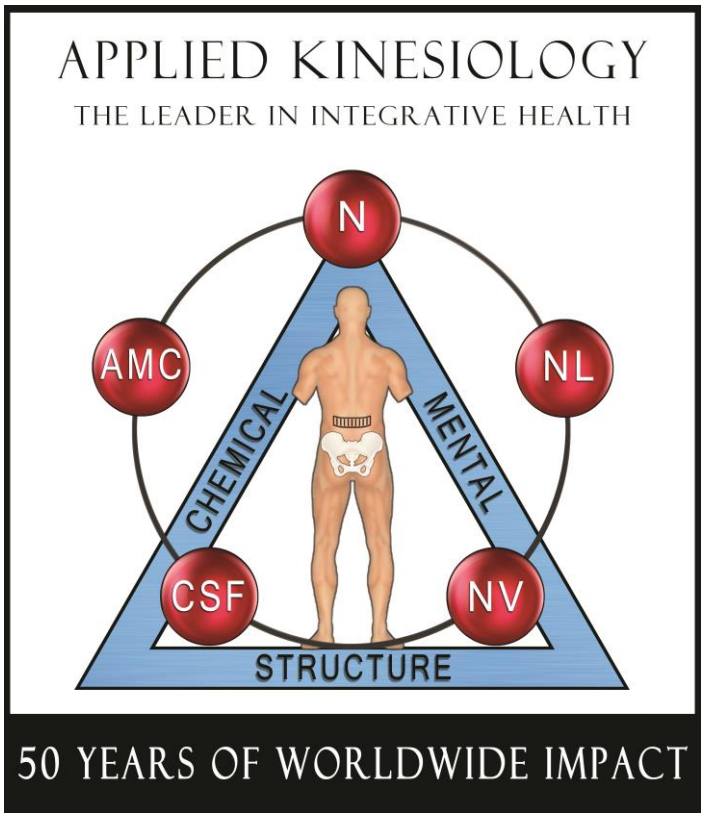

INTERNATIONAL COLLEGE OF APPLIED KINESIOLOGY U.S.A.

Experimental Observations of Members of the ICAK

Volume 1, 2015-2016

Fifty Seventh Collection of the Proceedings of the Annual Meeting

International College of Applied Kinesiology® – U.S.A.

Experimental Observations of the Members of the ICAK

Volume I, 2015-2016

Proceedings of the Annual Meeting

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Publications Staff:

Jennifer Palmer, Executive Director
Chalise Shaw, Membership & Publications Manager

Message from the Chairman

R. Thomas Roselle, D.C., PAc, PAK, D.C.C.N., D.C.B.C.N.

For over 50 years, the members of the International College of Applied Kinesiology®-U.S.A. have shared their insights, outcomes, case histories and research through the papers presented in the Proceedings. The ICAK-U.S.A. remains a consortium of academic and intellectual exceptionalism. It continues to thrive as forum of individual observations, clinical results and research. These published works document the first steps toward furthering the application of applied kinesiology in diagnosis and clinical skills ultimately becoming the part of the accepted body of knowledge we embrace.

We invite and encourage all members to participate in contributing to and expanding upon the basis of neuro-functional muscle testing we call applied kinesiology. Your clinic is your laboratory, your patients the source of unlimited observation and input, and whether a case or double blind study, they all add to the knowledge base. Past history shows that the observations of one doctor stimulate the minds of others and the end result can be, as Dr. Goodheart credits Dr. Deal as saying, "and now we have another piece of the puzzle."

We are pleased to have the opportunity share with the members of ICAK-U.S.A. the advances and successes of this year. It is truly a gathering of academic eagles and clinical genius'.

Thank you and congratulations to all of you who have taken the time to contribute. A special thanks to Drs. Allan Zatkin, David Engel, and Janet Calhoon.

Dr. Scott Walker said that we must come together so we can take the fire of AK and spread it throughout the world. With excitement, we look forward to seeing you, our AK family, in Oak Brook, Illinois as we start the next 50 years of AK excellence!

Introduction

This fifty seventh collection of papers from members of the International College of Applied Kinesiology®-U.S.A. contains 18 papers written by 14 authors. 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 in the Table of Contents.

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

It should be understood that the procedures presented in these papers are not to be construed as a single method of diagnosis or treatment. The ICAK-U.S.A. expects applied kinesiology to be used by physicians licensed to be primary health care providers as an adjunct to their standard methods of diagnosis and treatment.

There are three divisions of the *Proceedings* of the Annual Meeting of the International College of Applied Kinesiology®-U.S.A. Division I consists of papers for members' information. Division II contains papers inviting constructive comments to be published in future editions of the *Proceedings*. Division III is for constructive comments on papers published in Division II and for subjects that might be included in "Letters to the Editor" of a refereed journal. Papers will be put in Division I or II at the author's request. It is expected that authors will choose Division I for papers such as anecdotal case studies, thought-provoking new ideas that have not been researched, and other types of papers that are for the membership's general information. It is expected that Division II will include papers that have a research design, or those the author has thoroughly studied and worked with and believes to be a viable approach of examination and/or treatment. Studies to test methods developed by others, often called validation studies, fit well here. This area also lends itself to editorial-type comments about the practice of applied kinesiology and its procedures. Division III is somewhat similar to the "Letters to the Editor" section of refereed journals. It provides a forum for members to comment on research design or other factors in papers previously presented. Its purpose is for us to improve the quality of our presentations and, in some cases, to provide rebuttal to presented material. Comments on papers will only be published in this area if the paper was presented in Division II inviting constructive criticism.

Neither the International College of Applied Kinesiology®-U.S.A., its Executive Board, nor the membership, nor the International Board of Examiners, International College of Applied Kinesiology, necessarily endorses, approves of, or vouches for the originality or authenticity of any statements of fact or opinion in these papers. The opinions and positions stated are those of the authors and not by act of publication necessarily those of the International College of Applied Kinesiology®-U.S.A., the Executive Board or membership of the International College of Applied Kinesiology®-

U.S.A., or the International Board of Examiners, International College of Applied Kinesiology.

Instructions to Authors

Proceedings of the ICAK-U.S.A.

Manuscripts are reviewed for format, technical content, originality, and quality for reproduction. There is no review for authenticity of material.

The ICAK-U.S.A. recognizes that the usual procedure for selection of papers in the scientific community is a blind review. However, the purpose of *The Proceedings of the ICAK-U.S.A.* is to stimulate dialogue, creative thinking and critical review among its members; thus, review in this instance is not blinded. These papers are distributed only to the members of the ICAK-U.S.A. for general comment and evaluation, and for the members to put into perspective the validity of the described approaches. The purpose is to put before the membership primary observations that may lead to more in-depth study and scientific investigations, as well as spawn new areas of research. Such is to inspire progress in the field of applied kinesiology.

Statements and opinions expressed in the articles and communications in *The Proceedings of the ICAK-U.S.A.* are those of the author(s) and the editor(s). The ICAK-U.S.A. disclaims any responsibility or liability for such material.

The current ICAK-U.S.A. Status Statement appears in *The Proceedings of the ICAK-U.S.A.* It is recommended that procedures presented in papers conform to the Status Statement; papers that do not will be published and identified in the table of contents as failing to conform. Whenever possible, all papers should be supported by statistical analyses, literary references, and/or any other data supporting the procedure.

The ***Proceedings of the ICAK-U.S.A***. is published in **three divisions**:

I) Papers intended by the author as informative to the membership and not inviting critical review.

II) Papers inviting critical and constructive comments from the membership in order to improve the total value of the paper. Comments may be made on such items as research design, methods presented, clarity of presentation, and practical use in a clinical setting. The author must include with his/her paper written indication of desire for the paper to be included in the section inviting critical review or for informative purposes.

III) Review comments on papers published in Division II. These particular submissions are intended for constructive review. Opinions or editorials with negative connotations only may be rejected.

Manuscripts are accepted by the ICAK-U.S.A. for publication with the understanding that they represent original unpublished work. Delivery of a manuscript to the ICAK-U.S.A. Central Office does not imply it will be published in the Proceedings. Manuscripts are reviewed by the Proceedings Review Committee and authors will be notified in a timely manner of their manuscripts acceptance or rejection. The author may appeal any paper rejected to a separate committee composed of members of the Publications and Research Advisory Committees. The decision of this committee on publishing the paper will be final.

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.

All manuscripts (meaning any material submitted for consideration to publish) must be accompanied by a properly completed *RELEASE FORM*, signed by all authors and by any employer if the submission represents a "work for hire." Upon such submission, it is to be understood by all authors that no further dissemination of any part of the material contained in the manuscript is permitted, in any manner, without prior approval from the editor; nonobservance of this copyright agreement may result in the cancellation of the ICAK-U.S.A.'s consideration to publish.

Continuing call for papers includes:

Research studies (Investigations)—reports of new research findings pertaining to the enhancement of factors of health, causal aspects of disease, and the establishment of clinical efficacies of related diagnostic and therapeutic procedures.

Hypotheses—projections from previous observations that may establish a solid basis for further in-depth investigations.

Literature reviews—critical assessments of current knowledge of a particular subject of interest, with emphasis on better correlation, the identification of ambiguities, and the delineation of areas that may constitute hypotheses for further study. Meta-analyses are included here.

Clinical procedures—succinct, informative, didactic papers on diagnostic and therapeutic procedures, based heavily on authoritative current knowledge.

Case reports—accounts of the diagnosis and treatment of unusual, difficult, or otherwise interesting cases that may have independent educational value or may contribute to better standardization of care for a particular health problem when correlated with similar reports of others.

Case reviews—a retrospective comparative assessment of the diagnosis and treatment of several cases of a similar condition i.e., the comparative evaluation of two or more case reports.

Technical reports—the reporting and evaluation of new or improved equipment or procedures, or the critical evaluation of old equipment or procedures that have not previously been critically evaluated.

Commentary—editorial-like, more in-depth essays on matters relating to the clinical, professional, educational, and/or politicolegal aspects of health care principles and practice.

Critical review (Letters to the editor)—communications that are directed specifically to the editor that critically assess some aspect of the ICAK, particularly as such assessment may add to, clarify, or point up a deficiency in a recently published paper; authors are afforded the privilege of a counter-response.

The following editorial policies will apply:

Informed consent—Manuscripts that report the results of experimental investigations with human subjects must include a statement that informed consent was obtained, in writing, from the subject or legal guardian, after the procedure(s) had been fully explained with documentation that such procedures have been fully understood. Photographs or artistic likenesses of subjects are publishable only with their written consent or the consent of a legal guardian; the signed consent form, specifying any special conditions (e.g. eyes blocked off), must accompany manuscript.

Patient anonymity—Ethical and legal considerations require careful attention to the protection of the patient's anonymity in case reports and elsewhere. Identifying information such as names, initials, actual case numbers, and specific dates must be avoided; other identifying information about a patient's personal history and characteristics should be disguised.

Authorship—all authors of papers submitted to ICAK-U.S.A. must have an intellectual stake in the material presented for publication. All must be willing to answer for the content of the work. Authors should be willing to certify participation in the work, vouch for its validity, acknowledge reviewing and approving the final version of the paper, acknowledge that the work has not been previously published elsewhere, and be able to produce raw data if requested.

Conflict of interest—in recognition that it may at times be difficult to judge material from authors where proprietary interests are concerned, authors should be prepared to answer requests from the editor regarding potential conflicts of interest. The editor makes the final determination concerning the extent of information released to the public.

Acknowledgments—Illustrations from other publications must be submitted with written approval from the publisher (and author if required) and must be appropriately acknowledged in the manuscript.

Author responsibility—Manuscripts accepted for publication are subject to such editorial modification and revision as may be necessary to ensure clarity, conciseness, correct usage, and conformance to approved style. However, insofar as authors are responsible for all information contained in their published work, they will be consulted if substantive changes are required and will have further opportunity to make any necessary corrections on the proofs.

from the publisher. In particular, this policy applies to the reprinting of an original article in another publication and the use of any illustrations or text to create a new work.

Manuscript Preparation

Authors are requested to submit final manuscripts via email to icak@dci-kansascity.com or on computer disc (CD) to 6405 Metcalf Ave., Suite 503 Shawnee Mission, KS 66202. Each manuscript file should be titled with the author's last name and the manuscript tile. All manuscripts must be submitted in Microsoft Word.

The ICAK-U.S.A. does not assume responsibility for errors in conversion of customized software, newly released software and special characters. Mathematics and tabular material will be processed in the traditional manner.

Approved Manuscript Style

Manuscripts submitted for consideration to publish in *The Proceedings of the ICAK-U.S.A.* must be compiled in accordance with the following instructions, and manuscripts not so compiled are subject to return to the author for revision.

Summary of Requirements

Type the manuscript double-spaced, including title page, abstract and key words, text, acknowledgments, references, tables, and figure legends. (Note: footnotes should be avoided by including any necessary explanatory information within the text in parentheses). Do not break any words (hyphenate) at the end of any line; move to the next line if entire word does not fit.

Each manuscript component should begin on a new page, in the following sequence:

- Title page (page 1)
- Abstract and key word page (page 2)
- Text pages (starting on page 3)
- Acknowledgment page
- Reference page(s)
- Table page(s)
- Legends for illustrations pages(s).

Detailed Preparation Procedure

Begin each of the following sections on separate pages: title (including author name[s], address and phone number of principal author, etc), abstract and key words, text, acknowledgments, references, individual tables, and figure legends.

Units of measurement—In most countries the International System of Units (SI) is standard, or is becoming so, and bioscientific journals in general are in the process of requiring the reporting of data in these metric units. However, insofar as this practice is not yet universal, particularly in the United States, it is permissible for the time being to report data in the units in which calculations were originally made, followed by the opposite unit equivalents in parentheses; i.e., English units (SI units) or SI units (English units). Nevertheless, researchers and authors considering submission of manuscripts to the ICAK-U.S.A. should begin to adopt SI as their primary system of measurement as quickly as it is feasible.

Abbreviations and symbols—Use only standard abbreviations for units of measurement, statistical terms, biological references, journal names, etc. Avoid abbreviations in titles and abstracts. The full term for which an abbreviation stands should precede its first use in the manuscript unless it is a standard unit of measurement.

Title Page

The title page should carry (1) the title of the article, which should be concise but informative; (2) a short footline of no more than 40 characters (count letters and spaces) placed at the foot of the title page and identified; (3) first name, middle initial, and last name of each author, with highest academic degree(s); (4) names of department(s) and institution(s) to which work should be attributed; (5) disclaimers, if any; (6) name, address, phone, and fax number of author responsible for correspondence, proofreading of galleys, and reprint requests (usually principal author); (7) the source(s) of support in the form of grants, equipment, drugs, or all of these.

Abstract and Key Word Page

The second page should carry an abstract of no more than 150 words, 250 if using a structured abstract. The structured abstract is now required for all original data reports, reviews of the literature and case reports; prose abstracts will be accepted for use in only certain original papers not reporting data (i.e., position papers, historical treatises).

Please visit the following link online for helpful information on structured abstracts: www.soto-usa.org/Newsletter/DCInternetEdition/dc_internet_ed_vol_3_no3Abstrak/StructuredAbstracts.htm.

Below the abstract, provide, and identify as such, 3 to 10 key indexing terms or short phrases that will assist indexers in cross-indexing your article and that may be published

with the abstract. Use terms from the Index Medicus Medical Subject Headings (MeSH) as much as possible.

Text Pages

The text of observational and experimental articles is usually—but not necessarily—divided into sections with the headings Introduction, Materials and Methods, Results, Discussion, and Conclusions. Long articles may need subheadings within some sections to clarify or break up content. Other types of articles such as case reports, reviews, editorials, and commentaries may need other formats.

Please visit the following link online for helpful information on writing patient case reports:
www.soto-usa.org/Newsletter/DCInternetEdition/dc_internet_ed_vol_3_no3Abstrak/Green%20Johnson%20Case%20Reports.pdf

> Reference: Green BN, Johnson CD, Writing Patient Case Reports for Peer-Reviewed Journals: Secrets of the Trade Journal of Sports Chiropractic & Rehabilitation. 2000 Sep; 14(3): 51-9.

Introduction

Clearly state the purpose of the article. Summarize the rationale for the study or observation. Give only strictly pertinent references and do not review the subject extensively; the introduction should serve only to introduce what was done, why it was done and what could be done to address shortcomings or gaps in what we have learned from what was done.

Materials and Methods

Describe your selection of the observational or experimental subjects (patients or experimental animals, including controls) clearly. Identify the methods, apparatus (manufacturer's name and address in parentheses) and procedures in sufficient detail to allow others to reproduce the work for comparison of results. Give references to establish methods, provide references and brief descriptions for methods that have been published but may not be well known, describe new or substantially modified methods, give reasons for using them and evaluate their limitations.

When reporting experiments on or with human subjects, indicate whether the procedures used were in accordance with the ethical standards of the Committee on Human Experimentation of the institution in which the research was conducted and/or were done in accordance with the Helsinki Declaration of 1975. When reporting experiments on animals, indicate whether the institution's or the National Research Council's guide for the care and use of laboratory animals was followed. Identify precisely all drugs and chemicals used, including generic name(s), dosage(s), and route(s) of administration. Do

not use patient names, initials, or hospital numbers or in any manner give information by which the individuals could be identified.

Include numbers of observations and the statistical significance of the findings when appropriate. Detailed statistical analyses, mathematical derivations, and the like may sometimes be suitably presented in the form of one or more appendices.

Results

Present your results in logical sequence in the text, tables, and illustrations. Do not repeat in the text all the data in the tables, illustrations, or both; emphasize or summarize only important observations.

Discussion

Emphasize the new and important aspects of the study and conclusions that follow from them. Do not repeat in detail the data given in the Results section. Include in the Discussion the implications of the findings and their limitations and relate the observations to other relevant studies. Conclusions that may be drawn from the study may be alluded in this section; however, they are more formally presented in the section to follow.

Conclusions

The principal conclusions should be directly linked to the goals of the study. Unqualified statements and conclusions not completely supported by your data should be avoided. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted but clearly label them as such. Recommendations (for further study, etc), when appropriate, may be included.

Acknowledgments

Acknowledge only persons who have made substantive contributions to the study itself; this would ordinarily include support personnel such as statistical or manuscript review consultants, but not subjects used in the study or clerical staff. Authors are responsible for obtaining written permission from persons being acknowledged by name, as readers will infer their endorsement of the data and conclusions.

Reference Pages

References are to be numbered consecutively as they are first used in the text (placed in line in parentheses) and listed in that order (not alphabetically) beginning on a separate sheet following the text pages. The style (including abbreviation of journal names) must

be in accordance with that specified by the US National Library of Medicine: see recent January issue of *Index Medicus* for a complete listing of indexed journals.

