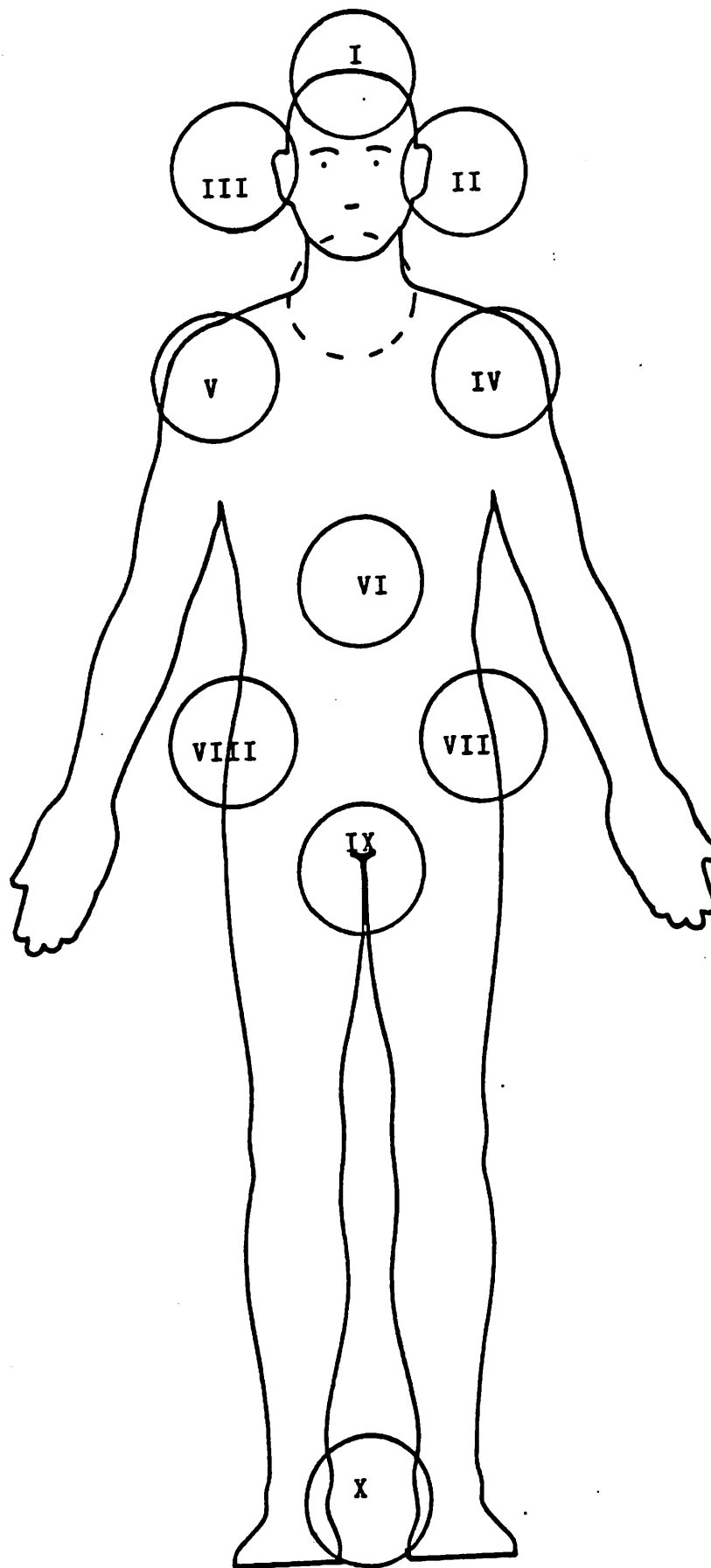


FIGURE 4

LOCATION OF SPHERES ON THE BODY

THIRTY TWO PATHWAYS

HAND	SPINE	MUSCLE
Left Radial Hand	L3	Adductors
Left Ulnar Hand	L4	Tensor Fascia Lata
Left Thumb Proximal	Sac5	Abdominals
Left Thumb Distal	Coc1	Teres Major
Left Index Proximal	T2	Subscapularis
Left Index Middle	T6	Latissimus dorsi
Left Index Distal	Sac4	Gluteus maximus
Left Middle Proximal	T7	Mid/Low Trapezius
Left Middle Middle	C6	Cervical Extensors
Left Middle Distal	C3	TMJ muscles
Left Ring Proximal	Sac3	Diaphragm
Left Ring Middle	C5	Teres Minor
Left Ring Distal	T8	Pectoralis Major Sternal
Left Little Proximal	Coc3	Anterior Scalene
Left Little Middle	T11	Hamstring
Left Little Distal	C7	Supraspinatus
Right Radial Hand	T5	Pectoralis Major Clavicular
Right Ulnar Hand	L1	Sacrospinalis
Right Thumb Proximal	C4	Infraspinatus
Right Thumb Distal	T12	Psoas
Right Index Proximal	Sac2	Peronei
Right Index Middle	L5	Piriformis
Right Index Distal	Coc4	Pectoralis minor
Right Middle Proximal	Coc2	Upper Trapezius
Right Middle Middle	T3	Deltoid, Serratus Anterior
Right Middle Distal	T10	Quadriceps
Right Ring Proximal	L2	Quadratus Lumborum
Right Ring Middle	Sac1	Gluteus medius
Right Ring Distal	T4	Popliteus
Right Little Proximal	T1	Levator Scapula
Right Little Middle	C2	Sternocleidomastoid
Right Little Distal	T9	Sartorius, Gracilis

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FIGURE 5

MENTAL IMAGINING IN ATHLETIC RELATED PROBLEMS

By Sheldon Sinett D.C., B.A., M.A.

ABSTRACT: Many athletes complain of injuries, symptoms, or problems that can't always be detected by normal chiropractic applied kinesiological procedures. By having the patient image what he or she was doing at the time of occurrence we have been able to detect their problem.

INTRODUCTION: In a chiropractic applied kinesiology practice we all see many athletes. Quite often the results are rewarding and beneficial to the patient. However, in others the problem is sometimes hard to detect. Specifically, I recall a patient that had a severe automobile accident years ago. The patient had trouble using his arms; his legs were in braces. On testing this patient I couldn't find any muscular weaknesses. At this time I called Dr. George Goodheart. He suggested the patient image his accident while I checked his muscles. By imagining, I was able to make a proper applied kinesiological diagnosis. Subsequently the patient responded rapidly.