Only those references that actually provide support for a particular statement in the text, tables, and/or figures should be used. Excessive use of references should be avoided; normally, 1 or 2 authoritative references to support a particular point are sufficient. A short article of up to 5 or 6 manuscript pages may be adequately supported by 5 to 10 references; longer articles of up to 20 pages by 15 to 25.

References must be verified by the author(s) against the original document. Abstracts, "unpublished observations" and "personal communications" may not be used as references, although reference to written (not verbal) communications may be inserted in parentheses in the text. Information from manuscripts submitted but not yet accepted may be referred to in parentheses in the text. Manuscripts accepted but not yet published may be included in the references with the designation "In press." When a previously cited reference is used again, it is designated in the text in parentheses by the number originally assigned to it by its first use: do not assign it another number or use the notation "op cit."

For the most part, sources of information and reference support for a bioscientific paper should be limited to journals (rather than books) because that knowledge is generally considered more recent and more accurate since it is customarily peer-reviewed. Consequently, the basic form for approved reference style is established by journal listings; others (books, etc) are modified from journal listings as may be required. A summary of journal reference style is as follows:

Last name of author(s) and their initials in capitals separated by a space with a comma separating each author. (List all authors when 6 or fewer; when 7 or more, list only the first 6 and add et al.)

Title of article with first word capitalized and all other words in lower case, except names of persons, places, etc.

Name of journal, abbreviated according to *Index Medicus*; year of publication (followed by a semicolon); volume number (followed by a colon); and inclusive pages of article (with redundant number omitted: e.g., 105-10).

Specific examples of correct reference form for journals and their modifications to other publications are as follows:

Journals

1. Standard article You CH, Lee KY, Chey RY, Menguy R. Electrogastrographic study of patients with unexplained nausea, bloating and vomiting. Gastroenterology 1980; 79:311-4.

2. Corporate author The Royal Marsden Hospital Bone-Marrow Transplantation Team. Failure of synergeneic bone-marrow graft without preconditioning in post-hepatitis marrow aplasia. Lancet 1977;2:242-4.

3. No author given Coffee drinking and cancer of the pancreas [editorial]. Br Med J 1981;283:628.

4. Journal supplement Magni F. Rossoni G, Berti F. BN-52021 protects guinea-pig from heart anaphylaxis. Pharmacol Res Commun 1988;20 Suppl 5:75-8.

5. Journal paginated by issue rather than volume Seaman WB. The case of pancreatic pseudocyst. Hosp Pract 1981;16:24-5.

Books and other monographs

6. Personal author(s) Eisen HN. Immunology: an introduction to molecular and cellular principles of the immune response. 5th ed. New York: Harper and Row; 1974. p. 406.

7. Editor, compiler, chairman as author Dausset J, Colombani J, editors. Histocompatibility testing 1972. Copenhagen: Munksgaard; 1973. p. 12-8.

8. Chapter in a book Weinstein L, Swartz MN. Pathogenic properties of invading microorganisms. In: Sodeman WA Jr, Sodeman WA, editors. Pathologic physiology: mechanisms of disease. Philadelphia: WB Saunders; 1974. p. 457-72.

9. Published proceedings paper DuPont B. Bone marrow transplantation in severe combined immunodeficiency with unrelated MLC compatible donor. In: White HJ, Smith R, editors. Proceedings of the 3rd Annual Meeting of the International Society for Experimental Hematology. Houston: International Society for Experimental Hematology; 1974. p. 44-6.

10. Agency publication Ranofsky AL. Surgical operations in short-stay hospitals: United States—1975. Hyattsville (MD): National Center for Health Statistics; 1978. DHEW publication no (PHS) 78-1785. (Vital and health statistics; series 13; no 34).

11. Dissertation or thesis Cairns RB. Infrared spectroscopic studies of solid oxygen [dissertation]. Berkeley (CA): University of California; 1965.

Other articles

12. Newspaper article Lee G. Hospitalizations tied to ozone pollution: study estimates 50,000 admissions annually. The Washington Post 1996 Jun 21; Sect. A:3 (col. 5).

13. Magazine article Roueche B. Annals of medicine: the Santa Claus culture. The New Yorker 1971 Sep 4:66-81.

Table Pages

Type each table on a separate sheet; remember to double-space all data. If applicable, identify statistical measures of variation, such as standard deviation and standard error of mean. If data are used from another published or unpublished source, obtain permission and acknowledge fully.

Using Arabic numerals, number each table consecutively (in the order in which they were listed in the text in parentheses) and supply a brief title to appear at the top of the table above a horizontal line; place any necessary explanatory matter in footnotes at the bottom of the table below a horizontal line and identify with footnote symbols *, †, ‡, §, , ¶, **, ††, ‡‡, etc.

Illustration Legend Pages

Type legends for illustrations double-spaced, starting on a separate page, following the table pages. Identify each legend with Arabic numerals in the same manner and sequence as they were indicated in the text in parentheses (e.g., Figure 1). Do not type legends on artwork copy or on pages to which illustrations may have been mounted; they must be typed on separate pages from the illustrations themselves.

When symbols, arrows, numbers or letters are used to identify parts of the illustrations, identify and explain each one clearly (if necessary) in the legend. Explain internal scale and method of staining in photomicrographs, if applicable.

Illustration Preparation

Illustrations (including lettering, numbering and/or symbols) must be of professional quality and of sufficient size so that when they are reproduced for publication all details will be clearly discernible; rough sketches with freehand or typed lettering are not encouraged. All illustrations should be submitted embedded in the manuscript document in the appropriate place.

If photographs of persons are used, either the subjects must not be identifiable or their pictures must be accompanied by written permission to publish the photographs.

Cite each figure in the text (generally in parentheses) in consecutive order. If a figure has been published, acknowledge the original source and submit a written permission letter from the copyright holder to reproduce the material. Permission is required, regardless of authorship or publisher, except for documents in the public domain*.

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Manuscript Submission Summary

Manuscript components

In terms of completeness of submission, the "manuscript" includes the following components:

- Manuscript electronically via email of CD (The author should be sure to retain the original file in case of loss of the submission copies in transit.)
- Release form (signed by all authors, and by employer if study was a work for hire).
- Permission letter(s) of permission to use previously published material in all forms and media (if applicable).
- Consent form(s) to publish photographs in which subjects may be identifiable (if applicable).
- Cover letter from principal author (or author specified as correspondent) providing any special information regarding the submission which may be helpful in its consideration for publication.

Submission Instructions

The manuscript should be emailed to the Central Office at icak@dci-kansascity.com. The Release Form should be completed and signed then fax to 913-384-5112 or mailed to:

The ICAK-U.S.A. Central Office
6405 Metcalf Ave., Suite 503
Shawnee Mission, KS 66202

Applied Kinesiology
Status Statement

International College of Applied Kinesiology-U.S.A.

The International College of Applied Kinesiology–U.S.A. provides a clinical and academic arena for investigating, substantiating, and propagating A.K. findings and concepts pertinent to the relationships between structural, chemical, and mental factors in health and disease and the relationship between structural faults and the disruption of homeostasis exhibited in functional illness.

A.K. is an interdisciplinary approach to health care which draws together the core elements of the complementary therapies, creating a more unified approach to the diagnosis and treatment of functional illness. A.K. uses functional assessment measures such as posture and gait analysis, manual muscle testing as functional neurologic evaluation, range of motion, static palpation, and motion analysis. These assessments are used in conjunction with standard methods of diagnosis, such as clinical history, physical examination findings, laboratory tests, and instrumentation to develop a clinical impression of the unique physiologic condition of each patient, including an impression of the patient's functional physiologic status. When appropriate, this clinical impression is used as a guide to the application of conservative physiologic therapeutics.

The practice of applied kinesiology requires that it be used in conjunction with other standard diagnostic methods by professionals trained in clinical diagnosis. As such, the use of applied kinesiology or its component assessment procedures is appropriate only to individuals licensed to perform those procedures.

The origin of contemporary applied kinesiology is traced to 1964 when George J. Goodheart, Jr., D.C., first observed that in the absence of congenital or pathologic anomaly, postural distortion is often associated with muscles that fail to meet the demands of muscle tests designed to maximally isolate specific muscles. He observed that tender nodules were frequently palpable within the origin and/or insertion of the tested muscle. Digital manipulation of these areas of apparent muscle dysfunction improved both postural balance and the outcome of manual muscle tests. Goodheart and others have since observed that many conservative treatment methods improve neuromuscular function as perceived by manual muscle testing. These treatment methods have become the fundamental applied kinesiology approach to therapy. Included in the AK approach are specific joint manipulation or mobilization, various myofascial therapies, cranial techniques, meridian therapy, clinical nutrition, dietary management, and various reflex procedures. With expanding investigation there has been continued amplification and modification of the treatment procedures. Although many treatment techniques incorporated into applied kinesiology were pre-existing, many new methods have been developed within the discipline itself.

Often the indication of dysfunction is the failure of a muscle to perform properly during the manual muscle test. This may be due to improper facilitation or neuromuscular inhibition. In theory some of the proposed etiologies for the muscle dysfunction are as follows:

- Myofascial dysfunction (microavulsion and proprioceptive dysfunction)
- Peripheral nerve entrapment
- Spinal segmental facilitation and deafferentation
- Neurologic disorganization
- Viscerosomatic relationships (aberrant autonomic reflexes)
- Nutritional inadequacy
- Toxic chemical influences
- Dysfunction in the production and circulation of cerebrospinal fluid
- Adverse mechanical tension in the meningeal membranes
- Meridian system imbalance
- Lymphatic and vascular impairment

On the basis of response to therapy, it appears that in some of these conditions the primary neuromuscular dysfunction is due to deafferentation, the loss of normal sensory stimulation of neurons due to functional interruption of afferent receptors. It may occur under many circumstances, but is best understood by the concept that with abnormal joint function (subluxation or fixation) the aberrant movement causes improper stimulation of the local joint and muscle receptors. This changes the transmission from these receptors through the peripheral nerves to the spinal cord, brainstem, cerebellum, cortex, and then to the effectors from their normally-expected stimulation. Symptoms of deafferentation arise from numerous levels such as motor, sensory, autonomic, and consciousness, or from anywhere throughout the neuraxis.

Applied kinesiology interactive assessment procedures represent a form of functional biomechanical and functional neurologic evaluation. The term "functional biomechanics" refers to the clinical assessment of posture, organized motion such as in gait, and ranges of motion. Muscle testing readily enters into the assessment of postural distortion, gait impairment, and altered range of motion. During a functional neurologic evaluation, muscle tests are used to monitor the physiologic response to a physical, chemical, or mental stimulus. The observed response is correlated with clinical history and physical exam findings and, as indicated, with laboratory tests and any other appropriate standard diagnostic methods. Applied kinesiology procedures are not intended to be used as a single method of diagnosis. Applied kinesiology examination should enhance standard diagnosis, not replace it.

In clinical practice the following stimuli are among those which have been observed to alter the outcome of a manual muscle test:

- Transient directional force applied to the spine, pelvis, cranium, and extremities.
- Stretching muscle, joint, ligament, and tendon

- The patient's digital contact over the skin of a suspect area of dysfunction termed therapy localization
- Repetitive contraction of muscle or motion of a joint
- Stimulation of the olfactory receptors by fumes of a chemical substance
- Gustatory stimulation, usually by nutritional material
- A phase of diaphragmatic respiration
- The patient's mental visualization of an emotional, motor, or sensory stressor activity
- Response to other sensory stimuli such as touch, nociceptor, hot, cold, visual, auditory, and vestibular afferentation

Manual muscle tests evaluate the ability of the nervous system to adapt the muscle to meet the changing pressure of the examiner's test. This requires that the examiner be trained in the anatomy, physiology, and neurology of muscle function. The action of the muscle being tested, as well as the role of synergistic muscles, must be understood. Manual muscle testing is both a science and an art. To achieve accurate results, muscle tests must be performed according to a precise testing protocol. The following factors must be carefully considered when testing muscles in clinical and research settings

- Proper positioning so the test muscle is the prime mover
- Adequate stabilization of regional anatomy
- Observation of the manner in which the patient or subject assumes and maintains the test position
- Observation of the manner in which the patient or subject performs the test
- Consistent timing, pressure, and position
- Avoidance of pre-conceived impressions regarding the test outcome
- Non-painful contacts -- non-painful execution of the test
- Contraindications due to age, debilitative disease, acute pain, and local pathology or inflammation

In applied kinesiology a close clinical association has been observed between specific muscle dysfunction and related organ or gland dysfunction. This viscerosomatic relationship is but one of the many sources of muscle weakness. Placed into perspective and properly correlated with other diagnostic input, it gives the physician an indication of the organs or glands to consider as possible sources of health problems. In standard diagnosis, body language such as paleness, fatigue, and lack of color in the capillaries and arterioles of the internal surface of the lower eyelid gives the physician an indication that anemia can be present. A diagnosis of anemia is only justified by laboratory analysis of the patient's blood. In a similar manner, the muscle-organ/gland association and other considerations in applied kinesiology give indication for further examination to confirm or rule out an association in the particular case being studied. It is the physician's total diagnostic work-up that determines the final diagnosis.

An applied kinesiology-based examination and therapy are of great value in the management of common functional health problems when used in conjunction with information obtained from a functional interpretation of the clinical history, physical and

laboratory examinations, and from instrumentation. Applied kinesiology helps the physician understand functional symptomatic complexes. In assessing a patient's status, it is important to understand any pathologic states or processes that may be present prior to instituting a form of therapy for what appears to be a functional health problem.

Applied kinesiology-based procedures are administered to achieve the following examination and therapeutic goals:

- Provide an interactive assessment of the functional health status of an individual which is not equipment intensive but does emphasize the importance of correlating findings with standard diagnostic procedures
- Restore postural balance, correct gait impairment, improve range of motion
- Restore normal afferentation to achieve proper neurologic control and/or organization of body function
- Achieve homeostasis of endocrine, immune, digestive, and other visceral function
- Intervene earlier in degenerative processes to prevent or delay the onset of frank pathologic processes

When properly performed, applied kinesiology can provide valuable insights into physiologic dysfunctions; however, many individuals have developed methods that use muscle testing (and related procedures) in a manner inconsistent with the approach advocated by the International College of Applied Kinesiology–U.S.A. Clearly the utilization of muscle testing and other AK procedures does not necessarily equate with the practice of applied kinesiology as defined by the ICAK–U.S.A.

There are both lay persons and professionals who use a form of manual muscle testing without the necessary expertise to perform specific and accurate tests. Some fail to coordinate the muscle testing findings with other standard diagnostic procedures. These may be sources of error that could lead to misinterpretation of the condition present, and thus to improper treatment or failure to treat the appropriate condition. For these reasons the International College of Applied Kinesiology–U.S.A defines the practice of applied kinesiology as limited to health care professionals licensed to diagnose.

Approved by the Executive Board of the International College of Applied Kinesiology–U.S.A., June 16, 1992. Updated May, 2001.

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Division I

Informative Papers

Attack Against Aging: Applied Kinesiology in Diagnosis and Correction of Aging of the Skeletal System

Tatiana N. Chernysheva, M.D., Ph.D., D.O., DIBAK; Victoria N. Galay, M.D.; Roman P. Galay, M.D.

Abstract

Objective: To evaluate the possibility of regulating the aging process through estimation of changes in the human body by radionuclides and correlated element composition of the bone tissue. It is hypothesized that similar changes can be detected in response to bone tapping (percussion) by applied kinesiology techniques.

Materials and Methods
A human being own natural radioactivity is closely related to supraphysiological mechanism of aging.

Previously it was shown that a man becomes a source of high-energy electromagnetic radiation at the time of birth. Human bone tissue is a place of the main depositing of natural radionuclides. The content of radioactive isotopes in the bone tissue depends on age. Regeneration of the isotope composition of skeletal tissues probably can slow the aging process.

Results
The first method used is monitoring of mineral metabolism decline by blood values. Observations over the changes in hormone concentrations were made by somatotropin and testosterone (in males).

The second method is AK tapping technique by George J.Goodheart, D.C. Tapping the ribs and pelvic bones was performed, because loss of bone tissue in women and men starts from these bones. And along with this the positive challenge was detected i.e. an indicator muscle became weak.

Taking of the mineral isotopic complex individually determined by using nosodes testing was prescribed. Experimental and control measurements were made: growth hormone and testosterone levels in the blood increased up to 7% as compared to appropriate age-related levels.
Reference diagnostic data were obtained by means of solid-state gamma-emission detector.

Key Indexing Terms
Aging Regulation, Radionuclides, Bone Tissue, Regeneration, Isotope Composition

Introduction

There are various views on mechanisms of aging: Mutations Accumulation Theory, Disposable Soma Theory, Epigenetic Theory of Aging, Mitochondrial Theory, Somatic Mutation Theory, Free-Radical Theory, Gompertz–Makeham Law of Mortality, evolutionary theories of aging and longevity, endocrine and genetic theories of aging and others. One of the observational methods forage evolution is the analysis of changes in bone tissue. And isotopic analysis is an informative tool in such surveys.

Human bone tissue is not only a storage place of the main mass of inorganic compounds, but it is also a basic place of deposition of the natural radionuclides [Abramov et al (2011)].

It is known that radionuclides form soluble and insoluble compounds in the internal environment of the human body. The organ for primary depositing of soluble compounds, which are removed from the body with urine, is the human skeletal system in 90% of cases. The remaining insoluble compounds are deposited in the upper respiratory tracts in 99% of cases [Golutvina et al (1989)].

Human own radioactivity is cyclic by nature. Gamma radiation peaks were registered five times a day. Within a day, energy is redistributed in a human and released by him in certain periods. The natural radionuclides such as Radium and its daughter products, ^{40}K, ^{235}U, ^{214}Bi, ^{232}Th – which are distributed in the human body – take an active part in the process [Krichkov A, Shnaybel O (2013)].

Investigations were performed which allowed to identify the moment when a human becomes a source of gamma activity – electromagnetic wave in the gamma radiation spectrum (short wave portion of the electromagnetic spectrum).

Measurements were conducted at the moment of baby delivery and at the moment of his first breath. The fact of measured activity of the radionuclides was detected. Emergence of new radionuclides (such as ^{231}Pa, ^{7}Be, ^{22}Na, Pu) which were not peculiar for a mother during contractions and her environment was observed. The above radionuclides were the source of gamma radiation that was registered in the time interval of 60 seconds to 300 seconds from the first breath. Then this gamma radiation disappeared. Newborns who were not viable and died in the first hours after birth, did not have such radiation [Krichkov A, Shnaybel O (2012)].