My first case where I used imagining in a sports related injury was a swimmer. When she was practicing she experienced pain. However this excruciating pain did not occur during a meet. Detection of her problem through normal applied kinesiological procedures was difficult. I tested all the knee muscles, strain and counterstrain, reactive muscles, and categories, all of these were negative. I then remembered what Dr. Goodheart related to me about imagining. The patient stated that the problem came on after she completed one hundred and fifty laps of the

breast stroke. I then had the patient image this situation first at fifty and then one hundred laps. Each time her knee muscle remained strong. When she imaged one hundred fifty laps, the muscle weakened. To rule out an emotional problem, I had the patient therapy-localize (T.L.) the emotional center at the forehead. There was no response to this procedure. She continued to image as she T.L. the Neuro-lymphatic circuits to the sartorius and quadriceps. There was immediate strengthening of these muscles. There were other problems that were detected by this procedure also. The patient then went on to make a good recovery. Imagining is now used in any sports related condition that does not show in the clear. This way we have been able to see a more accurate picture of their problem, and the results have been very positive.

PROCEDURE AND CONCLUSION: The procedure is simple. In any sports related condition that you are having difficulty with have them be specific in what they are imagining, include what, how and where. When you diagnose the problem correctly use appropriate applied kinesiological procedures.

In conclusion this procedure has been very helpful to me in difficult sports related problems .

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WHY SCAR TISSUE THERAPY LOCALIZE**BY PAUL T. SPRIESER, B.S., D.C.**

Abstract: The explanation of why scar tissue will therapy localize even though it is a normal healing mechanism of the body.

Since the discovery of Therapy Localiztion (TL), about 14 or so years ago by Dr. George Goodheart. We know that this procedure would tell us where some- things is wrong but not what is wrong. If a strong indicator muscle is used an the patient touches an area in question. The strong muscle would suddenly weaken if there were some local malfunction at this area. A positive TL would occur over an injured joint, tendon inflammation, spindle cell, vertebra, acupuncture point, or even over a diseased organ and the over lying skin.¹

Therapy localization would also occur over scar tissue such as surgical scar of an appendicectomy, hysterectomy, and gall bladder surgery etc. I have always wondered why this would occur.

It would seem that scar tissue was formed by normal healing process with fibrous tissue and was not a pathological, or functional condition. Why then did our nervous system seem to recognize this condition as an abnormality by a positive therapy localization even if there was nothing wrong with the scar tissue.

Most scars that were examined for this paper were of old healed surgical, or injuries of a year or more. It seemed to me that this would be a sufficient time for nature to heal and the nervous system to recognize that the scar was not a malfunction, but still we get a positive TL even if there was nothing wrong with the scar tissue.

Then one day I decided to see if an explanation for this phenomena could be found in studying the skin. So I first started looking in a hystology text

at the epidermis to see if an answer could be found.^{2,3}

The answers did not seem to lie in the general structure of the skin or scar itself. It did not seem to lie in the size of the scar. I have found positive therapy localization on small fine scar as well as large keloids. So what could possibly be the answer to why scar tissue TL.

A possible explanation for this phenomena finally came in Gray's Anatomy, under the title Cleavage Line of the Skin, (Langer's lines), page 1157.

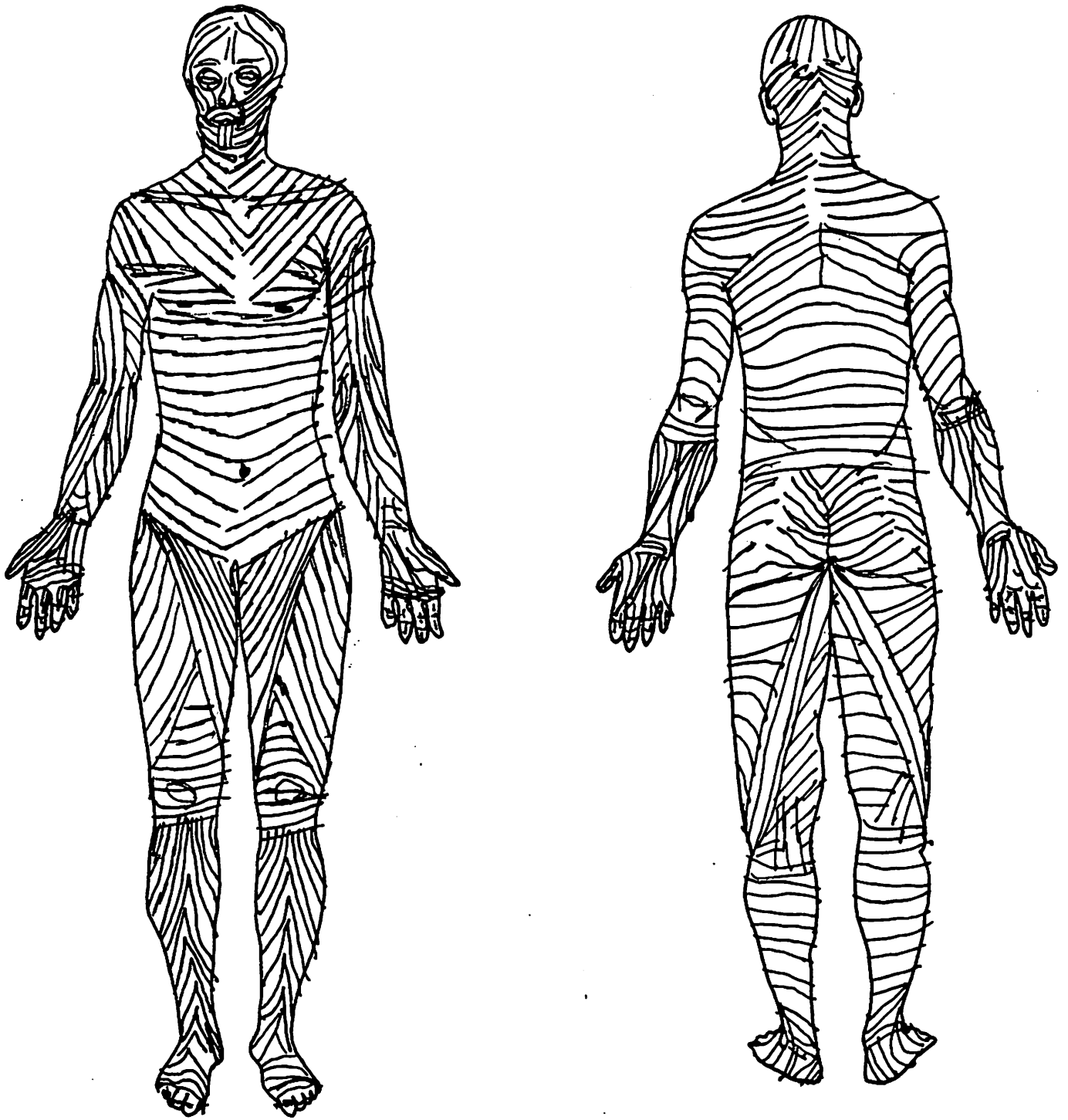
In dissecting room materials the following observation have been made. When a conical instrument is used to puncture the skin a round hold is not left as one might think but rather a slit that might be expected from a flat blade.