Human bone tissue is a place of the main deposition of natural radionuclides. The content of radioactive isotopes in the bone tissue depends on age.

Evaluating changes in the human body by radionuclides and correlated element composition of the bone tissue it is possible within the certain limits to regulate the aging process.

It is hypothesized that similar changes can be detected in response to bone tapping (percussion) by applied kinesiology techniques. And the obtained data could be used for age correction of the human body through supraphysiological mechanism taking into account Goodheart's triad of health.

Materials and Methods

It is known that bone tissue is a special type of connective tissue taking part in the water and salt exchange. The chemical composition of the bone tissue is as follows: water - about 50%, fats - 15.75%, other organic substances - 12.4%, inorganic substances: 21.85%. Ossein (an organic substance) makes bones elastic and gives them their shape. Inorganic substances making up 21.85% are distributed as follows: calcium salts (87%), magnesium phosphate (2%), calcium carbonate (10%), calcium fluoride, sodium carbonate and sodium chloride (1%).

"The bone substance loss is considered to occur after 30 in people of both sexes. The mineral density loss rate in men is 0.3-0.5% per annum, and this index remains the same for their life term. In women, the process of reduction in the bone mass density is more complicated. Prior to the menopause, it flows in parallel with men and achieves 0.7-1.3% per annum. After the menopause, the bone mass loss is accelerated to reach 2-3% a year for the first five to ten years, and then the bone mass density is further reduced by 1% per year on average for ten years after the menopause." [Shostak NA (2011)]

In accordance with up-to-date studies, there are data on the content of inorganic substances in the bone tissue and on the direct ratio between the concentration of inorganic substances and man's age.

For example, the following elements – 62 in total– were detected in the teeth samples using the high-resolution mass spectrometry method with the sample ionization in inductively coupled plasma (ICP MS):Li, Be, Na, Mg, Al, K, Ca, Sc, Ti, V, Cr,Mn, Fe, Co, Ni, Cu, Zn, Ga, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Rh, Pd, Ag, Cd, Sn, Sb, Te, Cs, Ba, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Re, Ir, Pt, Au, Hg, Tl, Pb, Bi, Th and U [Krymova et al (2007, 2008)].

It follows from updated data on the bone tissue studies that the amount of inorganic compositions distributed in the bone tissue declines steadily as a man become older. The concentration of inorganic elements begins falling down at the age of 21-25, i.e. from the moment when the bone tissue formation has been completed. There is a slow reduction in the concentration of elements up to the age of 40. Then apparent regression is observed. [Kaplan AV (1984)]

The dynamics of the mineral composition of the bone tissue is as follows:

"Women aged 21-85. The Percentage of Minerals (PM) at the age of 51-55 reduces in the trunk, ribs, spine and pelvic bones. At the age of 56-60, the PM reduces significantly in ribs, pelvic bones and trunk. The PM is practically unchanged in the cranial bones and extremities. At the age of 66-70, the PM reduces the most heavily in ribs and pelvic bones. At 76-80, the most essential loss of minerals takes place in the spine. At the age of 81-85, the minimum mass of minerals is observed in ribs, spine, pelvic bones and lower extremities." [Sveshnikov et al (2007)]

Men aged 21-85. The first signs of demineralization become evident in the pelvic bones at 50. At the age of 55 the further reduction in the content of minerals is also observed only in the pelvis. At 56-60 the loss of minerals occurs in ribs. The third demineralized segment – the trunk – appears at 61-65. At the age of 66-70 the upper and lower extremities are affected. Spine and cranial bones are affected at the age of 71-75. The greatest extent of demineralization is observed in pelvic bones, ribs, trunk and upper extremities at the age of 76-80. At the age of 81-85 the minimum mineral mass is observed in the pelvic bones, ribs and trunk [Sveshnikov et al (2007)].

Since the most part of natural radionuclides is deposited in the human skeletal system, excretion of natural radionuclides from the body is in sync with the bone tissue decomposition [Frolkis VV (1988)].

Results

The hypothesis of our study is that regeneration of the isotope composition of skeletal tissues can slow the aging process.

The first method used is monitoring of mineral metabolism decline by blood values. Observations over the changes in hormone concentrations were made by somatotropin and testosterone (in males). To a certain degree, bone formation depends on number and activity of osteoblasts. Somatotropin (Growth hormone) and estrogens have an effect on bone tissue formation. These hormones stimulate division of osteoblasts and conversion of preosteoblasts into osteoblasts. In contrast, glucocorticoids suppress division of osteoblasts.

Indeed it is known that growth hormone and testosterone levels decrease with age [Bhasin, et al (2011)].

During examination of 60 patients mineral isotopic complex containing isotopes of Zn, Mn, Cu, Mg, Fe, Ca, Cr and others was determined by using nosodes testing.

After six months of taking of the mineral isotopic complex, growth hormone and testosterone levels in the blood increased up to 7% as compared to appropriate age-related levels.

The second method used is AK tapping technique by George J. Goodheart, D.C.

There is spondylogenic reflex tapping. We performed tapping the ribs and pelvic bones, because in accordance with the above mentioned facts loss of bone tissue in women and men starts exactly from these bones. And along with this the positive challenge was detected i.e. an indicator muscle became weak. There were no any injuries and pain in these bones in past medical history.

Changes in ribs and pelvis which could be evaluated as the early stages of osteoporosis were often detected by the ultrasound densitometry of these bones.

In our patients (70% of cases) the positive tapping was negated by placing the mineral isotopic complex in the patient's mouth. The composition of the complex was chosen by nosodes testing. The mineral isotopic complex consisted of 14 – 16 isotopes, including Zn, Mn, Cu, Mg, Fe, Ca, Cr, P, F and so on. Placing of native substances in the patient's mouth did not provide tapping negativation.

After taking the mineral isotopic complex for 6 months tapping of the ribs and pelvis was negative.

Subjectively all the patients noted increase in energy, good mood and improved performance.

Enhancement of skin turgor and color was observed. General rejuvenating effect on the whole body was felt.

In order to get reference diagnostics ^{40}K content was measured using solid-state gamma-emission detector.

Experimental measurement was made before treatment with the mineral isotopic complex. A patient was given a double dose of the above substance and then during one and one-half to three minutes the gamma radiation of radionuclide ^{40}K increased more than two times (Figure 1A).

After taking the mineral isotopic complex for six months measurements were repeated (Figure 1B). However increase of the gamma radiation of radionuclide ^{40}K was not observed probably due to saturation of the bon system.

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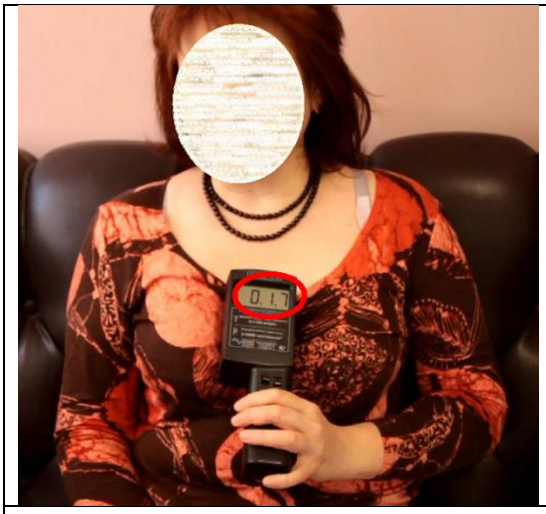
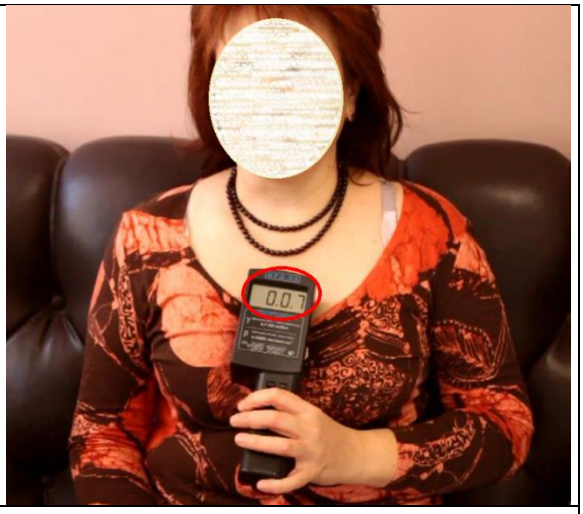
Figure's legend:



A)



B)

Figure 1.Solid-state gamma-emission detectors of Canberra Industries, Inc (USA) GC10021 No b08108, fitted with pulse analyzer DSA-1000 No 00000699 and software Genie-2000 (V3.2.1), certified under ISO-9001.
A) – before treating, B) after treating

Car Accident Complications An Unexpected Finding- A Case History

Robert Ozello, D.C., DIBAK

Abstract

A case history of a car accident with right sided abdominal pain presented.

Introduction

The relationship between car accidents and resulting symptoms throughout the body are well established. Medications can complicate the scenario and must always be taken into account when assessing the patient.

Discussion

A 44 year old female presented with headaches, neck, shoulder and low back pain. She was rear ended in a car accident two days prior. She had been a patient for several years and had always responded well to care. She had thyroid cancer several years prior to seeing me. She had surgery and the radioactive cocktail to remove the thyroid. She was on synthroid since then.

Applied kinesiology examination revealed a universal intrerosseous cranial fault and temporal bulge. There were multiple muscle imbalances that were treated with proprioceptor technique and strain and counterstrain technique. Multiple subluxation and fixations were corrected.

The patient progressed steadily. However, the patient reached a plateau when upper trapezius and neck soreness would return shortly after the treatment. More alarmingly she was starting to have right sided abdominal pain especially at the ileocecal valve (ICV). This pain would wake her up at night. This area was extremely sensitive to palpation.

I continued treatment for several more visits with no change except that the abdominal pain was becoming worse. She always felt much better after the treatment, but the symptoms returned. I then questioned her about diet and nutrition. She was not taking any nutritional supplements. She was also on an entirely home cooked low carbohydrate diet with almost no gluten. I had put her on this diet and it had helped her immensely in the past.

I then asked her about medications. She had switched from synthroid to Armour for her thyroid a couple of weeks after treatment for the car accident started. She felt she would

rather be on something bio-identical. She had some of the Armour with her. After the treatment the symptoms were much improved. I then placed one of the Armour tablets in her mouth. Upon palpation the tenderness in the upper trapezius and ICV increased dramatically

I then instructed her to return the next day with some synthroid. When she returned I palpated the upper trapezius and IVC which were quite tender. I then placed the synthroid in her mouth and the tenderness was negated.

I instructed her to talk to her endocrinologist and tell him that she was reacting poorly to the Armour and she wanted to switch to the synthroid. The doctor switched her back and within a week she was symptom free.

I had attended Dr. Datis Kharrazian's "Mastering the Thyroid" seminar. In one section he discussed thyroid hormone replacement. Sometimes a patient will respond better to one form of thyroid preparation over another. Also the patient may respond poorly to the binders and additives in the medication.

Conclusion

It is important to always reassess the case and keep an open mind if the patient is not responding. By asking questions I was able to catch a change in medication that was making the patient feel worse.

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Discussion of an Expanded Model of Thinking and Application

John Erdmann, D.C., DIBAK, D.C.B.C.N.

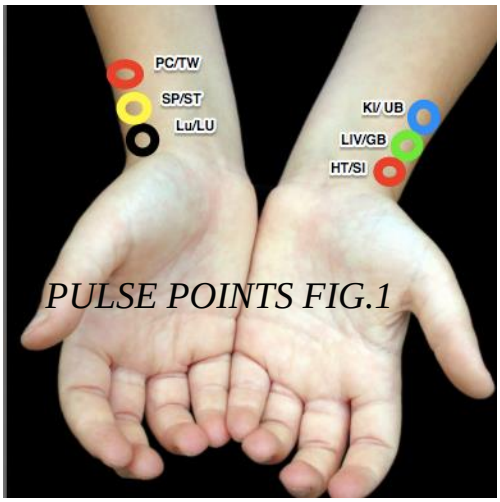
Abstract

Muscle testing and applied kinesiology is the art of observing and communicating via physiology of the human body. The only limitation is in the mind and abilities of the doctor. Once the mechanics of how to do applied kinesiology have been learned, I believe it is important to question and understand exactly what we think we are testing and to try and diagnose the root causes.

Discussion

Applied kinesiology has attracted some of the smartest, innovative and dynamic healthcare doctors in the world. That being said, some of our students, doctors, and Diplomates never re-examine and challenge some of their most basic tenets in light of different situations and conditions.

A standard application for example is the "assumption" that a positive challenge or the "turning on" of a previously inhibited muscle, generally means it would be good to supplement with said treatment. In the case of Dr. Walter Schmitt's "Clorox® Sniff Test", this is not the case but is used to direct our thinking. Or perhaps a positive Zinc Tally test indicated Zinc supplementation at the most basic level or it could mean much more aggressive support as in heavy metal toxicity and in the simplest supplementation of Zinc could imbalance other minerals like copper and make the heavy metal condition more unstable.



PULSE POINTS FIG.1

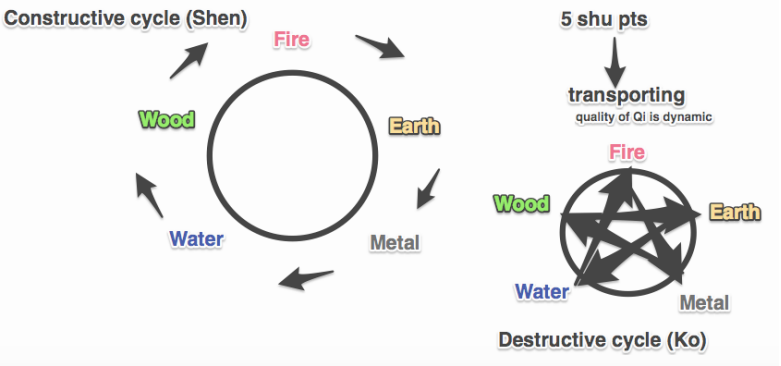
As discussed in my previous paper, I would like to tackle some of our basic ideas and corresponding therapeutic corrections in the standard meridian pulse point application. The way we approach and interpret the results of muscle testing can have a huge impact on our therapeutic application. The basic pulse point diagnosis taught in the 100-hour certification course uses a positive indicator muscle challenge test to each of these six points. We are taught three basic strategies: 1. Only one point of six is weak 2. Multiple points can be weak 3. No points are weak.

We are taught that the second and third scenarios are rare or an aberration. We are given a simple Shen and Ko Cycle strategy with master point chart to correct these.

I agree the other two scenarios are rare, but they are not aberrations let alone an apparition. The devil is in the details of how we are thinking it works. If we go back to the idea of the five Zang, Su Ann classic, the different pulses to feel, five elements as discussed in my first paper, then we may come up with a much more complete and core diagnosis.

In this paper, we will address only the first scenario. We test and find only one indicator pulse point to cause a previously strong indicator muscle to weaken. We then find correctly one of its associated element muscles. In the basic AK course we are taught to go to that muscles Alarm (Mu) Point and if strengthens; then, to use that meridians tonification point. We are, for this discussion, ignoring the scenario where you don't find the same meridian Mu point to strengthen.

Now, supposing we step back and observe like the master TCM AK doctor. We should look to the yin & yang pair, look to the shen and Ko connection, look into the associated Yin "Su Ann" observations:



1. Find active pulse point
2. Find associated weak muscle
3. Does strengthen to Alarm Pt.
4. Go backwards on SHEN
5. Go across on Ko (control)
6. See who controls its Ko
7. See how any Su Ann apply

Eg. Latissimus muscle strengthens to spleen alarm (Liv 13), check spleen stomach symptoms, back up to fire element for failing to nourish and check heart primarily (face color, sweat easy, anxiety), then go to its Ko or grandchild, Water (any hair loss, growth, bone chronic immune, inflammation/ water problem) then its grandparent, Wood (anger issues, blood stagnant, nails, eyes pain or recent vision loss). Assuming spleen was over controlling, wood was not. Then you would diagnose overactive spleen that depleted its source and has failed to nourish its child. Treatment would be nourish/supplement metal, stimulate wood to control spleen, adjust subluxations throughout (but look to chiropractic organ levels as well as the bladder associated channel level) sedate spleen or use luo point on the spleen (especially if weak stomach), etc.

Conclusion

If we can better see the body and learn its language and all its subtle ways, muscle testing no longer becomes a cookie cutter approach, rather a back door around a troublesome patient. Knowing when to tonify and sedate is great, but knowing when not to tonify and or sedate and for the real channel not just the one testing weak, whether to team support or do less is the exacting information only muscle testing can give us. Muscle testing for mastery instead of ineptitude.

Su Ann- ancient text observations

Liver
Stores blood, ensures the smooth flow of Qi, controls the sinews, manifests in nails, flows into the eyes, controls tears, houses the ethereal soul, is affected by anger.
Heart
Governs blood, manifests in complexion (face), houses the mind (states like anxiety, manic), related to joy, opens to the tongue, controls sweat.
Spleen
Governs transportation and transformation, controls ascending of QI, controls the blood, Controls muscles and four limbs, opens into the mouth and manifests in the lips, controls saliva, controls the 'raising' of QI, houses the intellect 'Yi', affected by pensiveness.
Only Yang Stomach
Controls 'receiving', controls rotting and ripening of food, controls transportation of food essences, controls descending of QI, origin of fluids.
Lungs
Governs QI and respiration, controls channels and blood vessels, controls diffusing and descending of QI, regulates all physiological activities, regulates water passages, controls skin and hair, opens to the nose, controls nasal mucus, houses the corporeal soul.
Kidney
Store the essences (Jing) and governs growth, reproduction and development, produce marrow, fill up the brain and control bones, govern water, control the reception of QI, open to the ears, control spittle, manifest in the hair, control the two lower orifices, house the will-power (Zhi), control the gate of life (Minister Fire Ming Men).

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Hiatal Hernia and Failure to Thrive

Tyran Gregory Mincey, D.C., DIBAK

Abstract

The objective is to share a case history of an child aged six with a sliding hiatal hernia. We used solar plexus stimulation assessment (SPSA) to discover digestive dysfunction and then the honed in on and verified the cause was corrected and re-evaluated with SPSA. Failure to thrive is a common occurrence on a functional level with children surviving off junk packaged foods and carbohydrates being chronically consumed. The case study shows a single case; its improvement and a simple method used for follow-up assessment.