Why would this occur? This phenomena of cleavage lines are definite lines of tension in the skin which are characteristic for each body area. Upon microscopic examination it is found when cut parallel to these lines most of the collagenous bundles of the reticular layer are cut longitudinally, while in section cut across the lines, the bundles are in cross section. This means that generally scars that cut across these longitudinal bundles create more tension an neurological disharmony in the nerve receptor of the injured skin and the body recognizes this disharmony even though the scar tissue is normal.

If the scar follow the Langer's lines the abnormal tension is avoided and there seems to be no neurological proprioceptive disharmony set up and these scars do not therapy localize.

The Langer's lines seem to correspond to the crease lines on the surface of the skin in most part of the body. These lines are of particular interest to the surgon because an incision that parallel the line will heal with a fine linear scar while an incision across the line may set up irregular tension which results in a more prominent scar formation.⁴

In figure 1 you can see the typical tension line of the skin which have been mapped on all body parts.



LANGER'S LINES
(FIGURE-1)

P. Spriser

The presence of these lines will also explain the observation of noxious stimulus some times set up in scar tissue. Dr. Goodheart present a spray stretch technique that would relieve this neurological dysfunction.⁵

METHODS:

To find enough cases of scar that follow the Langer's Lines was a more difficult task than I had imagined. It took nearly four months to get the minimum number of cases (26).

My sampling contained 26 cases 11 females ages 19 to 72, and 15 males ages 18 to 63.

The scars that were tested were one or more years old. Most of the selected scars were surgical with some healed cuts. The scars that showed a positive therapy localization were one's that did not follow the skin's cleavage line. The scars that did not therapy localize followed the skin's Langer's lines.

A few interesting scars were found that had parts of the scar did not TL and part that did. These scars were from surgery on the thyroid gland, one was a male of 52 and the other was a female of 29 years of age.

The scar started along the side of the neck running diagonally towards the base of the neck did not therapy localize, but did show positive therapy localization as the scar crossed the anterior neck region going against the cleavage line.

CONCLUSION:

The reason that normal scar tissue will therapy localize positively is due to the fact that most scars go against the normal tensional or cleavage line of the skin. If the scar tissue parallel the Langer's Lines they will not therapy localize.

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ALLERGY SCREENING FOR STRUCTURAL FAULTS

By: Paul T. Sprieser, B.S., D.C.

Abstract: The use of histidine and Antronex to identify allergy related structural faults in all new or chronic patients.

For some years now we have available a very simple allergy screening test introduced by Dr. Walter Schmidt at the winter of 1983 meeting in San Diego, California.

The test consisted of the use of histidine (an amino acid) that would cause a weakness of a strong indicator muscle in a patient with allergies.

The rationale for this effect was simply, histidine was the precursor for the body to form histamines, which were the naturally occurring substances in a patient with allergies.

If the patient had allergies of any type present the giving of histidine would cause the production of more histamines and the incurring muscle weakness.

I would assume we have all used Dr. Schmidt's allergy screening test, but have we used it as a standard procedure in our offices?

In recent months I have been receiving many more difficult referrals from other chiropractors and also seeing many other difficult cases from my own practice. Some of these cases at first glance seem like simple skeletal-muscle involvements, but just wouldn't respond to what usually works in 90% of my practice.

One such case that brought allergy screening for structural distortion to

my attention was what would appear as a simple category # 2 right sacroiliac joint involvement.

This patient was referred to my office from a fine chiropractor who used A.K., but just could not seem to stabilize the patients condition.

The patient was a white male, age 34, who was in sales. His complaints as he discribed it was a burning pain that started in the right sacroiliac joint and would progresssively move up the right side of his back to his shoulder and into the right posterior side of his neck. At this point he would also experience weakness in his right arm and hand.

He said that he had been doctoring for this complaint with about 8 or 9 chiropractors since 1980. I was determined to not fail in this case. So as Dr. Goodheart would say "diagnosis the need, supply the need and observe the results".

I did an extra thorough examination to find what ever was wrong. I diagnosed the need, I supplied the need and I observed my results, which were not too good.

After two months of care the patient would show a small amout of improvement and then suddenly have an exacerbation of his symptoms. I was becoming discouraged and frustrated at this point. I had tried every thing I knew, and was going down the tube. I was about to suggest that this patient go out to see Dr. Goodheart because I was stumped.

Many times in this case I would have the patient in a category # 1 pelvic distortion and also find by the Faber Patrick screening technique a subclinical

category # 2 on the right. I would make the proper correction and then complete the category # 1 correction. After completing all I had to do the patient would still have an uncomfortable feeling in the right sacroiliac region.

I had found that a simple side posture (million dollar roll) would almost always alleviate this discomfort. However, I did not like treating the patient on only an empirical basis without any objective reasoning, but I would make the correction anyway. There would usually be an audible release and immediate lessening of the pressure at the sacroiliac joint.

Then one evening just when I was about to make this correction, a light went on in my head. I said out loud, "what am I correcting". Then like a flash it occurred to me, this was a classic-- posterior ilium correction seen in the allergy patient. I had been too close to the tree to see the forest. I had been staring at the answer all along and did not see it.

I asked the patient did he have any allergies he was aware of and he replied no. I went back and checked his questionnaire and found this to be true.

I had now corrected the pelvis so I had the patient ensalivate a tablet of histidine and to both our surprise not only did we see general muscle weakness occur, but the immediate return of the posterior ilium.

I made another manual correction in side posture position and waited a while. I had the patient stand and walk around to see if the correction would hold. I again checked him for the presence of the posterior ilium, standing, seated and prone it was clear. I again asked him to ensalivate a histidine tablet and again the immediate shortening of the right leg occurred. I again

made a manual correction of the posterior ilium.

I had just found the reason for the recidivism of this condition, allergies. I started screening food and I had the patient keep a diary of what he ate. The food that I have so far discovered where wheat, rice cakes, and tea.

I have since seen food allergies linked to many structural back problems, along with chronic cranial faults in two case of Pseudo tumors of the brain.

One of the patient's with the pseudo tumor of the brain I found the allergy to be peanuts. He told me that one night he was eating dinner in a restaurant that used a peanut oil in its salad. The moment he tasted it he felt pain in his right eye.

PROCEDURE:

The use of histidine and Antronex can be used to screen for allergy related structural faults in one of two ways.

1. If you suspect the structural problem is due to an allergic reaction make the appropriate correction. Then have the patient ensalivate some histidine and evaluate by muscle testing and therapy localization if the structural fault has returned.

2. If you find for example a category # 2 present by therapy localization and muscle testing have the patient ensalivate Antronex. If this negates the positive therapy localization then this structural fault has an allergic cause.

CONCLUSION:

I would suggest that in your sturborn cases if not in all new patients that you use Dr. Schmidt's allergy screening techniques.

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A NEW CLASS OF HOLOGRAPHIC CRANIAL FAULTS

BY: PAUL T. SPRIESER, B.S., D.C.

Abstract: A new series of holographic cranial faults discovered over the past six months.