Key Indexing Terms
Failure to Thrive, Chiropractic, Applied Kinesiology, Hiatal Hernia, SPSA, Herbs, Manual Muscle Text, MMT, Nutrition, Physiological Phenomena, Functional Medicine, Stomach, 2nd Brain, Large Intestine, Colon, Ileocecal Valve

Introduction
Children may be the most commonly overlooked group with digestive problems. This is not surprising as functional digestive problems are grossly overlooked in adult populations as well. The digestive tract contains several functional valves; these include the Iliocecal, colic, valve of houston, cardiac sphincter, lower esophageal sphincter, and anus. Children have the same anatomy as adults and dysfunction of these valves may cause health problems. There are certain cultural and ingrained mentalities that exist where a child's complaint may be ignored or taken less seriously - unless of course there is gross weight loss, trauma, or projectile vomiting, or fever.

Jargon relating to failure to thrive - Hiatal hernia, Ileocecal valve also abbreviated “ICV,” “Meridian therapy” is the stimulation of acupuncture points that alter function and energy in energetic pathways called “meridians.” Nutritional support would be those supplements given to assist structural corrections. “Diet modification” means changes made to patients’ diets. “TFL” is short for the Tensor Facia Lata a muscle which originates between the ASIS and the middle and lateral aspect of the external surface of the iliac crest and attached on the lateral thigh on the Iliotibial band (IT band) a thickening of the fascia lata. “TS Line” Stands for Tempero-Sphenoidal line, a mostly diagnositic palpatory line located bilaterally on the skull near the temporal and sphenoidal areas. The clinician palpates this line for nodules that correspond with muscle and possible organ imbalance.

Case report
A six year old female was chronically ill on and off for four years. The parents could hardly travel or go on vacation. Ultimately during vacation the child would end up with some sort of allergic type reaction and in the hospital. The family was referred to the practice by a family who had good outcomes with their child suffering from hyperactivity.

Intake examination revealed an underweight child with pale skin, cold extremities, and chronic rhinitis. She was shy and introverted. Standard examination findings that included vitals, pulse, blood pressure, were within normal limits. But more detailed exam findings revealed, orthostatic hypotension, low basal temperature, a positive solar plexus stimulation assessment, which led to further investigation of the full digestive tract in this child. The exam revealed tenderness in the area of conception vessel 14 and in the right lower quadrant. Tenderness was not rebound, no fever was present and the problem was chronic - years, which ruled out appendicitis. Forced vital capacity was measured and was low, indicating sub-optimal diaphragmatic function.

Muscle testing outcomes revealed; bilateral conditional inhibition of the pectoralis major clavicular, tensor fascia lata, and lower and middle to trapezius.

Diagnosis
Sliding hiatal hernia with an associated hypoacidity and reflexive Ileocecal valve syndrome. We chose first two remove the hiatal hernia, then addressed diaphragm function. The patient was given herbal digestive enzymes Digest Plus - Nutri-West, then management was as per Walther in The Applied Kinesiology Synopsis standard reflexes for an open ICV were tested and in this case all were active, these were treated with hard digital pressure, or other standard methods.

Follow up re-evaluation which included solar plexus stimulation Assessment (SPSA) was now negative and the parents reported fewer allergic reactions, improved eating, and sleeping patterns. After almost 100% improvement the patient was release from care. Several months later they returned for a follow-up visit because very mild symptoms had begun to return. The patient had grown substantially, circulation improved, she was happy, bright, and doing well and an adjustment was needed as well as nutritional support and patient was released for future care.

Discussion

We know that good health is of paramount importance in any human. In our contemporary society and industrialized nation, food processing is a major area of assault - antibiotics, hormones, additives, immunizations, other ingredients, and consuming foods not intended for one's genome, as well as the introduction of foods too early in the child's life may play a role in the future poor health of the digestive system and the immune system. Failure to thrive represents a gross failure to get nutrition into, absorbed, utilized, and eliminated. The immune system surrounds the gut, so any assault on the digestive tract especially when immature may have unpredictable consequences later. When managing patients with any type of immune

related problem it is important to assess good health by looking at the digestive process and the elimination process. This can be done in many ways; the solar plexus stimulation assessment method is a quick way to assess for general digestive problem, especially in the child who we can muscle test. Combined with this the power of structural manipulation, and visceral manipulation which is grossly underestimated and should be employed in all cases.

It seems these days that a large part of healthcare consists of undoing what people and fancy marketing firms have convinced them to-do-to themselves and their children.

Conclusion

Children have digestive problems too! The assessment and discovery can be easily accomplished via thorough history and exam. The correction involves not only the management of the child but management of the person responsible for the child's care who may be the primary cause of the actual problem because of poor lifestyle choice. Clinicians must add standard management of this condition to their armamentarium after having appropriately ruled out more dangerous conditions that may have a similar presentation.

Acknowledgements are made to Nutri-West, Integrated Healthcare of Montclair LLC, and the ICAK-U.S.A.

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Psychological Side of the Triangle of Health

Paul T. Sprieser, D.C., DIBAK

Abstract

The psychological side of the triangle of health became one side of the symbol of applied kinesiology, which was an equilateral triangle with the other two sides being structural and chemical. This side in the treatment of patients is sometimes overlooked because it is not the normal approach to chiropractic care that we learn in our undergraduate training.

Two separate case studies will be presented that show the outstanding results for one or two treatments, with no reoccurrences. The first case will be on a phobia with more then five years and the second case was structural foot condition with three years of stabilization.

Introduction

The psychological side was added to AK in 1976 with the completion and organization of information by Walther, and the symbol for this system appeared on the first book published on Systems DC. This came about because of John Diamond, M.D., a psychiatrist, from Australia becoming a member of ICAK, also in 1976, followed by a California psychologist Roger Callahan, taking the basic AK 100-hour course in 1980. This information I confirmed through Robert Blaich, D.C., who with Dave Walther, D.C. taught Callahan, PhD.

I first became very interested in 1985 with the publication of the "Five Minute Phobia Cure," by Callahan, PhD[2]. I read this book and used the information periodically to treat various phobias.

The study took about a year to collect the data on 106 patients looking at the effect of Thought Field Therapy (TFT) on Autonomic Nervous System (ANS),[3] and the body's homeostasis. What I measured were the before and after treatments with TFT, Range of Motion (ROM), Blood Pressure (BP), Pulse Rate (PR), Oral Ph and Axillary Temperature.

Diamond's first paper was "The Importance of Being Centered,"[4] and the second was more tied to the emotion "The Face-Body Link: An Insight into Psycho-Somatic Illness,"[5]this brought the psychological side of health care into AK. The next paper appears in1979, "Emotional Erase", by Victor, L. Frank[6], followed by "A Rapid Treatment for Phobias" and "Psychological Reversal," Roger Callahan, Ph.D.[7,8] in 1981. Other papers that appeared in the Proceedings of the Annual Meeting, "Stress and the Mental Side

of the Triangle" 1981, Daniel Klein, and the last paper I want to mention list under the title of emotion in the in the Proceedings of the Annual Meeting in 1991[9], "Self Identification and Stress," by Dale Schusterman, D.C.[10]

Discussion

I had started using the psychological method in my practice after the publication of Callahan's, "Five Minute Phobia Cure", in 1985. I would use it periodically when a patient brought to my attention emotional problems such as phobia agoraphobia-open spaces or social, claustrophobia-confined or closed spaces, ophiciophobia-snakes, acrophobia-heights). I would also use it when I was having problems with reoccurrence in patient symptoms. I would check the patient for Psychological Reversal (PR) to make sure they want to heal and recover.[11]

In 2000 a patient who was an MSW therapist came into the office with a copy of "Energy Psychological,"[12] that she had just read. I looked through the book and bought a copy and read it and came to the realization that this system became much more that just a method for treating phobia. It had developed into a complete psychological system to treat all type of psychological/emotional conditions including addictions, anxiety, and depression.

Case Histories

Case #1: A young male patient at the time of treatment was 17 years of age, during this particular visit on 5/4/09, he had come to the office because of what he descried as a "Visual Snow," that would occur when he was reading. I had treated him since he was an infant for many different problems over his seventeen years. On this particular visit he mentioned that he had fear of heights (acrophobia), however I'm not quite certain how this had came up on that particular day.

I asked him if he wanted to be over the fear and his answer was yes. I explained Thought Field Therapy, and how this would be applied in acrophobia. At the end of the office visit for his current symptoms I applied this treatment system, which I will explain later.

The whole treatment protocol took me about six or seven minutes to apply and at the end of the treatment he stated his fear was gone. I took him up stairs to a bedroom with a deck off of it and went on to the roof of my office. He stated at this point his fear of heights was gone. Over the next five years, when he would come in for treatments, I would always ask him if his fear of heights had ever returned and his answer was always no.

On 8/4/14 the patient's mother came in for a number of problems that were bothering her and she jokingly said she was mad at me; I was confused, so I asked her why and what I might have done to cause this. She said it was because I had gotten rid of her son's fear of heights. I said I don't understand. She then proceeded to explain that her son had

made a YouTube video about his band and he filmed it and put it to music while tandem skydiving. Now I know what her concerns were, but I was quite surprised at the results of only one treatment and the length of time the correction had lasted.

Case #2: A female psychologist, who's husband was transferred to New Jersey to take a position as CIO of a large insurance company. The treating chiropractic physician was Dr. Dan Duffy, Jr., who referred the family to me for continuing care. The first visit was on 10/27/11 and she described an ankle and foot problem that she had developed while jogging. I examined her foot and ankle and found tarsal tunnel syndrome and treated it with AK procedures. After a few visits she was feeling better, however on 12/05/11, during a re-examination of the left foot and ankle she said that she though the foot pains and symptoms had some emotional connection.

I thought to myself okay, you're a psychologist, so I decided to use TFT and one element of NET, which I remember Scott Walker, D.C. using during his presentation at the Atlanta, GA, ICAK-USA Annual Meeting June 2001. I made my structural and muscular correction of the left
ankle and foot joints. This I followed up by trying to track down the emotional component by using a longitudinal timeline to find the age of the patient when this emotional trauma occurred. I will explain this in more detail later in this paper.

The age of this patient's trauma was 26 and she explained that she had had a miscarriage and was suicidal at that point. Using this information I found a treatment point that negated the muscle weakness on 12/05/11, in this case to be K27 with a SUD of six. The second visit using TFT on 12/12/11, the SUD was two and the treatment point was SI-19. That was the last time I had to treat the tarsal tunnel syndrome and it has currently lasted three years and the patient is still running pain free.

Methodology

Thought Field Therapy began as observation of Roger Callahan, Ph.D., who studied AK with Drs. Walther and Blaich in 1980. He published ten papers in the Proceedings of the Annual Meeting from 1981 thru 1989, and his first book "The Five Minute Phobia Cure,"1985, and his last book "Tapping The Healer Within" in 2001.[13]

This system is very easy to use and understand and a very valuable tool in chiropractic practice. However, some of the information presented in many of the books written by different authors has shown the correction of switching along with what was termed polarity was not mentioned in either of Callahan's books as part of the treatment procedures.

Treatment Protocol

1.) Psychological Reversal (PR): This is a system to make sure that the conscious and subconscious are in agreement. Simply stated, a positive statement should not cause a weakness in a strong indicator test muscle and a negative statement would cause a weakness. This is similar to NET's Personal Declarative (PD). A verbal challenge of five specific statement said by patient 1.) I want to be over the problem, 2.) I want to be

over the problem forever, 3.) I deserve to be over the problem, 4.) It is safe to be over the problem and finally, 5.) I will do what is necessary to be over the problem.

If a weakness occurs during the positive statement contacting SI-2 and SI-3, will negate the weakness and treatment can be done by tapping these points vigorously for 15 seconds. Small Intestine meridian run along the fifth metacarpal and proximal phalange bones of the pinky. Patient is tested while making the above statements if a weakness takes place it is positive. Then tapping of SI-2 and SI-3 on both hands is done when statements are repeated three time this corrects psychological reversal.

2.) Subjective Unit Discomfort or Desire (SUD): The quantification of patient problems (phobia, addictions, depression, self esteem, pain) is scaled from one to 10, one being the lowest and 10 being the highest. Ask the patient to quantify their problem at the present time, which will give you your starting point. I would think that with the exception of self-esteem which I would believe to be going up to a 10, all the rest should be going to a one at least on a logical basis.

3.) Tuning into the Memory or Getting a Picture: You are tuning in to the Thought Field, by this I mean you are thinking of the problem as deeply as you can in your mind. In psychology this is termed perturbation a type of agitation. When a patient thinks of this problem it will cause an indicator muscle to weaken.

4.) Treatment Points: The patient is then instructed to touch the treatment points, these are the alarm points for the meridians which are on the torso the beginning and end points of the face, K-27 and Sp-21. The points that negate the weakness of tuning into the problem will be treated by firm tapping for about 30 seconds. The patient is then asked if they note any changes in the SUD level, this will usually occur if the drop is two or more points. The object is too lower the SUD to zero if possible. When re-evaluating the patient problem on subsequent visits the point or points my change. In the two case studies I presented the phobia of heights took only one treatment and the tarsal tunnel syndrome took two.

5.) Gamut 9 or G9: This is the finishing point that is tapped in the treatment sequence. This is actually T-3 of the (Tri-Heater or Thyroid) meridian, located between the forth (right finger) and the pinky about ¾ of an inch above the knuckle. The point will be continually tapped while the patient doing eye movements and right and left brain activity. Start with eyes closed, then eyes open, looking diagonally down left and then diagonally down right, roll eyes left and roll eyes right (all with open eyes). This is followed by humming, counting 1-2-3-4-5, and finished with humming. This is done on both right and left hands by the treating physician and be can done at the same time.

This explanation is for Though Field Therapy or TFT; however I mentioned what I called the Longitudinal Time Line for the NET technique which can be fit into the TFT system. It will allow you to narrow down when the emotional trigger occurred on a period of time. The patient will state as the example I gave earlier on the Tarsal Tunnel Syndrome, my ankle and foot problem is from: 1.) conception to birth, 2.) from birth to age one, 3.) taking it in five to ten year increments, from one to five, form five to ten and so on.

When you get to the correct age a weakness will occur and then you will go one year at a time till you hit the year in which the triggering emotional trauma occurred. You then ask the patient, can you remember what took place in that year of age and this will be your starting place?

I am only presenting the information on TFT, because I started using it in 1985 and had not been able to take Dr. Walker's, NET program, because of teaching the basic AK course and presenting twice a year Dr. Goodheart's advanced courses. I was finally able to take the three day NET program this past October, 2014.

Addendum

Thought Field Therapy started with the use of tapping the acupuncture treatment points which Callahan learned from studying AK in 1980. All other off springs of TFT come from those who have studied this method with Dr. Callahan. Many of those who studied TFT, gave different names to their systems such as Energy Psychology (EP), Emotional Freedom Technique (EFT), and Evolving-Thought Field Therapy (ev-TFT), just to name a few.

Some problems have come about because Dr. Callahan allowed non-healthcare professionals to take his course. One of those was the founder of EFT, Gary Craig, a Stanford University graduate engineer, who started his career selling insurance and became successful.

Many of my patients have taken a weekend course in EFT and have tried to set themselves up as therapists with no background training and are collecting fees; this is a problem as you can imagine.

EFT method is effective in treating many conditions it should only be used for self-treatment and not treating outside one's own family. I make this statement to set the records straight.

After the ICAK-U.S.A. 2012 Annual Meeting in Dallas, I met Shelia Bender Ph.D., who had been using TFT for many years and authored the book "The Energy of Belief",[14] that delt with this system. She had two other mental health professionals that she taught with and wanted me to teach AK and muscle testing with them. The other two professionals were Victoria Britt, LCSW and John Diepold, Ph.D., and what they teach is the Evolving-Thought Field Therapy (ev-TFT).[15] This system used what they refer to as Touch and Breath (TAB), which is similar to Dr. Walker's application of treatment in NET.

Conclusion

Every chiropractor should know how to treat and support the mental/psychological side of the triangle of health simply because it represents 1/3 of the normal working of body and it can influence both the structural and chemical side of the triangle.

The two case histories I presented in this paper prove the point and should prompt every AK practitioner to use the mental side of the health triangle to help the patient's that are

being treated. My experiences in using TFT and now NET have improved my chances in correction the patient's conditions.

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The Lymphatic Channels

Jordan Bray, D.C., N.D.

Abstract

Dr. George Goodheart first correlated muscles to meridians in 1970. The aforementioned researcher, however, did not discover therapy localization until 1974. Therapy localization to the pulse points in the clear provides one access to the primary channels, however, therapy localization to the pulse points post ambulation allows for access to the lymphatic channels.

The discovery of the above-mentioned channels were based initially on the observation of Dr. Bray to TL the pulse points post walking and by Dr. Timothy Francis for discovering the strain/counterstrain three second maximal contraction for demonstration of muscle weakness and the use of the categories for correction. The lymphatic channels allow for re-establishment of normal lymphatic functioning as well as normalizing fluid balance. As evident by either a positive retrograde or antrograde test that will now test negative after performing the lymphatic channel correction.

Introduction

Meridians are channels of energy and act to form a foundation for the discipline of acupuncture. The lymphatic channels, though not mentioned directly in acupuncture studies, seem to be present and offer a profound effect to the patient suffering from both acute and chronic lymphatic dysfunction. The lymphatic channels share their primary channels' names and distribution while acting on a different system entirely.

Therapy localization (TL) to the pulse points post walking allows access to the lymphatic channels as the action of dynamic movement allows for alternating muscle contraction thus facilitating lymphatic circulation and revealing the primary dysfunctional region, if present. Continuation of AK protocol is that the associated muscle(s) will demonstrate weakness on manual muscle testing in the clear only after the muscle has undergone a maximal contraction of three seconds. Utilization of the proper category-blocking pattern of I-XIV will allow for a return of homeostasis to the lymphatic system

Discussion

The lymphatic system (Figures 1 and 2) is a system of the body closely associated with the cardiovascular system and is comprised of a network of vessels that act to circulate body fluids. These lymphatic vessels transport excess fluid away from interstitial spaces between cells in most tissues and return it to the bloodstream. Lymphatic vessels named specifically lacteals are located in the small intestine and named mainly for their function to absorb fats from digestion and transport them into circulation. The lymphatic system also acts to aid in immunity. The right lymphatic duct is responsible for draining the right half of the head, neck, thorax, right side of the heart, right lung, and the right upper

extremity while the lymphatic or thoracic duct is responsible for draining the rest of the body.

The lymphatic channels act to not only connect the body but also help regulate fluid balance, return of proteins to the blood, absorption of fats and fat-soluble nutrients as well as support immunity. Evidence of poor lymphatic drainage includes pitting edema and or congested/swollen lymph nodes. Also included here are upper respiratory infections; sinus, ear, and or eustachian tube infections; nose and throat complaints, common cold reoccurrence, tonsillitis, bronchitis, pneumonia, re-occurring joint problems, numbness and tingling, slow to heal traumas; any complaints associated around sleep would be grounds to also investigate the lymphatic channels for dysfucntion.

Other AK protocols for evaluation and management of lymphatic congestion are retrograde lymphatic, right lymphatic duct, and antrograde. The retrograde technique came from the observation that Dr. Goodheart made of a dysfunctional pectoralis minor muscle preventing the proper drainage of the thoracic duct and the right lymphatic duct into the brachiocephalic veins. Retrograde was evaluated by looking for a previously strong indicator muscle to manually muscle test weak after the patient was placed in a retrograde position, meaning head below rest of the body to allow for drainage of lymph, only to be negated by having an assistant grab in the axillae and traction cephalad. This pectoral stretch often led to immediate re-facilitation of your weak indicator muscle. If this were the case then therapy is directed towards the pectoralis minor in any form such as a five factored approach, or origin/insertion, or fasical flush, etc. Also it's prudent to evaluate for and correct a bilateral lower trap weakness if present which is often due to a thoracolumbar fixation. Consider hydration and vitamin A as associated nutrition as well as RNA.

To challenge the right lymphatic duct specifically, a muscle of the right upper extremity is tested for strength and is found to test weak with cervical flexion followed by cranial flexion on cervical flexion; have the patient elevate the chest without alteration in respiration and if strength is now found one has confirmed that the pectoralis minor on the right is involved. Prior to correction evaluate and manage any potential cranial faults.

Antrograde, the third and final AK lymphatic protocol, is a failure of the lymphatic heart (reservoir of Pecquet) or now known as cisterna chylae. This is exhibition of muscle weakness but only in a semi-erect posture of head and face up. These are patients that are worse with progression of the day contrast to retrograde where they get better as the day progresses. Weakness is usually found around 35-45 degrees. Treatment for antrograde is directed towards the glomus coccygium as Dr. Goodheart found this to be the neurovascular component for the cisterna chylae. Bioflavonoids are the nutritional support for antrograde.

Before evaluating any additional channel system the primary channels should be cleared first. Then, in my opinion, the Muscle Channels as presented by Dr. Timothy Francis should be cleared before assessing the lymphatic channels. Lymphatic channels will be accessible by doctor TL to the pulse points after a patient has walked for several gait

cycles. If a lymphatic channel is active then one pulse point will TL. The alarm points will only TL to weaken a previously strong indicator within a few seconds of walking or with simultaneous TL to the associated neurolymphatic point confirming lymph involvement. The associated muscle(s) will not manually muscle test weak in the clear but only after a three second maximal contraction (the strain/counterstrain type of testing) Treatment is directed at the proper blocking of the assoiciated meridian-category relationship. The observation of the strain/counterstrain type of testing for display of dysfunction on MMT and use of the categories for correction came from Dr. Timothy Francis. Category I-III came from SOT and Dejarnette's observations and has been associated with AK for some time where Category IV-XIV came from Total Body Modification and the observations of Vic Frank. The category-meridian relationship is as follows:

GV-Category XIV CV-Category XIII	GV-Category XIV CV-Category XIII
HT-Category III SI-Category IV	LU-Category IX LI-Category X
LV-Category II GB-Category VII	ST-Category V SP-Category VIII
UB-Category I KI-Category VI	CX-Category XI TH-Category XII

For example, the left middle pulse point TL's after walking. The Liver alarm point will TL only with simultaneous contact to the appropriate NL or within a few seconds of walking and the pectoralis major-sternal muscle will only test weak after a 3 second maximal contraction. The concurrent therapy localization to the alarm point and NL will negate the 3-second maximal contraction induced weakness. The patient is then blocked for a category II making sure all factors correlate. On the PI ilium one typically finds a short leg and medial knee pain at the pes anserine. Also, if one were to bisect the inguinal ligament also known as poupart's ligament in half, the upper portion will weaken a strong indicator when pressure is applied. With an AS ilium one finds a long leg and lateral knee tenderness usually above the joint line of the knee. This type of ilium malposition will demonstrate weakness of a strong indicator with pressure in the lower fossa of the bisected inguinal ligament. One should remember to make sure the muscles are balanced for lasting correction. The muscles of the PI ilium are Sartorius, gracilis, and rectus femoris while the AS ilium muscles are the gluteus maximus and hamstrings.

The lung lymphatic channel progresses from the infraclavicular region along the anterior upper extremity and finally terminating at the thumb. Category IX: Test-Use bilateral anterior deltoid test then swipe (L) shoulder and retest. Weakness confirms category IX pattern. Correction: with a single block under the left shoulder angled towards opposite hip. Periodically retest arms looking for weakness, once it occurs remove the block and the arms should not MMT strong. (Figure 11)

The large intestine lymphatic channel courses from the second digit along the dorsal surface of the upper extremity and terminates in a coronal fashion over the head to the opposite mandibular angle.

Category X:

Test- use bilateral anterior deltoid test then swipe (R) shoulder and retest. Weakness confirms category X pattern.

Correction: with a single block under the right shoulder angled towards opposite hip. Periodically retest arms looking for weakness, once it occurs remove the block and the arms should not MMT strong. (Figure 12)

The stomach lymphatic channel courses from below the eye down across the anterior thorax and abdomen and eventually down the anterior leg and thigh and terminating on the dorsum of the foot.

Category V:

Test - an extension of IV (see small intestine below) is assessed with the patient in a category IV blocking and swiping of the (L) shoulder then looking for weakness in the bilateral anterior deltoid test.

Correction: if weakness is present is to place a block under the left shoulder angled towards the opposite hip. Periodically check bilateral anterior deltoid test until weakness occurs and then remove the three blocks. Bilateral anterior deltoids should now test strong. (Figure 7)

The spleen lymphatic channel courses from the medial great toe along the medial foot and ascends up the anteromedial thigh and terminates on the inferior abdomen.

Category VIII:

Test - with category VI blocked and arm test is strong immediately swipe the right hip and retest the arms.

Correction: weakness occurring one removes the right hip block and retests. The double arm test should now be strong. Wait for weakness to occur and remove all blocks and test. One should now find bilateral anterior deltoid strength. (Figure 8)

The heart lymphatic channel courses from in the axilla and runs medially down to the fifth digit.

Category III:

Test - pressure is applied to the ischium from A-P with simultaneous pushing of L5 spinous towards the raised ischium. This should weaken a previously strong indicator muscle; it should be known that often there is bilateral hamstring weakness with a category III.

Correction - one block is placed under the ischium that challenges; thick end towards the head while the other block is placed under the opposite ASIS. Correct placement of the blocks should re-facilitate the hamstrings. The block under the ischium is then ratcheted towards the feet until the hamstrings re-weaken for one test and that is where they are to remain. Check for a sacral respiratory fault. Have the patient lay on the blocks until one finds bilateral hamstring weakness again, this is the titration point and the blocks should be removed. After removal of blocks, the hamstrings should be facilitated bilaterally. (Figure 5)

The small intestine lymphatic channel extends from the fifth digit up to and surrounds the ipsilateral ear. During its course the posterior scapular aspect is covered as well.

Category IV:

Test - bilateral simultaneous anterior deltoid muscles weakness.

Correction - palpate the ASIS bilaterally and place a block under the PSIS on the high side and ischium on the opposite side, either facing each other on an angle or straight in. Proper placement should facilitate the arms bilaterally. Titration point is reached when the arms test weak again, remove the blocks and check for strength. (Figure 6)

The urinary bladder lymphatic channel runs primarily from the medial canthus of the eye extending up and around the head and courses inferiorly paraspinally. It then courses into the respected lower extremity along the posterior aspect until terminating in the foot specifically at the little toe.

Category I:

Test - patient is prone and pressure is applied P-A on the PSIS and opposite ischial tuberosity and a previous strong indicator muscle is checked for weakening. It should be known that there is often bilateral hamstring weakness with a category I as well as first rib head tenderness on the involved side.

Correction - place pelvic blocks opposite the way challenged with the blocks facing each other. For example, if (L) PSIS and (R) ischial tuberosity challenged P-A then the blocks would be placed under the (R) ASIS and (L) ischial tuberosity. The proper placement of the blocks will facilitate the hamstrings and decrease the first rib head tenderness. One may wish to mobilize the non-involved side, not into the block, until the first rib head tenderness is alleviated and bilateral hamstring weakness is found again signifying the correction is complete. After removing the blocks check for bilateral strong hamstring muscles. (Figure 3)

The kidney lymphatic channel begins on the plantar surface of the foot coursing up the medial leg and thigh and covers the groin and genitals.

Category VI:

Test - an extension of IV (see small intestine below) is assessed with the patient in a category IV blocking and swiping of the (R) shoulder then looking for weakness in the bilateral anterior deltoids.

Correction: if weakness is present is to place a block under the right shoulder angled towards the opposite hip. Periodically check bilateral anterior deltoid test until weakness occurs and then remove the three blocks. Bilateral anterior deltoids should now test strong. (Figure 8)

The pericardium begins in the fourth intercostal space one tsun lateral to the nipple and ascends up and into the upper extremity along the antero-anteromedial aspect and ends on the dorsal aspect of the third digit.

Category XI:

Test - Place patient in a frog leg position and test bilateral anterior deltoid mm.

Correction - with weakness occurring, block as one would a category IV, high on the high side and low on the low side. The arms should be facilitated, wait for weakness to occur and then remove blocks. The arms should now test strong in the frog leg position. (Figure 13)

The triple heater begins at the fourth digit and courses superiorly along the lateral forearm and arm to the head and ends at the lateral eyebrow.

Category XII:

Test - place the patient supine with the knees bent and feet flat on the table with the toes pointing straight ahead. Perform bilateral anterior deltoid test.

Correction: with weakness occurring, block as you would a category IV, High on the high side and low on the low side. Should be facilitated, wait for weakness to occur and then remove blocks. The arms should now test strong in the original test position. (Figure 14)

The Gallbladder lymphatic channel starts lateral to the eye and courses inferior towards the angle of the jaw where it then arcs up and around the ear. From here the channel courses inferiorly on the lateral body all the way to the foot on the dorsum of the fourth and fifth digit.
Category VII:

Test - with category V blocked and arm test is strong immediately swipe the left hip and retest the arms.

Correction: if weakness occurs one removes the left hip block and retests. The double arm test should now be strong. Wait for weakness to occur and remove all blocks and test. One should now find bilateral anterior deltoid strength. (Figure 9)

The liver lymphatic channel begins at the lateral nail point of the great toe and ascends along the anterior leg and thigh terminating at the suprapubic abdominal region.

Category II: TEST- with the patient supine, find the SI joint that TL's while making sure that the entire joint is therapy localized. Then correlate with either AS or PI ilium findings. The AS ilium findings are long leg, lower fossa, and lateral knee tenderness while the PI ilium findings are short leg, upper fossa, and medial knee tenderness. Correlate with other findings as per AK protocol.

Correction: block to correct the distortion found placing the more superior block straight in while the more inferior block is placed opposite and angled towards the superior block. Upon proper placement of the blocks the pressure-induced weakness found in the fossae test will no longer be present and the knee pain will be reduced. Check periodically for re-weakness occurring with the fossae test as this signifies the titration point at which the pelvis is balanced and the blocks need to be removed. Typically the blocking time for this category is anywhere from 30 seconds to two minutes. This is the one category that can be over blocked and thus requires the up most attention. (Figure 4)

The conception vessel lymphatic channel courses from the center of the perineum to its termination point in the depression between the lower lip and chin.

Category XIII:

Test - place the patient supine with the knees bent and feet flat on the table with the toes pointing outward. Perform bilateral anterior deltoid test.

Correction: with weakness occurring, block as you would a category IV, High on the high side and low on the low side. Should be facilitated, wait for weakness to occur and then remove blocks. The arms should now test strong in the original test position. (Figure 15)

The governing vessel lymphatic channel courses from the tip of the coccyx ascending upwards along the spinous processes and terminates on the inside of the lip at the insertion of the frenulum.

Category XIV:

Test - place the patient supine with the knees bent and feet flat on the table with the toes pointing inward. Perform bilateral anterior deltoid test.

Correction: with weakness occurring, block as you would a category IV, high on the high side and low on the low side. Should be facilitated, wait for weakness to occur and then remove blocks. The arms should now test strong in the original test position. (Figure 16)

Conclusion

The lymphatic channels appear to be another meridian system of the body. They affect lymphatic circulation as evidence by a previous positive retrograde or antrograde test now found to be negative. Lymphatic channel indications are similar to those for retrograde/antrograde and include pitting edema, re-occurring joint problems, chronic upper respiratory tract infection, sinusitis, or any other poor immune functioning presentation. Poor wound healing is thought to be another indication of poor lymphatic circulation.

The lymphatic channels are accessed via therapy localization to the pulse points after walking. The muscles associated with the lymphatic channels will demonstrate weakness upon manual muscle testing only after a three second maximal contraction and will be negated by simultaneous therapy localization to the alarm point and associated neurolymphatic reflex. Use of the pelvic blocks in one of the fourteen patterns is found to correct the lymphatic channels.

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Appendix

GV-Category XIV CV-Category XIII	GV-Category XIV CV-Category XIII
HT-Category III SI-Category IV	LU-Category IX LI-Category X
LV-Category II GB-Category VII	ST-Category V SP-Category VIII
UB-Category I KI-Category VI	CX-Category XI TH-Category XII

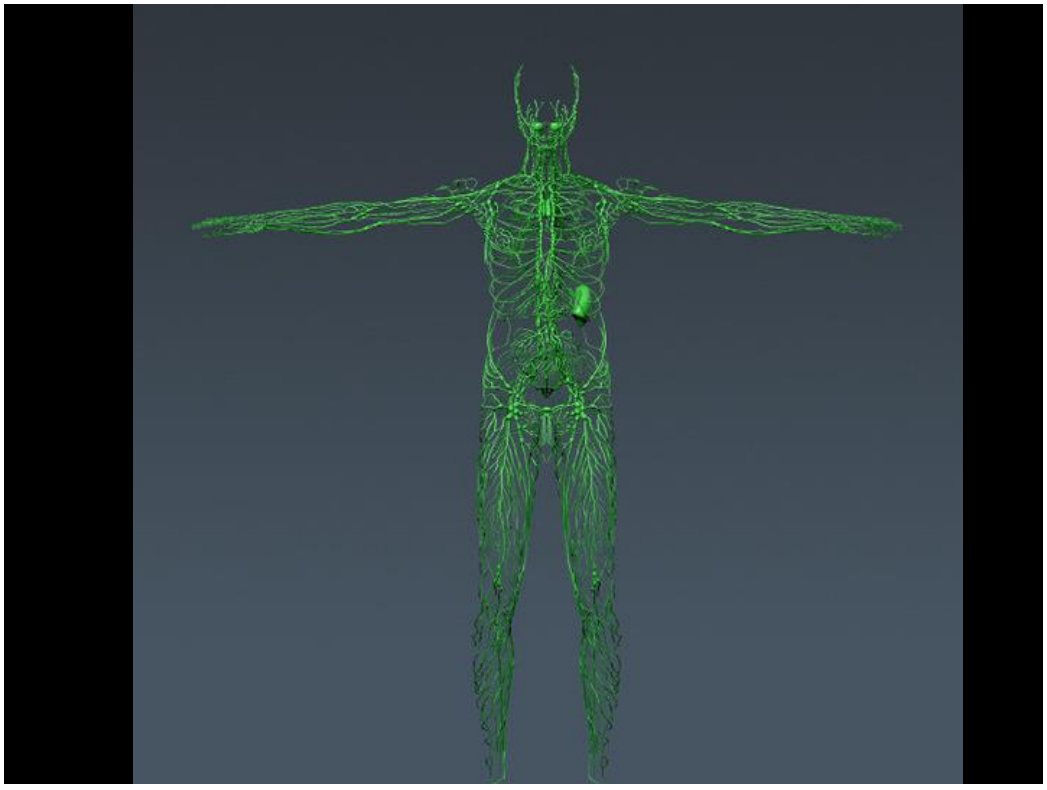
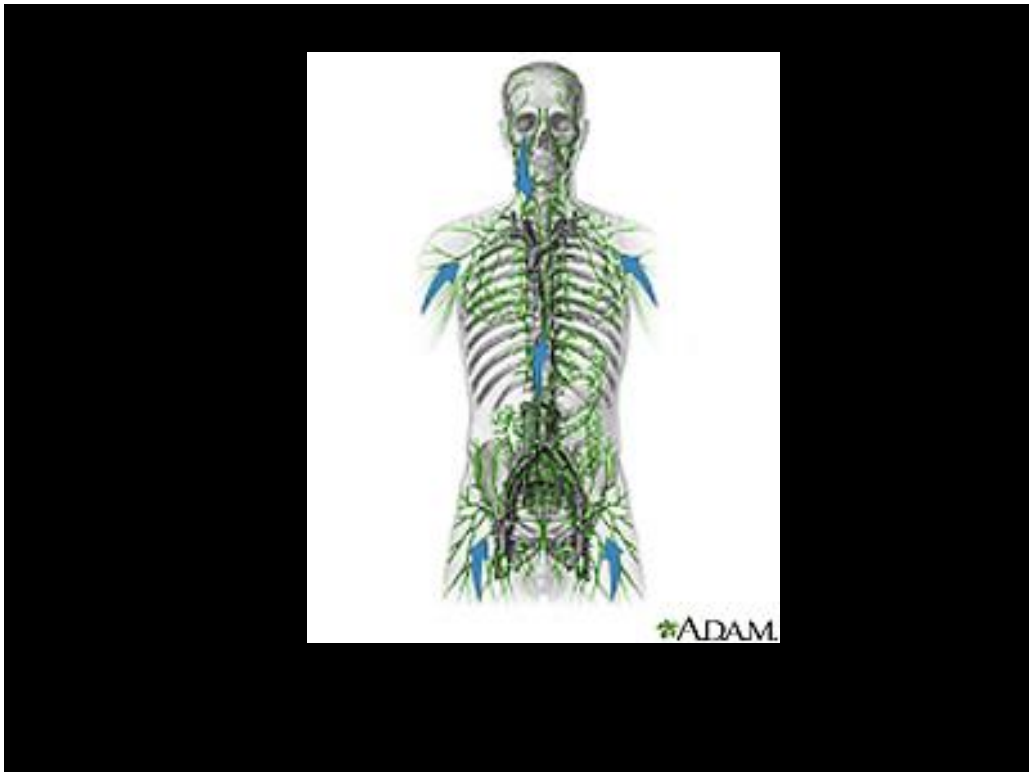