In March of 1986 I was observing a very difficult TMJ case with a very chronic history. The patient was a 43 year old female that had been in a rear end collision in 1980. Her complaints consisted of chronic neck pain, headaches, and TMJ symptoms related to the jaw and facial area.

She had been treated by Dr. Gelb in New York and also received care from an orthopedist, physical therapist, and psychologist. She had also under went a spinal fusion at the level of C5 for a herinated disc. All of this care was to no avail her symptoms have still presisted.

On observing her facial and cranial features, I remembered a patient Dr. Goodheart had once described, that if he viewed the patient from the anterior the face appeared to be distorted in one direction and when view from the rear it appeared to be distorted in the opposite direction. I did not remember in what context this observation fitted or what symptoms this might produce.

As I studied this patient her face as an entire united appeared to be torqued in a clockwise direction and the skull at the occipital region appeared to be torqued in a counterclockwise direction. It was if there were a pivotal point that existed in the coronal plane through the mid parietal region.

PROCEDURE:

I had check the patient and made all the correction that were indicated and I knew that no cranial fault to be present at this time.

I first asked the patient to therapy localize (TL) the mastoid process on the right it was negative. I then had her TL the posterior region of the

left parietal bone it was also negative. I then had her TL both the right mastoid and the left posterior parietal region simultaneously and now got a positive TL response with weakening of the indicator muscle.

I thought to myself I now have the answer to the question, but I don't know what the question is.

The next step was to challenge the anterior frontal with one hand similar manner as the Universal fault challenge it was negative. I then challenged the posterior parietal-occipital region both clockwise and counter clockwise manner it was also negative.

Finally I challenged both the frontal and occipital-parietal region simultaneously. The frontal was being torqued clockwise and the occipital-parietal was being torqued counter clockwise and now I had a positive weakness.

I then had the patient TL the right mastoid and the left posterior parietal region again and got a weakness of the indicator muscle. I then asked the patient to inspire which negated the positive TL.

I then challenged the skull in the direction that cause a perviously strong indicator muscle to weaken in the phase of respiration that would negate the positive challenge.

I then tried correction this fault with the general structural cranial fault correctin in the direction that causes a strong indicator muscle to weaken with the phase of respiration that negated the weakness. The patient then TL the right mastoid and left posterior parietal region simultaneously the TL was still positive.

Next I tried the correction of this fault in the direction that kept the strong indicator muscle strong and used the phase of respiration that negated the positive TL. The pressure of about 7 to 10 pound of force was used with a clockwise torque on the frontal bone simultaneously a counter clockwise torque was used on the occipital-parietal region. I then asked the patient to

therapy localize the original pattern of right mastoid and posterior left parietal region it was now negative, no longer weakening a strong indicator muscle.

At this point I decided to check all the patients coming into the office to see if this was just a single case or if it was a common occurrence.

I also decided I needed some outside objective measurement that could be used to see what the correction of this fault would improve. I first tried vital capacity but it did not change. I then tried range of motion and this did improve. I now had a standard by which I could measure the effect of this fault.

FINDINGS:

I examined 525 patients and found this fault present in 182 cases. In a small percentage of these cases that were originally examined and were found not to have this fault and 15 cases were found at another time. I also observed the return of this fault requiring the correction to be made more than once.

The range of motion test that was observed was abduction of the hip joint. The smallest improvement measured was 10 degrees and the greatest was 50 degrees increase in motion. The average improvement was about 15 degrees. I also observed forward bending and found that this would also increase.

Checking with the original patient I also decided to examine for other TL patterns and challenges to see if other faults could be detected. It seemed reasonable to me if a clockwise/counter clockwise frontal to occipital-parietal fault could exist, that a lateral parietal temporal fault might also exist.

The pattern of TL that proved positive was having the patient contact the mastoid bone and the posterior parietal region on the same side simultaneously. This fault will show a positive TL on one side to the above described

procedure of hand placement. The challenge for this fault is similar to that of the Universal cranial fault correction, with one exception that only one hand is used on one side. As an example the left parietal-temporal region is challenged in a forward or anterior direction, while the right parietal-temporal region is counter torqued in the opposite direction or posteriorly. If this does not weaken a strong indicator muscle reverse the simultaneous torque challenge which will now weaken the indicator muscle.

The correction for this fault is done the same manner as for a holographic cranial fault. The simultaneous torque and counter torque forces are done along the lateral parietal-temporal region of the skull in the direction that keeps the strong indicator muscle strong and in the phase of respiration that neutralized the positive therapy localization.

This fault was found present in 30 cases out of the original 182 positive cases of the first holographic fault described. The original anterior to posterior torque fault seem to always be present first before this second or lateral torque fault could be present.

These two faults would both have to be present in the same patient if the third type of holographic fault to be found but this occurrence was very infrequent. I found only 9 cases to be present in the last 30 cases, which were found 182 times out of the entire sampling of 525 cases.

This fault seem to be a horizontal torque pattern between the upper cranium region above the squamous suture and the floor of the cranial vault below the squamous suture.

The therapy localization pattern was simultaneous contact of both mastoid process with one hand (thumb contact on one side and remaining finger on the other side). The palm of the other hand was place on the vertex of the skull. This two hand TL contact would cause a strong indicator muscle to weaken if this holographic fault was present.

The challenge torque motion is performed one hand on the vertex of the skull in a clockwise direction, and simultaneously contacting both mastoids and torquing in a counter clockwise direction. These motions are done on a horizontal plane.

The correction for this fault is done in the phase of respiration that neutralized the positive therapy localization and in the direction that keeps the strong indicator strong. The amount of force used is between seven to ten pounds.

CORRECTION:

The first fault I described had to be present in order for the other faults to occur. In this series of new holographic faults there seemed to be a specific sequence of correction of the faults.

The first correction that is made if two or more holographic faults are present is the anterior to posterior (occipital/frontal). The next fault will be the lateral series using the parietal/temporal correction that I have described. The final correction if present is what I termed the horizontal or (vertex to base) correction.

All of these faults improve range of motion, if all three were present at one time you could expect a five to ten degree improvement with each correction.

As I have previously stated the correction takes about seven to ten pounds of force to accomplish. Done in a torque-counter torque manner in the phase of respiration that negated the positive therapy localization, and in the direction that keeps the strong indicator muscle strong.

OBSERVATIONS:

I have not been able to associate these particular holographic faults with any specific symptom patterns except on an anecdotal basis. The first fault seemed to improve sinus drainage. Other information might be obtained from the nutritional support that neutralized the positive therapy localization patterns.

The nutritional support may give us a clue to what conditions these faults may relate. The nutrients when insalivated would neutralize the positive therapy localization pattern.

1. The first hologramic fault that I described (frontal/occipital-parietal) was neutralized by neurotrophin (S.P.), Anterior Pituitary (Savad), Thymus (N.D.), and Thyroid (S.P.).

2. The second fault described as the lateral torque pattern was neutralized by the insalivation of the following materials: ACP (S.P.), Vitamin E (S.P.), Organic Trace Minerals (S.P.), and Vitamin B6 with Niacinimide (S.P.).

3. The third fault occurred to infrequently to provide any nutritional information.

ADDITIONAL FAULTS:

Another group of faults also fitting the hologramic pattern I will mention for your further investigation.

The first fault in this group I found was composed of 36 cases equally divided between males and females. The therapy localization pattern was mastoid process on one side and the anterior zygomatic arch (mid-pupillary line) on the other. This fault did not seem to have a respiratory phase.

The correction was made by a superior pressure four to seven pounds on the zygomatic arch from below, while the other hand exerted a similar pressure in a footward direction from the superior portion of the mastoid process. The corrective force was done in the direction that kept a strong indicator muscle strong.

This fault correction seem to improve vision. I used a Snellen's chart at twenty feet. Visual acuity improvements were found in 27 out of the 36 cases examined, with a five to 20 foot improvement in vision.

The last hologramic fault I had uncovered was found in twenty five cases (10 female and 15 males). The therapy localization was done from the anterior maxilla on one side and the contralateral palatine bone, using the thumbs or index fingers.

The correction was made by pressing the maxilla posterior and slightly medially and pulling the palatine bone anteriorly and slightly medially with four to seven pounds of pressure. The direction of correction was also in the vector that kept a strong indicator muscle strong, and in the phase of respiration that neutralized the positive therapy localization.

The correction of this fault increased the range of motion (abduction) of the hip joint an average of 15 degrees.

CONCLUSION:

Although the skull has only twenty nine bones, with the exception of the mandible and the three ossicles in each middle ear, it might seem there would be a limited number of faults possible. The hologramic type of faults seems to be more common than one might expect.

The proper function of this system seems to have a far reaching effects as I have explained, such as increased range of motion, improved visual acuity, and changes in blood pressure (glabella fault). Makes it important to be aware of the skull function both structural (osseous) in the closed kinematic chain as described by Sutherland,¹ Walther,² Upledger,³ and Lippincott,⁴ and holographically by Goodheart⁵ is necessary for normal health and well being in every individual.

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UPPER CERVICAL ADJUSTMENT CORRECTS
BILATERAL INTRACTABLE HAMSTRING INHIBITION

BY

JOHN F. THIE, D.C.

ABSTRACT

An observation is made that an intractable bilateral hamstring inhibition can be corrected by an upper cervical adjustment when other methods have failed to make an improvement in the inhibition of the muscles.

Further, a description is given of the Touch for Health Applied Kinesiology procedure that the author follows.

* * * * *

The use of the methods pioneered by George Goodheart have expanded into many different models. I have cataloged 19 different models of using muscle testing to help people that have been given names. What I am doing in my clinical practice of chiropractic I am now calling the Touch for Health Applied Kinesiology model (TFHAK). In doing this model each day with all the patients that I treat, I have found that occasionally a bilateral hamstring weakness would not correct with a sacral respiratory adjustment. Nor could I get a facilitation of the bilateral weakness using any of the other technics. This was corrected by the adjustment of an upper cervical fixation which was indicated by a bilateral gluteus maximus inhibition.

My method of TFHAK is to begin with the patient supine when I am ready to begin my clinical treatment and check and balance the following muscles in the order presented:

Supraspinatus, Pectoralis Major Clavicular, Latissimus Dorsi, Subscapularis, Quadriceps, Anterior Tibial, Psoas, Gluteus Medius, Teres Minor, Anterior Deltoid, Pectoralis Major Sternal, Anterior Serratus and Fascia Lata.

As you will recognize this is one muscle from each meridian except the Governing. If I have any difficulty in getting a muscle to balance, I will check other muscles relating to the fixation of the origin of the muscle and make the necessary corrections. If I have further problems getting a facilitation of the muscle being tested, I will check the other muscles related to the meridian. I do not leave a muscle until I have made an improvement in its facilitation or I have exhausted my ideas of how to make further improvements.

I rarely ever leave a muscle without having an improvement.

I then therapy localize the cervicals, thoracics and lumbar and make supine manipulations to correct these subluxations.

My next procedure is to turn the patient prone and check the following muscles: Hamstrings, Gluteus Maximus and Sacrospinalis. I make whatever corrections are necessary. In addition, I will have the patient therapy localize for diagnosis of a Category 1 and if found, check for this fault. I further check the patient for cellulomes in the shoulder, gluteal regions and paraspinally. If I have made an improvement in the patient I will stop treatment. If the patient has not made a significant improvement I will check for cranial faults, TMJ, visual inhibition*, aricular exercise* and make additional examination of muscles in the areas of complaints in the extremities. Additional AK technics are utilized only if an improvement has not been accomplished.

In 1986 I personally gave 14, 342 adjustments using the procedure described above. This was the largest number of personal adjustments that I have given in one year in my 30 years of practice. It was a year for me to devote myself to my clinical practice more than any other year. In the course of these adjustments, which averaged over 50 per day for the days that I saw patients, I would occasionally find the bilateral hamstring weakness that would not correct. I would then go on to the next muscle which in my procedure was the Gluteus Maximus. Whenever I found it weak bilaterally, I would correct it by using an adjustment of the upper cervicals with the patient prone and the head straight in the headpiece.

*Touch for Health terms

I have developed my own procedure for the adjusting correction of the bilateral Gluteus Maximus. The procedure is simply a bilateral thumb contact on the spinus processes of the upper cervical region, posterior to anterior (PA) for one quick thrust and posterior to anterior superior (PAS) for a second thrust and posterior anterior inferior (PAI) for the third thrust. Re-checking the bilateral Gluteus Maximus for strengthening, if strengthened I assumed correction. If it did not strenthen, I changed the angle of drive slightly on the three thrusts when I repeated them. I do not recall ever needing to do more than two sets of thrusts for correction.

It was after making this correction that I discovered that the hamstrings, that had failed to be strengthened by all my previous efforts, were then to my surprise, strengthened. Since that first time, I have been checking the Gluteus Maximus whenever a bilateral hamstring did not strengthen with the correction of the sacrum. This has saved me a great deal of frustration by simply moving on to the Gluteus Maximus in my procedures. I have not kept track of the number of times that this has happened in the past year and a half since my first observations of this phenomena, but I would classify it as rare. I do not recall finding this combination of structural faults even one time per week.

I am wondering if anyone else has observed this condition of having a bilateral hamstring weakness, which did not correct with any method and then also finding a bilateral Gluteus Maximus weakness and with the correction of the Gluteus Maximus that the previous intractable hamstring weakness was corrected.

I hope that any of the members of the ICAK or others that read this report will communicate with me regarding their similar findings.

MUSICAL KINESIOLOGY
A TUNE UP FOR MIND AND BODY

OTIS F. THOMAS, D C.