Figure 1



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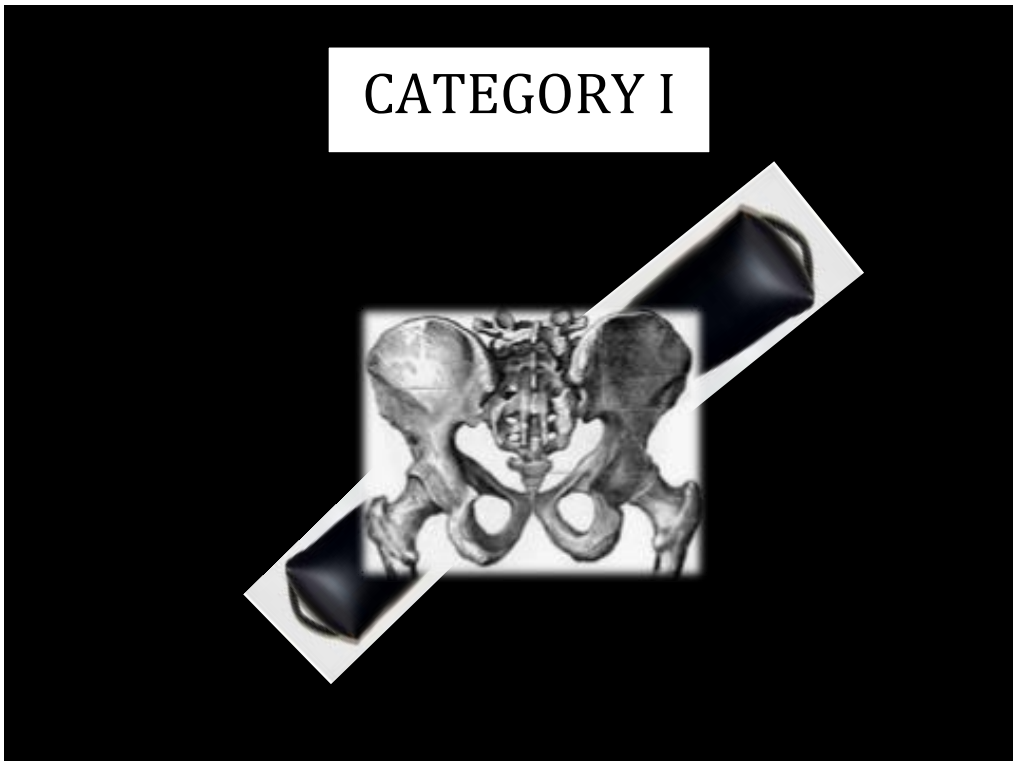

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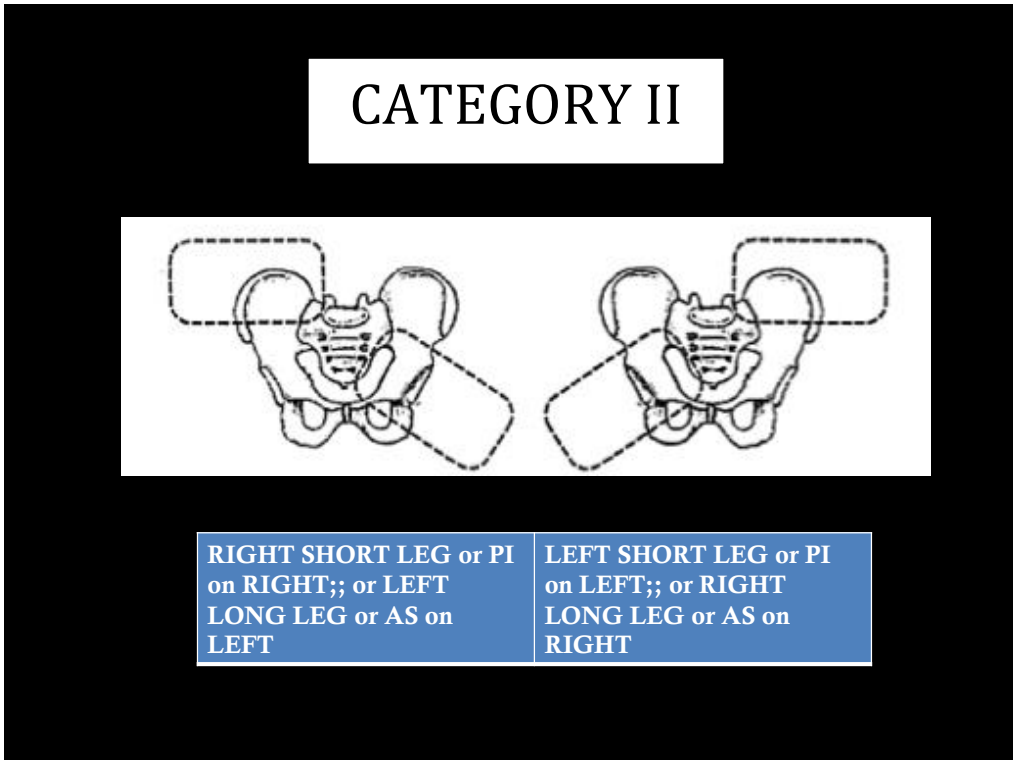

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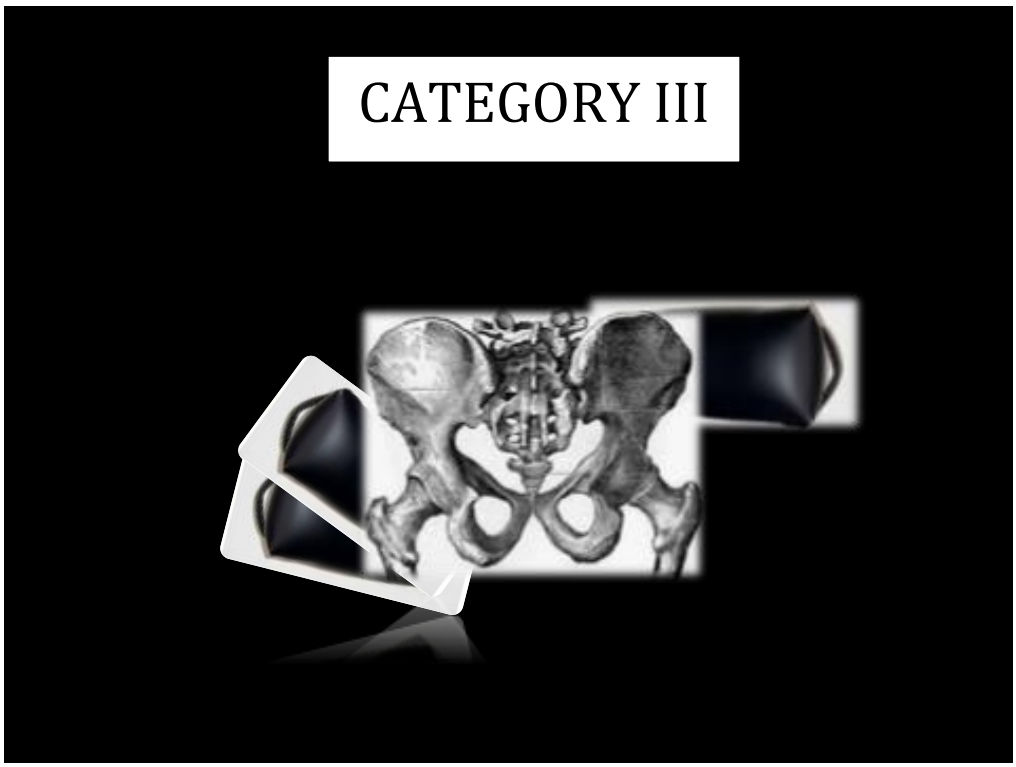


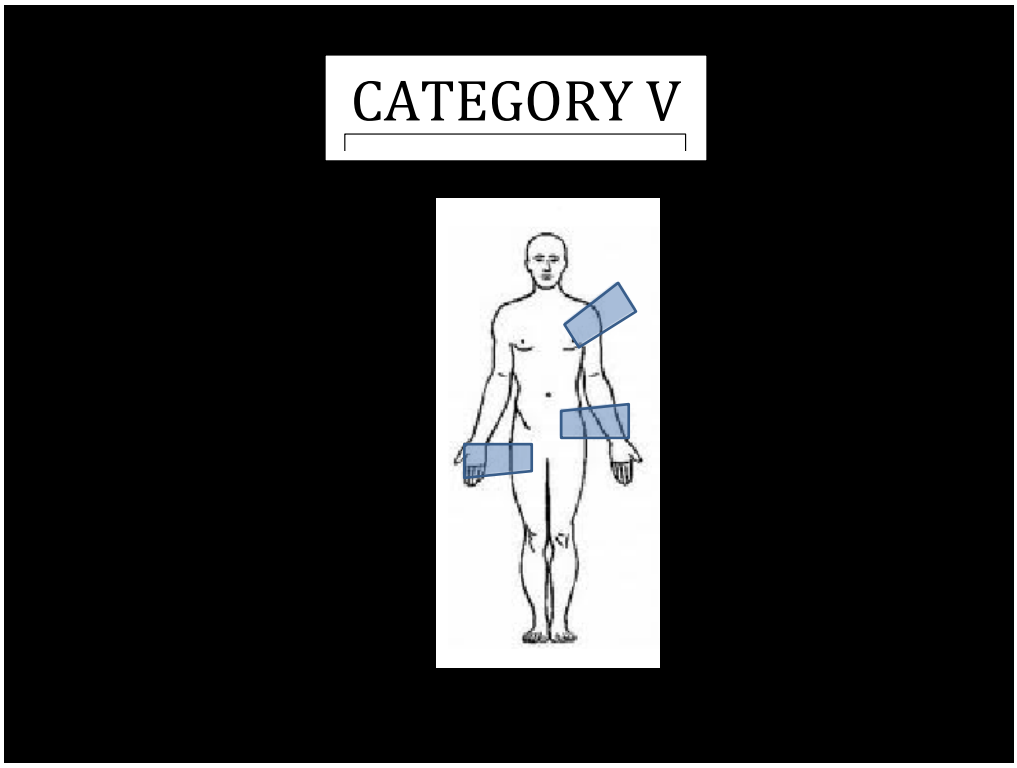
Figure 5

CLASSIC CATEGORY IV

Figure 6

CATEGORY V-VIII

- Cats V-VIII are extensions of category IV and can only be achieved by adding or removing a block



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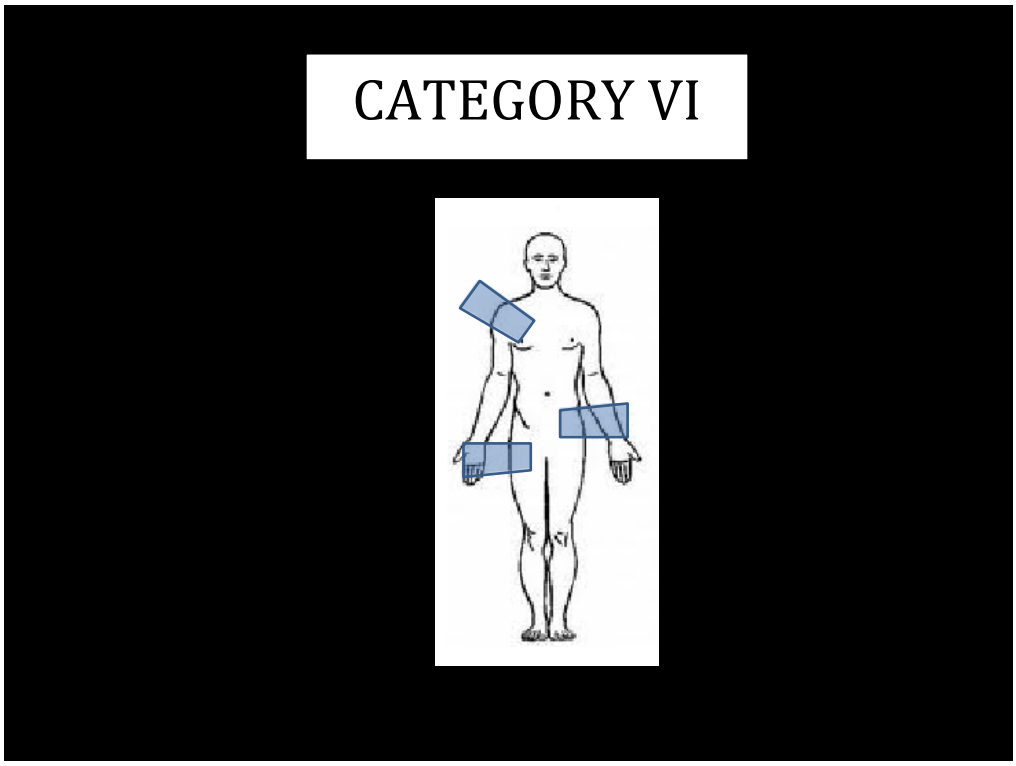

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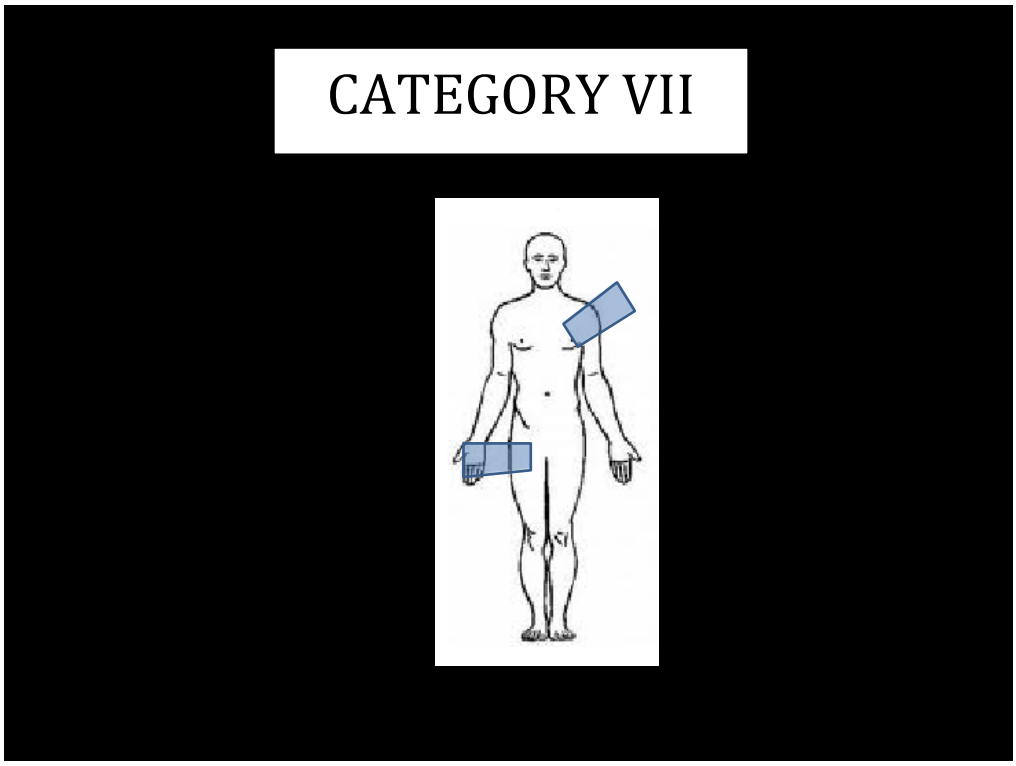

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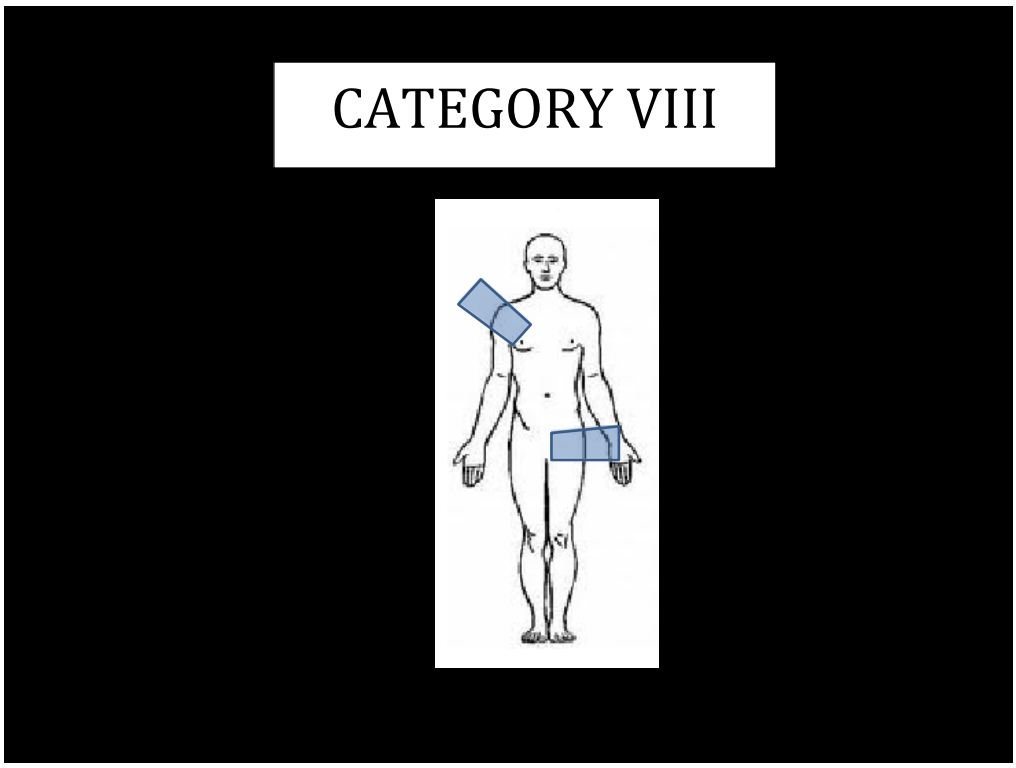