ABSTRACT: Working with stress in clinical practice, we find far more circuits out of balance involving the intestines than any other meridian. Perhaps we overload our bodies with physical and mental garbage and the intestines have trouble processing our garbage.

Using AK indicators this paper will introduce what happens to the right and left hemispheres, neuronal firing of a stressed out patient and some of the physical "read out". Then we demonstrate what 3 or 4 minutes of music can do to help balance and harmonize the brains, neuronal firing, thus correcting the meridian energy flow and helping to balance the patient's general well being.

INTRODUCTION

The foundation of life is balance. A balanced diet gives us the required nutrition for energetic action. A balance between work and recreation keeps "Jack from being a dull boy."

It all sounds very simple. Maintain balance and you'll live a carefree existence!! We know, however, that it is not always possible to observe that simple equation. Our jobs often demand more energy than we have to give. We rush through our daily lives skipping meals, grabbing snacks, and running on adrenalin, necessity, and will-power, forgetting to rest, and neglecting our selves.

The world seems to conspire against our health and peace of mind with stressing situations popping up like snipers to chip away at our well-being.

"MUSICAL KINESIOLOGY"
Otis Thomas, D.C.

In Western Society we often look to the ancient civilizations to learn many helpful hints about health and longevity. The Chinese can teach us about the "Yin" and the "Yang". The Yogis can show us the path to inner peace. But Westeners, like the U.S. Marines, never retreat. We do not take time off from our daily lives to sit on a mountain somewhere and commune with our inner beings,..... and those of us who do go on vacations, know that the American Express bill will be sitting on our doorsteps- fat and expectant- when we get home.

The job of western holistic healing is not to stand apart from western man and shake its finger at all the harmful things our lives are imposing on our health and bodies. Rather, it is the job and duty of our system of healing to discover ways to keep us healthy and in balance without causing any of us to break the stride of our daily living.

As doctors and students of holistic healing, we are constantly striving to find ways to bring healing techniques to our patients. Our practices are only as successful as the number of new patients we get to see. And we like to graduate patients to health as often and as quickly as possible. One new modality which has been researched and developed by our peers is the Somatron. This is a music table which center's the patient's energy and allievates much of the stress-load by enabling the patient's entire body to experience the soothing music of health-specific cassette tapes. Music as an agent for healing is not a new concept, but the application through the Somatron is new. While the patient is waiting to be structurally adjusted by the doctor, he can receive a complete musical-cellular massage from head to toe.

"MUSICAL KINESIOLOGY"
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The magic of music reaches into the stressed areas of the patient's body and begins to unravel the knots and rigid tension which constrict the normal balance of a healthy being.

The early Chinese observed that balance and harmony of the various physiological functions of the body were very important in carrying out the normal vital activities of "Chi". These physicians long ago realized the unity of the opposites of Yin and Yang. Simply stated, they observed: If the Yin is dominant, then the Yang will be diseased, and if the Yang is dominant, then the Yin will be diseased. These observations co-exist with what science has fully documented. Within the human body there is a unity of the opposites. There is diastolic and systolic blood pressure, the production and dissipation of body heat, the coagulation and anticoagulation of the blood, the vasodilation and vasoconstriction of blood vessels, the antigens and antibodies in immunological response, the pro-inflammatory and anti-inflammatory hormones. We speak of anabolism and catabolism, muscle hypotonus and hypertonus, the facilitory and inhibitory activity in the nervous system- and the list goes on.

The different interpretations of the phenomena of equilibrium and stability of the organism have produced extremely different influences in the practice of healing over the centuries. Perhaps it is time to explore a new concept for all forms of healing. If properly utilized, it is conceivable to bring balance and harmony on a human cellular level and can help transform "weariness and illness into DELIGHT AND HEALTH."

At the top of the pecking order of things that help us "FEEL BETTER" when we experience dis-ease, is the magic vibration of music.

"MUSICAL KINESIOLOGY"

Otis Thomas, D.C.

One demonstration I use introduces what happens to the right and left hemisphere neuronal firing of a stressed out patient. I then observe what 3 to 4 minutes of music on the Somatron does to help balance and harmonize the brain's general well being.

This modality helps in a busy practice because it is simple and it allows stressful patients to relax and transmute emotional and physical stresses as their regular care begins.....it works!

CASE HISTORIES

When asked to focus their concentrated attention on what they consider to be their NUMBER ONE STRESSOR, 103 patients were extremely weak when testing a formerly strong quadriceps and/or gluteus medius muscle. After experiencing the SOMATRON for 3 to 4 minutes they all showed marked muscle strength, even when asked to focus on the previous stressor. Only two patients stated that the experience was not relaxing, but these same two patients showed strength while testing the formerly weak quadriceps as the patient focused on the stressors. All the remaining patients stated that the music experience was deeply gratifying, relaxing and very pleasant.

Recently the music was used on one of our patients, an advanced case of Cerebral Palsy, who was referred to the clinic for treatment of a severe migraine headache of ten days duration. Even though the patient was almost deaf, he responded within 30 seconds to the music, became totally relaxed and remained on the table without moving a muscle until he was awakened 30 minutes later. During following visits this response was the same.

"MUSICAL KINESIOLOGY"
Otis Thomas, D.C

CONCLUSIONS

Candace Pert* stated that hard Scientific research revealed that the brain does indeed produce neuropeptides that are capable of producing 20,000 amino acids in a split second. They are the building blocks for Beta Endorphins that transform our consciousness into a state of EUPHORIA..... with an immediate reduction of PAIN.

It is common knowledge that runners report " getting their second wind". Norman Cousins in his book "Anatomy of an illness" reports that deep belly laughter can also leave a person in a state of euphoria with a reduction of pain.

The Somatron has been researched by the University of Miami and health professionals and is in use by the Canadian men's olympic downhill ski team. More research will be forthcoming.

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REPORT ON I.C.A.K. VIDEOTAPES LIBRARY

by

Dr. C. Lance West, D.C., D.I.C.A.K.

ABSTRACT

During the past seven years, I have had the pleasure of attending and videotaping numerous seminars which were taught by Dr. George Goodheart and Dr. Walter Schmitt. Many of these classes have been in Detroit, Michigan but, occasionally, I have traveled to classes in other cities.

My interest in doing the videotapes was: first, to improve my own understanding of Applied Kinesiology; and second, to record the classes so those who were not able to attend could rent or buy copies so they could also keep up with the continuing development of Applied Kinesiology.

To date, I have numerous tapes and I felt it would be good to catalog them so those who might be interested would know what is available.

My video equipment is simple home video--not professional. The quality of the videotapes has improved each year as I update my camera and video recorders. Some of my earliest tapes, for example, Goodheart and Schmitt's 100 hours and early advanced tapes, do not have the good quality that I am now getting. They can be seen and understood and are still valuable learning tools since Goodheart and Schmitt have not

repeated the basic 100 hour course since 1982. I cannot offer better quality of this very basic material. I just purchased a new Sony Professional CamCorder, 8 mm., which is giving me the best tapes I have yet recorded to date.