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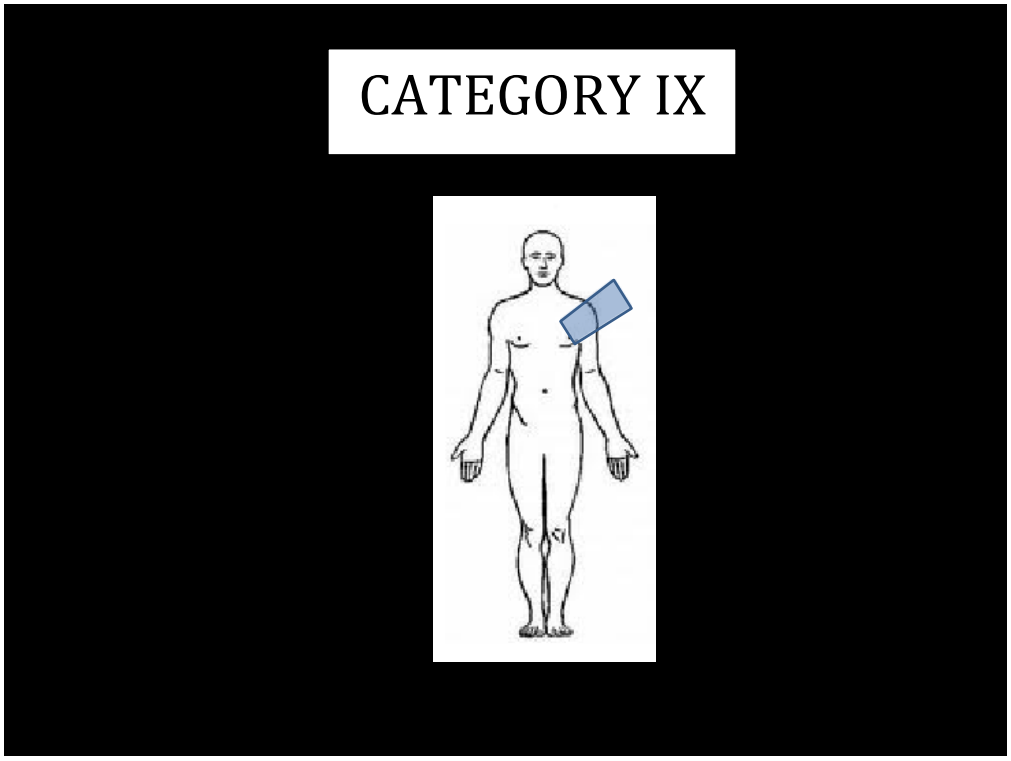

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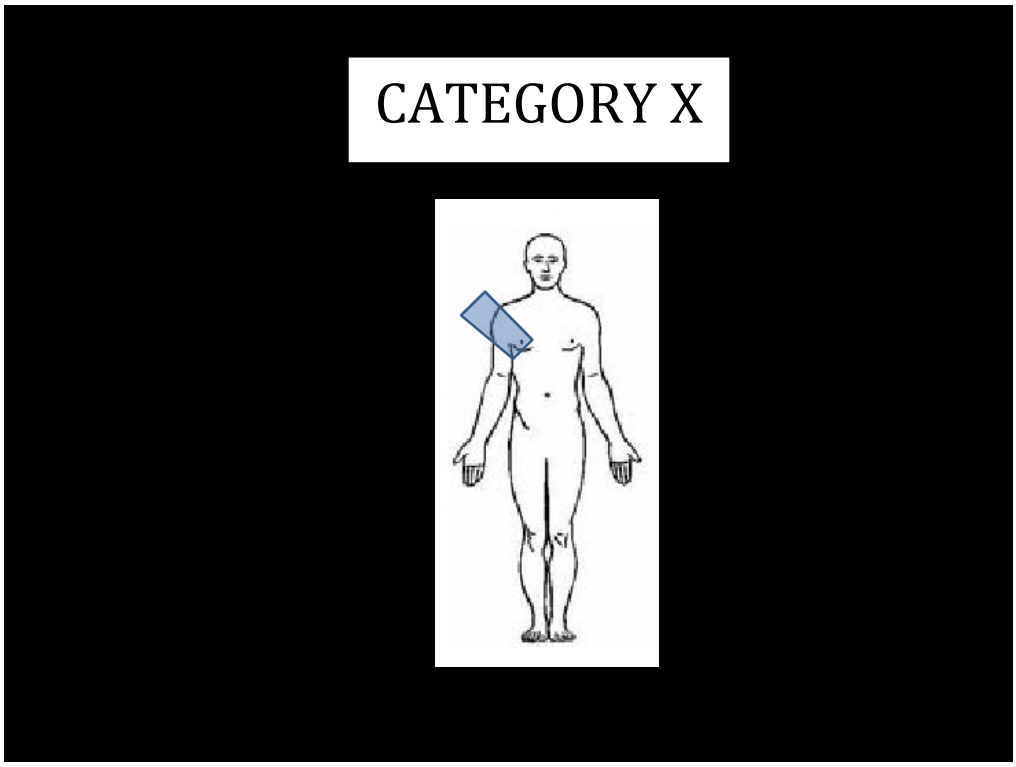

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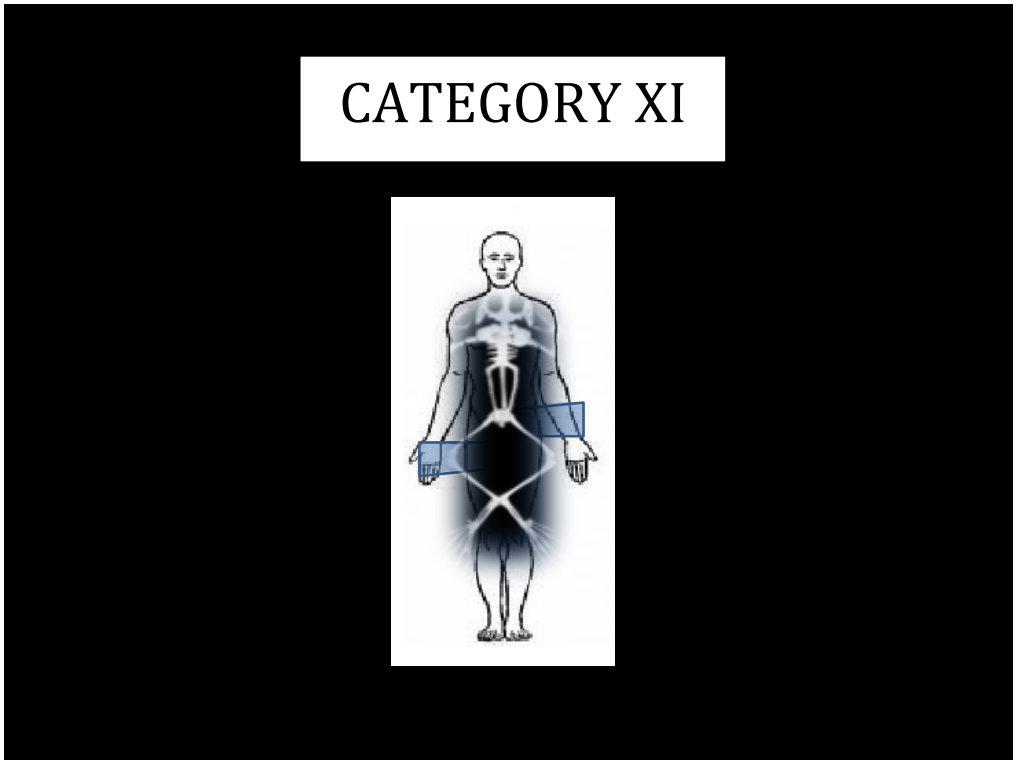

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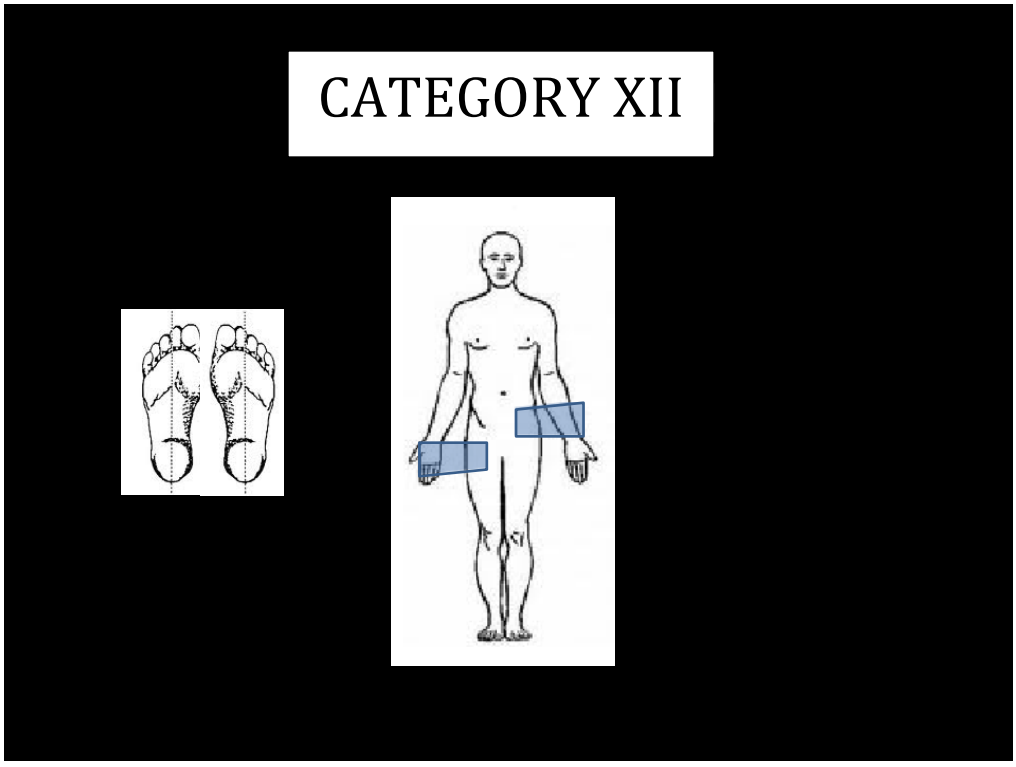

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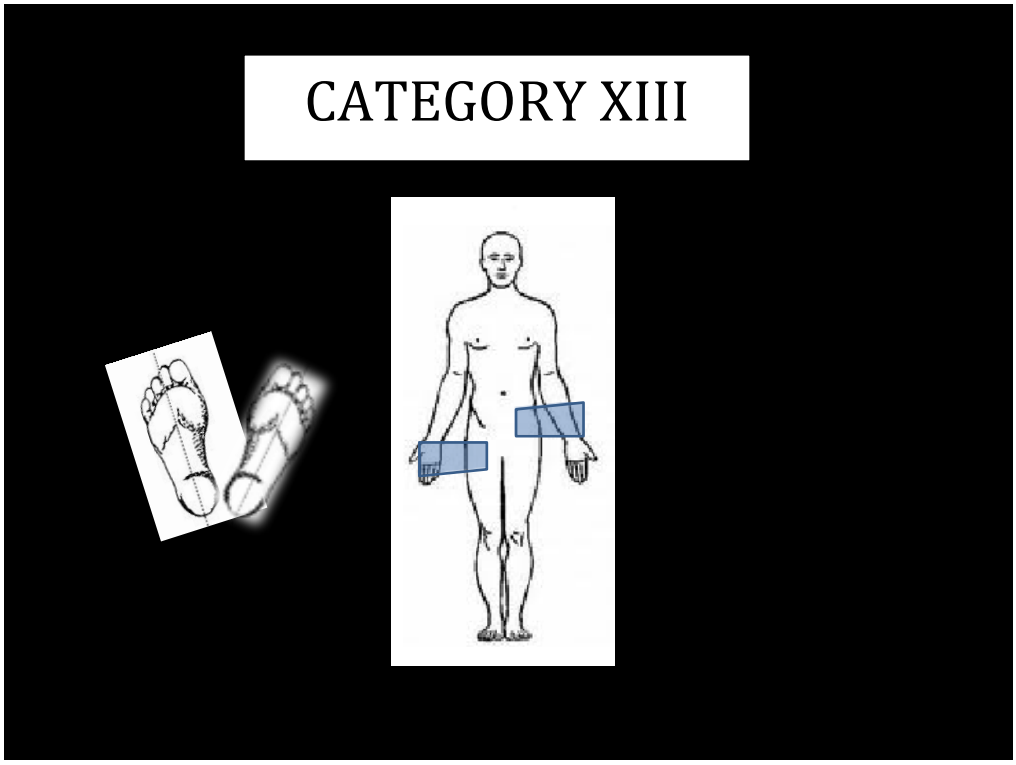

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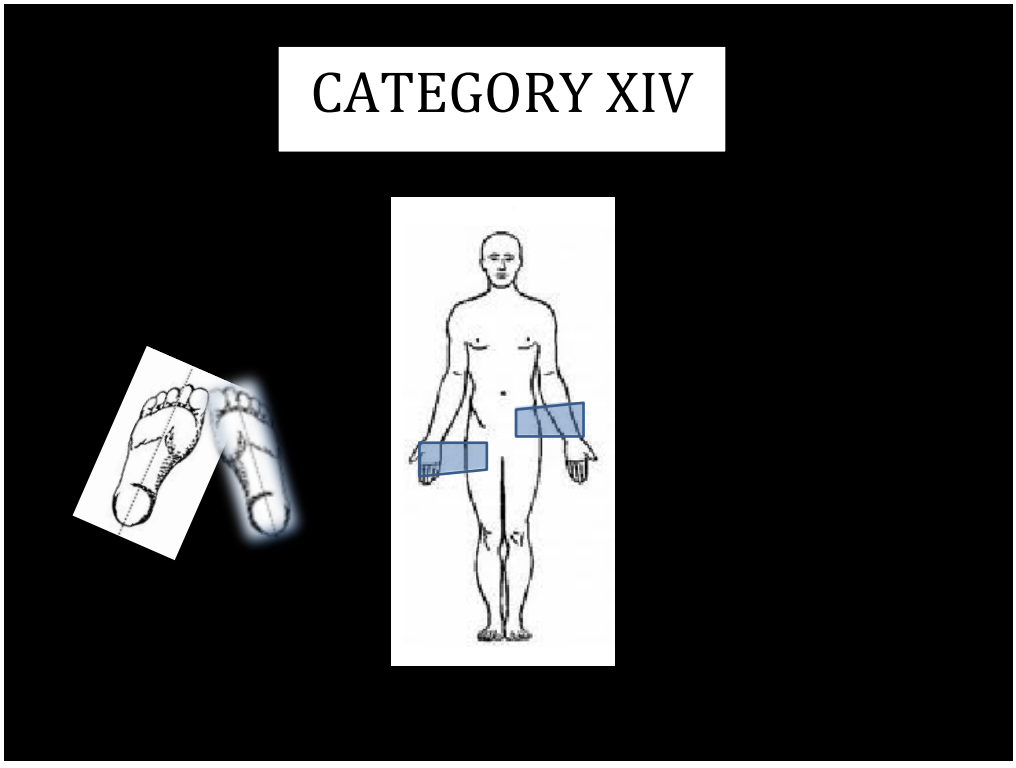


Figure 16

The Origins of Meridians, Applied Kinesiology and Some 100,000 Years of History Revisited

John Erdmann, D.C., DIBAK, D.C.B.C.N.

Abstract

I would like to present a more classical and comprehensive view point for what we commonly call TCM (Traditional Chinese Medicine) and its application within Applied Kinesiology (AK) as "meridian theory and pulse point diagnosis."

In 1964, AK began using some of these concepts thanks to George Goodheart, D.C. correlating meridians with chiropractic (Palmer) and manual muscle testing (Kendall & Kendall). The first recorded history of TCM dates back over 2000 years, and is believed that its origins go back closer to 5000 years. This is a discussion of how we can expand our observation skills to incorporate a more classic skillful diagnosis.

Discussion

The truth is that most of the recorded documents about the origins of Chinese medicine is more legend than history. According to the legend, the origins of traditional Chinese medicine are traced back to the three legendary emperors: Fu Xi, Shen Nong and Huang Di.

Observation is the 500,000 year old Method of the master TCM doctor

Fu Xi developed the trigrams of Yi Jing (I Ching) or Book of Changes which is thought of as a primary influence to health, disease, and cycles of life. The first written documentation on traditional Chinese medicine is from Hung-Di in the "Nei-Jing or Yellow Emperor's Cannon of Internal Medicine." Hung-Di Nei-Jing is the oldest medical textbook in the world, somewhere between 800 BC and 200 BC.

*The Nei-Jing is the primary doctrine behind our concept of Meridian Theory. Through the cultural revolution in China, much of TCM was almost lost and was banned (1914) in replacement of Western Medicine. In 1951, in an atmosphere of change the Chinese government brought back its first government accepted Institute of Acupuncture moxibustion Therapy. Not only a change in policy, but openly allowed their medical TCM knowledge to the world. Unfortunately, poor translations created many incorrect concepts of Meridian Channel Theory.

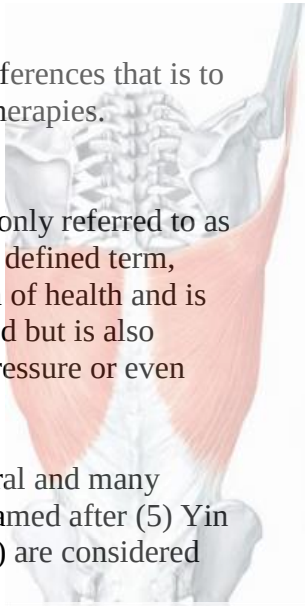
Tai Ji Symbol

"It is a fact that more than 95 percent of all literature published in western languages on Chinese medicine reflect western expectations rather than Chinese historical reality."

– Paul Unschuld, historian of Chinese medicine

TCM like any REAL truth, survives time and debate and policy change. AK too is

apart of this "Undying Legacy." I have read and gathered the main classical references that is to say, less-Westernized ideas to shed some light on these two incredible health therapies.



Review of Meridian Theory

We have the Tai Ji symbol of opposites keeping nature in balance, most commonly referred to as Yin & Yang. We have QI that is more than just energy, electricity or an easily defined term, however this QI runs in channels that connect organs, muscles, communication of health and is absent upon death. Similar and different then blood as it is said Qi moves blood but is also anchored by blood. Certain channel points run superficial where a needle or pressure or even laser can access or stimulate these points for different purposes.

While we have 12 meridian channels, eight extra ordinary channels, 15 collateral and many divergent channels, The "classics" focus on the five Zang meridian channels named after (5) Yin organs: heart, lung, spleen, liver, kidney, excluding Pericardium meridian (CX) are considered by most TCM practitioners to be the core focus when formulating treatment.

Let's review how the classics define these five. The heart is said (in the Su ann) to dominate the blood and vessels (and show in the face), house the mind, open into the tongue. The liver stores blood, maintains free flow of QI, controls tendons and manifest in the nails and opens into the eyes. The spleen transports and processes nutrients, controls blood, dominates muscles and manifests in the lips. The lung dominates QI and controls respiration, disperses QI, governs skin and body hair and regulation of water pathways, opening in the nose. The kidneys store essence (original QI) dominating development and reproduction. Dominating water metabolism, receiving QI, dominating bone, manufacturing marrow and manifesting in the hair, opening into the ear. Of the six fu or Yang functions, only the stomach gets special mention in "Su ann" for digestion and descending QI.