I have numerous video recorders for duplicating the tapes, since reproducing each tape is like making an original in that it is recorded from the video player direct to another video player and takes just as long to duplicate as the original did to film.

At present, all available tapes are VHS 6-hour speed (super long play). To rent or purchase any of the tapes listed, please contact:

Dr. George Goodheart
20567 Mack Avenue
Grosse Pointe Woods, MI 48236
Phone: 313-881-0662

or

Dr. Walter H. Schmitt, Jr.
87 South Elliott Road - #110
Chapel Hill, NC 27514
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As they receive your orders, they will notify my office and I will send the tapes to you via United Parcel Service. If you rent tapes,

they should be returned to me after the two-week rental period. Please use the return label included with the tapes you order.

All orders should include specific titles or order numbers and a check to pay for the tapes--either \$75.00 rental per session or \$150.00 purchase per session. The profits from the videotapes are used for the development and research of Applied Kinesiology.

If there are special sessions such as Dr. Walter Schmitt's "Links Between the Nervous System and the Body Chemistry" which included a large notebook with each of the sessions, these tapes are only sold for the normal seminar fee of \$200.00 and are not available as rentals.

Hopefully, as the years go by, we will have a very complete video library.

Dr. Goodheart and Dr. Schmitt have authorized gifts of the ten sessions to the Palmer College of Chiropractic Applied Kinesiology Club, the Los Angeles College of Chiropractic Applied Kinesiology Club, and the National College Applied Kinesiology Club.

We are all indebted to Dr. Goodheart and Dr. Schmitt for their continuous efforts in research and development of the new areas of

Applied Kinesiology, and also for their excellent presentations and sharing of their findings.

My telephone number is: 419-475-4323. Please call on Monday, Wednesday, or Friday from 8:00 a.m. to 6:00 p.m.

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THE CROSSED-LEG PULL TEST

ALAN J. WOODSON, D.C.

ABSTRACT Utilization of the simultaneous popliteus/rectus femoris test (described previously as the leg-pull test)¹ in clinical practice has resulted in the observation of a situation in which the spinal involvement appears to be on the contralateral side. The involvement is detectable easily with the neurovascular induction technique² and is likewise treatable with the same method. Implications and speculations are discussed.

In performing the leg-pull test, the practitioner stands at the side of the supine patient. The ipsilateral thigh is flexed 90° on the abdomen, and the leg is flexed 90° on the thigh. To test the rectus femoris in the standard way, pressure would be directed against the knee in an effort to push the thigh and leg back into extension; the patient would resist.

If, instead, the ankle is internally rotated and the practitioner positions himself beside the ankle, the leg-pull

test can be performed. The examiner attempts to externally rotate the ankle holding the patient's heel in one hand and exerting pressure with the other against the side of the foot. At the same time the examiner attempts to draw or pull the thigh caudally into extension. This simultaneous action has been described as the leg-pull test.

Normally, there is no difficulty on the part of the patient in resisting these simultaneous actions. The patient can literally be dragged down the table by his ankle with the leg bent at 90° all the while. This represents the negative test.

In a positive test, the patient can usually resist forcefully on one side and can not resist to any degree on the other. Sometimes the test will be negative in the clear, but it will show positive with head turning right or left, or it will show positive with cervical flexion or extension; occasionally, a combination of cervical movements is required.

Various therapy localizations have been found to elicit a positive test when the test was initially negative in the clear. Often TL to the clavicular attachments of the sternocleidomastoid muscles will "discover" a positive test. TL to K27 will also occasionally react. The suprahyoid

submandibular muscles often react, as will, occasionally, the mastoid attachment of the SCM. Commonly, suprapubic therapy localization will bring a leg down as if it was suddenly unplugged. Each of the intercostal spaces (neuro-lymphatic reflexes), as well as the abdominal reflex points, has at one time or another been the site of reactive therapy localization.

TL to the upper cervical spine will sometimes bring out a previously hidden test. It is this particular reaction that I find interesting in that it lends support to a theory discussed in previous papers of body compensation reactions on the basis of the electron poisoning concept. ^{1,3}

It appears clinically that patients who show a positive leg-pull test are manifesting gait-related dural torque. In terms of what fixes this fault nutritionally, it appears these patients are manifesting deficiency of function on the thyroid side of the electron poisoning equation. This is not to say they have frank thyroid malfunction or pathology.

The thyroid side of the electron poisoning spectrum is basically concerned with cellular availability of oxygen while the steroid side is basically concerned with cellular availability of substrate or hydrogen. Essential to all

cells is an energy production mechanism in which electro-negative oxygen combines with electropositive carbon or hydrogen to form water, carbon dioxide, and energy. The energy released can be utilized for movement, transport, heat, protein anabolism or catabolism; it can be stored as high energy bonds in ADP or ATP.

Patients who demonstrate a positive leg-pull test in the clear are likely to require lower cervical manipulation and nutrition aimed at the thyroid gland itself. Patients who show a hidden leg-pull test typically respond to cofactors which have been many times the well established muscle-organ-nutrient associations. Supraclavicular reactivity is typically abolished with B6/niacinimide combinations; various rib locations have responded to liver substance, pancreas substance, etc.

One clinically important association which came to light in this methodology is related to the suprapubic reflex. When therapy localization at these points would uncover a leg-pull test, it would show on one side only (not typical of therapy localization which will weaken any strong indicator muscle). Additionally, bilateral TL was required. Unilateral TL did not react. What would abolish this response in a woman was uterus extract; what would abolish this response

in a man was prostate. In keeping with the theory of the test, this means that uterus and prostate fall in on the thyroid side of the street.

Clinically, this works very well. Many of the accepted post-hysterectomy complaints are hypo-thyroid in nature. Women who exercise and can't lose weight, having had a hysterectomy (with or without oophorectomy) typically show this reaction. Chronic lower back pain in men (occasionally suspected to be prostate related) can be eliminated if this is the missing co-factor. Constipation as manifestation of low thyroid function shows up as requiring prostate or uterus extract in the same way.

Complications creep in especially in the case of a "complete" hysterectomy with or without estrogen replacement. Occasionally, patients will require both ovary and uterus as well as other co-factors before they balance out. Sometimes leg-pull test reactivity won't show up at all until the steroid side is treated. This is the subject of the leg push test.³

One Friday I had an older male patient whose particular entering complaint was left knee pain "out of the blue." Usually this is a manifestation of a "common" leg-pull test, and so I began testing in the normal fashion, finding nothing in the clear, proceeding with skeletal distortions

(neck rotation, flexion, circumduction, etc.) going on to various therapy localizations and still finding nothing. I'd been to the winter meeting of ICAK in Maui and heard Dr. Goodheart speak of the Tibetan ancestry of Chinese acupuncture. The basis of acupuncture energy flow, they maintained, was a triad of meridians: the "wind", the "phlegm", and the "bile". The wind was composed of what we know as the governing vessel and conception vessel conjoined. It was a mid-line structure. Each of the other two began below the eye as what appeared to be the stomach meridian but crossed the mid-line to enter and extend down the opposite lower extremity to continue in the manner of the stomach meridian. Dr. Goodheart was showing the effect of simultaneous therapy localization to the upper thoracic spine and the first point of the bile or phlegm meridians (stomach #1).

With nothing else obtaining, I tried to elicit some reaction on the basis of this mythical crossed meridian. Directing the patient to reach across in front with their left hand to grab the back of his shoulder at the level of the first three ribs near the spine, I attempted to pull the leg down while simultaneously twisting the leg and ankle externally. This reacted somewhat, and so I thought maybe jaw tension would intensify it. I directed the patient to clench his teeth and tried the test again. The leg

weakened dramatically, and to prove to the patient (as well as myself) that it wasn't from sheer fatigue, I immediately retested the leg in the clear. The patient was impressed and remarked, "You got someting there!" I figured I did too... I just didn't know what it was. Obviously, something was going on in the upper thoracic spine. I had him turn over, and began to do neurovascular palpation. I have done this routinely on virtually every patient I've seen since I discovered that the neurovascular reflex could be used as bio-feedback for various standard applied kinesiology and fundamental chiropractic procedures. I found an incredibly strong reaction to pressure at the second thoracic interspace on the right. A few things "clicked" in my mind.

I knew this patient was a heart patient - I'd taken the history a few minutes prior - he'd had by-pass surgery and was taking the typical drugs. I'd been studying one of the Clinical Kinesiology notebooks and had learned the meridian associations to the intercostal spaces which Beardall termed intercostal reflexes.⁴ The second intercostal space is related to the heart. Earlier in the year I had a patient who had complained of intense left shoulder pain following an automobile accident. After working with this rather obese woman for a matter of months, what remained of her pain was a focal point at the level of T2/3 on the

left which defied treatment. From deduction, more than findings, I gave her a trial of heart supplementation. That took the pain away.

I asked my patient to be "extra patient" and turned him over to go through the testing procedure again. Nothing had changed. I then tested against Vasculin and Cardio Plus from Standard Process. Vasculin did not abolish the test, but Cardio Plus did. (In a big way!) He was impressed all over again. "That's one hell of a pill." I proceeded to take x-rays, etc., and set up a report of findings for the coming Monday. I did give him the Cardio Plus to take over the weekend.

Monday afternoon he came in smiling. The mysterious knee pain was gone!

That was the first in a series of knee-related problems - some on the right, some on the left. Each patient presented some new twist which provided additional information. Therapy localization to Stomach #1 was sometimes needed, but generally clenching the teeth was the active ingredient; some patients had to clench incisors; some had to clench molars. It was discovered that therapy localization to the opposite TMJ would many times block a test brought out by clenching.

Occasionally, therapy localization to the upper cervical spine was more effective. In each case a very evident neurovascular reaction at an upper thoracic intercostal space was present.

This same pattern appeared to be present in many shoulder cases. Often this same involvement was seen in lower back pain cases where the pain was focal, unilateral, typical of sacroiliac, but did not react to challenge as category one or two. This involvement was evident in certain cases of unilateral leg pain or swelling - in particular, calf muscle tenderness and ache (with positive pain reaction to moderate inflation of blood pressure cuff around calf). Commonly, this pattern of involvement has been seen in chronic TMJ dysfunction. In some cases this involvement was the chronic TMJ dysfunction.

What I've done in treating this kind of case is apply pressure at the indicated foci using neurovascular feedback as a monitor. In addition to the major reaction in the upper thoracic spine there is typically another major reaction at the occiput on the opposite side.

The neurovascular treatment (which looks a lot like Receptor-Tonus technique) paves the way for appropriate adjusting procedures. It serves as a "vertebral challenge" without

the challenge. The vertebra needs to move in the direction that enhances CSF flow. Before adjusting the occiput on the side of reaction, I work the SCM and scalenes using neurovascular feedback to locate the reactive points. From there, I work on points around the TMJ that blocked the test when therapy localized. Many of the points that react most strongly are the common acupuncture points. The adjustment then proceeds much more smoothly and requires less force due to less patient resistance.

In some cases no adjustment was possible due to spinal degeneration, muscular rigidity from upper motor neuron disease, or patient nervousness. The neurovascular treatment alone was sufficient.

Nutritionally, if the involvement is on the left upper thoracic area, **Vasculin** appears to work better. If the involvement is on the right, **Cardio Plus** is indicated. **Core Level Heart** was tested later on and appears to fix both.

As I've become more aware of this involvement, I find I'm seeing more patients who have it. No doubt some cosmic referral mechanism is at work. The results have been very gratifying. It's a bit bewildering to notice how often

I am treating what appears to be heart related stress in younger people. There is high correlation between a crossed leg-pull test on the right, for example, and mitral valve prolapse (the diagnosis having been made medically).

Patients who present a positive left crossed-leg-pull test typically show a positive Ragland sign (orthostatic hypotension) and increased second sound amplitude on a phonocardiograph tracing at the pulmonic valve. I attribute this to right heart stress secondary to pulmonary hypertension - insufficient bronchodilation due to insufficient adrenal hormone activity.

Patients who present a positive right crossed-leg-pull test many times show a negative Ragland sign and generally elevated blood pressure. A phonocardiographic tracing of the aortic valve will usually show increased amplitude of the second sound. This implies systemic hypertension and left heart stress commonly caused by generalized lymphatic sluggishness or portal circulation congestion secondary to liver dysfunction.

The crossed-leg-pull test has grown out of this author's experience with the various permutations of the leg-pull test (described in earlier papers) combined with enhanced

palpation skills due to neurovascular feedback. This test has made it easier to communicate to patients how involvements in the top of the spine can create difficulties in the bottom of the spine. In that therapy and diagnosis with neurovascular palpation differ only in the length of time involved, the test is somewhat redundant. Involvement can be predicted with neurovascular analysis alone.

Neurovascular feedback has been a very useful tool. It's like being able to talk to the body in a very direct and personal way. On the basis of the dramatic symptomatic relief obtained in this way, it appears that the neurovascular reflex monitors the cerebrospinal fluid flow. In that the methodology which has evolved in the pursuit of the ramifications of this technique is congruent with what others have established regarding gait-related disorders and dural torque, it would appear also that CSF flow is one of the basic body priorities.

The early chiropractic paradigm held that disease was caused by interference with "vital nerve energy." What if this vital nerve energy were not the stream of signals passed along the nerve in the form of waves of depolarization as has been proposed by various disciplines within our profession, but were instead supplied to each nerve. If

the vital nerve energy "circulated" in the cerebrospinal fluid and were supplied to each major nerve trunk, it would follow disturbances in the dural mechanism would have profound influence on the health of the nervous system and consequently on the health of the body as a whole.

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