So with this in mind, observation lifestyle, diet, emotions and so on somehow reflect in the Yin & Yang and QI channels. Much like a high shoulder is reflected as a latissimus dorsi inhibition, and can allude to a shoulder problem, torque, thoracic fixation, and even blood sugar issues. In practice of Western medicine we tend to treat these 12 meridian channels all equally. Whereas, TCM does not. They think of it more like root, trunk, branch, leaf. If you want to kill a weed do you cut the top or pull out the root? Five element theory is an application of this root and branch. *For example, Earth which is related to the pancreas (spleen/ stomach) and when over controlling causes symptoms of excess urination from that of the water element - kidney/bladder (grandparent) and fail to nourish its (child) next element wood- liver/ gallbladder that needs to break down all that insulin. If Stomach tested deficient, and the signs and symptoms are ignored, all we endeavor to do is prolong a chronic insult and possible insulin mutation.*

Conclusion

AK uses the similar "pulse point diagnosis" from sole a deficiency or excess pattern. Truthfully, all we can really say is that the body chooses to say something is out-of-balance enough to cause a muscle inhibition. So we have adapted an intuitive approach of matching an inhibited muscle with the associated inhibited pulse point.

Traditionally, the pulse points observe 13 different characteristics all leading to different conclusions of which two include deficiency and excess. How could these other qualities affect the muscle test? Qualities such as; floating, deep, slow, rapid, rolling, hesitant, thready, surging, taut, tense, knotted.

Furthermore, if the basic TCM doctor's approach is to cure the cause of imbalance usually centered around the five Zang, then what are we really accomplishing when we simply tonify a point that inhibits a muscle?

TCM was designed over 100,000 years of observation. Maybe we should account for its creativity more. As in the above example, an inhibited PMC muscle related to stomach channel may mean more than a possible HCL acid problem to aid with tonification. With careful observation, we could be guided see the blossom of the heart in the face, or that flatulence might be the inability of the spleen to upbear the QI or over controlling of the kidney/water as seen in losing hair and chronic allergies. What you choose to treat goes deeper to the cause. This is when we become great AK doctors.

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The Secondary Psoas

Todd L. Overdorf, D.C., DIBAK, D.C.B.C.N., D.A.A.I.M.

Abstract

Functional imbalances of the psoas are responsible for a myriad of physical symptoms, most directly related to lower back and sacroiliac pain. In contrast, this paper will discuss the indirect relationships of functional psoas weaknesses by expanding on the applied kinesiology relationship of the psoas muscle to the position of the talus bone.

Key Indexing Terms
Applied Kinesiology, Psoas, Talus

Introduction
The literature is ripe with articles relating to the psoas. A simple search of "psoas" from PubMed will yield more than 4600 articles. The psoas flexes the hip joint and may assist in lateral rotation and abduction of the hip joint. A fixed bilateral insertion will increase the lumbar lordosis; unilaterally, it assists in lateral flexion of the trunk toward the same side. It has its origin on the anterior surface of the transverse processes, lateral border of vertebral bodies and corresponding intervertebral discs of T12 through L5, and inserts into the posterior aspect of the lesser trochanter[1]. It is also intimately related to the function of the diaphragm due to the crural attachment inferior to L3 on the right and inferior to L2 on the left[2.] Due to its direct attachments, imbalances in this muscle can cause recurrent fixations and subluxations of the lumbo-dorsal area. A lumbo-dorsal fixation, with its correlative weakness of a bilateral lower trapezius, will result in a probable contraction of the pectoralis minor, creating symptoms including chronic head congestion and pain, radiculopathy of the upper extremity, and lower extremity swelling. Thomas Myers, author of *Anatomy Trains* states, "The psoas major is the major supporting guy-wire between the spine and leg" [3]. Dr. Goodheart was informed of and confirmed an association of a lateral talus to a weak psoas, a lateral cuboid to a weak TFL, and later associated weak adductors to a dropped medial longitudinal arch. Most weaknesses of the psoas seen by this author are actually reflexive from a subluxation of the talus bone. The subluxated talus is then secondary to a functional weakness of ankle and foot stabilizing muscles.

Discussion

Leaf considers weaknesses of the psoas to be primarily of a structural nature, in other words, imbalances of the proprioceptors, spinal subluxations, fixations, and excessive pronation of the ankle. If a chemical problem is suspected, dehydration should be investigated[4]. Weaknesses are also involved with recurrent ileocecal valve/valves of Huston dysfunction and are the most common muscle weakness in lower back pain[5]. If the psoas muscle is found to be weak upon manual testing, the talus should be challenged from lateral to medial. If positive for laterality, before adjusting, it is imperative to check all supporting muscles of the lower leg, ankle, and foot for weakness. If any of these are found to be inhibited, the subluxated talus is then likely secondary to weakness of one or more of the ankle stabilizing muscles. Weaknesses of these can be from direct trauma or reflexive in nature.

Procedure
When assessing the weak psoas, simultaneously contract the ankle muscle that is found to be the causative factor. The psoas will strengthen immediately. For example, if the posterior tibialis has been injured (creating a lateral talus) and is in need of origin/insertion technique, the psoas will then strengthen to origin/insertion technique of the PT. If the PLB is weak due to an anterior lower cervical, the psoas will then strengthen to TL of the lower cervical spine. Many weaknesses of the lower leg, when not related to a direct injury, will be related to the lower cervical spine[6]. Incidentally, this is many times the root cause of the ankle injury.

Muscular support of the talus bone must be further evaluated. The primary ankle stabilizing muscles are the posterior tibialis (PT) anterior tibialis (AT), peroneus longus and brevis (PLB), peroneus tertius (PTe), and flexor hallicus longus (FHL). Leaf considers the PT the most common weak muscle in the lower leg and foot[7]. This author agrees. Weakness of the PT will cause pes planus with a resultant lateral talus. The bifurcated insertion of the peroneus longus into the ventral and lateral aspects of the first metatarsal and medial cuneiform allows this muscle to support the transverse arch of the foot at the cuneiforms[8]. Weakness of the PLB will cause a collapse of the cuneiforms and depending on the severity of the drop, the talus will subluxate as a result. The PLB and PT attach to the bottom of the foot in a manner that imitates a harness to hold up the entire foot and, on occasion, both will need to be addressed simultaneously. If this is the case, the psoas may not strengthen until both have been balanced. In the case of larger injuries, if more than one ankle supporting muscle is found to be weak, the talus may not subluxate until one muscle is balanced. Meaning, the talus is in an unstable situation prior and is "hidden" from the nervous system; thus, the psoas weakness may also be "hidden." For example, individually a weak PT and a weak PLB can create a lateral talus. If both are weak simultaneously, they may, in essence, "negate" each other and the brain will not recognize the talus as subluxated until one is corrected. If the doctor decides to correct the PLB first, the PT is still weak and then subluxates the talus laterally. Until the talus is subluxated, the psoas may not be inhibited.

One interesting note, although numerous ligaments make their attachment to talus, no muscles are directly attached to it. Embedded in the talus between the medial and lateral tubercle is the sulcus for the flexor hallicus longus (FHL) tendon. The FHL is the only muscle to come into direct contact with the talus. Due to the cogwheel motion of the bones in the foot, neurological inhibition of any muscle related to foot function can create a lateral talus.

In severe ankle and foot injuries, the superior and inferior extensor retinaculum and superior and inferior peroneal retinaculum can be injured. In cases on chronic instability, these retinaculi should be addressed and treated accordingly. More specifically the flexor retinaculum makes up the tarsal tunnel, which helps contain the tendons of the PT, FHL, and the flexor digitorum longus.

Role of the Posterior Tibialis
This author opines that the PT is one of the most important muscles in the entire body to balance, from both a biomechanical standpoint and biochemical. In recurrent foot subluxations, the PT should be addressed. Reflexively, due to its relation to the adrenal gland, anything that is stressing adrenal function can affect the PT. If a biochemical imbalance is suspected, TL should be to the neurolymphatic (NL) of any suspected organ, not just the adrenal gland. Many times the liver is the root cause of the adrenal dysfunction. Supplementation should then be directed

toward liver function. On occasion, this author has found TL to the Supraspinatus NL has strengthened the PT. In this case, the cause of the chronic psoas weakness was actual biochemical brain dysfunction. Treatment is then based on the physician's knowledge base of the positive TL. The adductors and the TFL can also be addressed in this manner. Weakness of any muscle that stabilizes the foot can have an effect, based on the cogwheel motion, on the talus, lateral cuboid, and the medial longitudinal arch.

Conclusion

These insights will allow the treating doctor to get further down the causal chain to avoid unnecessary treatment and ultimately, decrease treatment time. Upon testing the psoas in this manner, I feel confident that physicians will see an increase of foot imbalances in his or her patients. It is my hope that this paper helps to shed some light on one of many chronic issues that are creating unneeded patient suffering.

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The Twelve Cutaneous Regions

Timothy D. Francis, D.C., F.I.A.C.A, DIBAK, M.S., D.H.M.

Abstract

The cutaneous regions are surface segments on the skin that are projections of the meridians. They function to protect the body and regulate sweating.

These cutaneous regions are accessed via therapy localization (TL) to the pulse points while the patient is standing. Correction includes adjusting the spine via a specific relationship to the associated point while the patient maintains a cognitive emotional memory.

Introduction

The cutaneous regions represent the outward manifestations of the primary and superficial connecting channels. They regulate sweating and protect the body from pathogenic factors.

These superficial energy regions may be accessed via therapy localization to the pulse points while the patient is standing. The associated muscles will manually muscle test (MMT) weak in the clear while the patient is standing only, otherwise in any other postural position they will exhibit dysfunction via the new test and rest procedure (usually a minimum of two to three manual muscle tests).

The cutaneous region is treated by correcting a subluxation of the spine with utilization of encoded memory technic. This spinal subluxation level is the Lovett brother to the associated point vertebrae, then the Lovett brother to the spondylogenic vertebral association. This vertebrae is manually adjusted while the patient maintains conscious awareness of the attendant emotional memory pattern.

Discussion

The meridian system is composed of (from deep to superficial) divergent, extraordinary, deep collateral, primary, muscle, connecting channel proper, superficial connecting channel, and finally the cutaneous channels. The surface of the skin is divided into six longitudinal areas under the influence of the superficial collateral channels and are the outward projection of meridians. These six areas are as follows: greater yang (Figure 1), lesser yang (Figure 2), bright yang (Figure 3), terminal yin (Figure 4), lesser yin (Figure 5), and greater yin (Figure 6).

These cutaneous regions protect the body from external pathogenic factors and therefore carry defensive qi; it is the lungs that are responsible for this diffusion of energy. Other areas of penetration may include the nose, throat, stomach, intestines, and uterus. Therefore it is the lungs which control the opening and closing of pores in the skin regulating both sweating and temperature. However regional sweating may be influenced by a specific channel (forehead sweating is controlled by the stomach meridian for example).

Pathology may include skin lesions such as macules (flat areas of color without elevation that do not disappear on pressure), papules (elevation of the skin which does disappear on pressure), vesicles (small blisters filled with clear fluid), and pustules (pus accumulated in a blister). Macules may include vitiligo, freckles, and hemangiomas; papules include acne, lichen planus, urticaria, and some psoriatic lesions. Vessicle lesion examples include herpes. Pustules would include furuncles, carbuncles, and/or eczema that have become infected. Dry skin is usually a deficiency in the liver and/or kidney meridians. Edema of the skin may be deficiencies of the kidney, lung, and/or spleen channels. Other symptoms may include stiffness and/or pain in the joints, Bell's palsy, headaches, and/or fever.

Traditional acupuncture diagnosis includes observation and palpation of the skin. The cutaneous regions represent the areas where qi is manifested from the internal organs to the primary meridians onto the collateral channels and to the superficial minute collaterals and finally represented outwardly via the skin. Skin qualities include lustre, moisture, body hair, edema, scales, dryness, texture, color and lesions.

Greenish color usually indicates qi stagnation, yellowish signifies retention of dampness, a reddish hue indicates heat, pale denotes cold, bluish-purple and/or reddish – purple connotes blood stasis.

Diagnosis by palpation may include touching, stroking, and pressing the skin. Energetically there are three distinct layers; the skin, muscles, and bones. Touching is diagnostic of the skin, stroking reveals the musculature, and pressing is diagnostic of the bones. The texture, moisture, and temperature of the skin is also taken into consideration. Forehead temperature in comparison to the palms is considered to be very important: if the forehead is hotter than the palms this indicates exterior heat; on the other hand if the palms are hotter than the forehead, then this indicates interior heat.

External pathologic factors that threaten the health of the individual always depends on the equilibrium between the defensive qi and the pathogen at any given moment in time. It is the lungs that control the defensive qi to the exterior and the opening and closing of the skin pores. If the defensive qi is weak, then the pores are too flaccid and sweating results. If the defensive qi is too strong, then the skin pores become too spastic and a fever is concomitant. Qi holes (skin pores) are also under local control by a specific channel which may cause localized sweating. For example; forehead sweating is related to the stomach channel, palms to the lung meridian, and feet to the kidney channel. Invasion of pathologic factors generally follow the course of cutaneous region to the superficial collateral channel and then to the connecting channel proper and finally on to the main meridians.

According to Maciocia, "It is due to the relationship between each cutaneous region and its corresponding channel and organ that we can affect and regulate the internal organs." The cutaneous regions may reflect an inner dysharmony which is treated centrifugally (from the cutaneous to the main to the deep connecting and finally to the internal organs). Treatment in traditional Chinese medicine may include acupuncture, moxibustion, cupping, and massage.

Applied Kinesiology application of diagnosis as developed by this author involves therapy localizing the pulse points in a standing position (they will not TL in other postural positions), then therapy localize the associated alarm point. The affiliated muscle will manually muscle test weak in the clear while the patient is in the standing posture only. If the patient sits for example, then the muscle will display weakness via manual muscle testing by the new test and rest procedure. Test the muscle, then have the patient rest for approximately three to four seconds, and then retest the muscle. It may or may not display weakness until this is repeated several times. Treatment is directed at the appropriate vertebral subluxation. This is the Lovett brother to the associated point vertebrae (not to be adjusted), then the Lovett brother to the spondylogenic vertebral relationship of this vertebrae. For example: suppose the heart-small intestine pulse point therapy localizes only in the standing posture, then TL the alarm points to determine which meridian is involved. In this instance let's assume it is the heart channel alarm point that therapy localizes; the subscapularis will MMT weak in the clear with the patient standing. However if the patient sits or reclines then the subscapularis will only display weakness via the new test and rest protocol. The associated vertebral level for the heart channel is dorsal six, its Lovett brother is dorsal five, dorsal five's spondylogenic vertebral relationship is cervical five, and the Lovett brother to this vertebrae is lumbar one. Manually correct a lumbar one subluxation utilizing encoded memory technic. This will negate the subscapularis dysfunction as well as positive therapy localization to the pulse point and alarm point of the heart channel in the standing posture.

Conclusion

The cutaneous regions are the outward manifestations of the meridians that can be divided into six regions (Figures 1 to 6). These six regions can be influenced by the channels which regulate sweating and protect the body from pathologic factors. These regions are of utmost importance in acupuncture as they are the portal of entry for treatment affecting the main channels and internal organs.

Therapy localizing the pulse points in a standing posture allows access into these six cutaneous regions. Muscle dysfunction will display weakness in the clear only while in the standing posture. The new test and rest procedure will be required to display dysfunction upon MMT in any other posture. Correction of the appropriate vertebral subluxation with encoded memory technic will restore balance and harmony in the affiliated cutaneous region and muscle dysfunction.

Proper utilization of this protocol will correct many visceral, mental-emotional, chemical, and structural faults bringing the patient into a more complete and harmonious balance.

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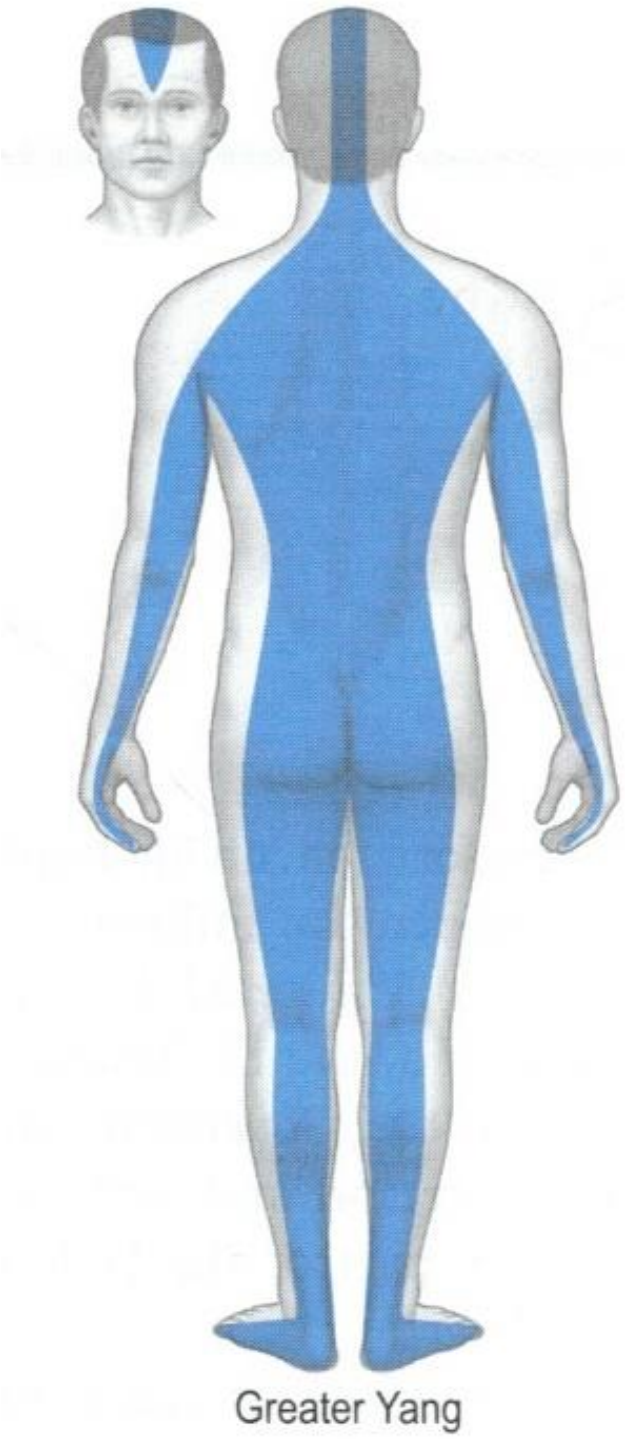

Figure One

(After Maciocia)

Figure Two

(After Maciocia)

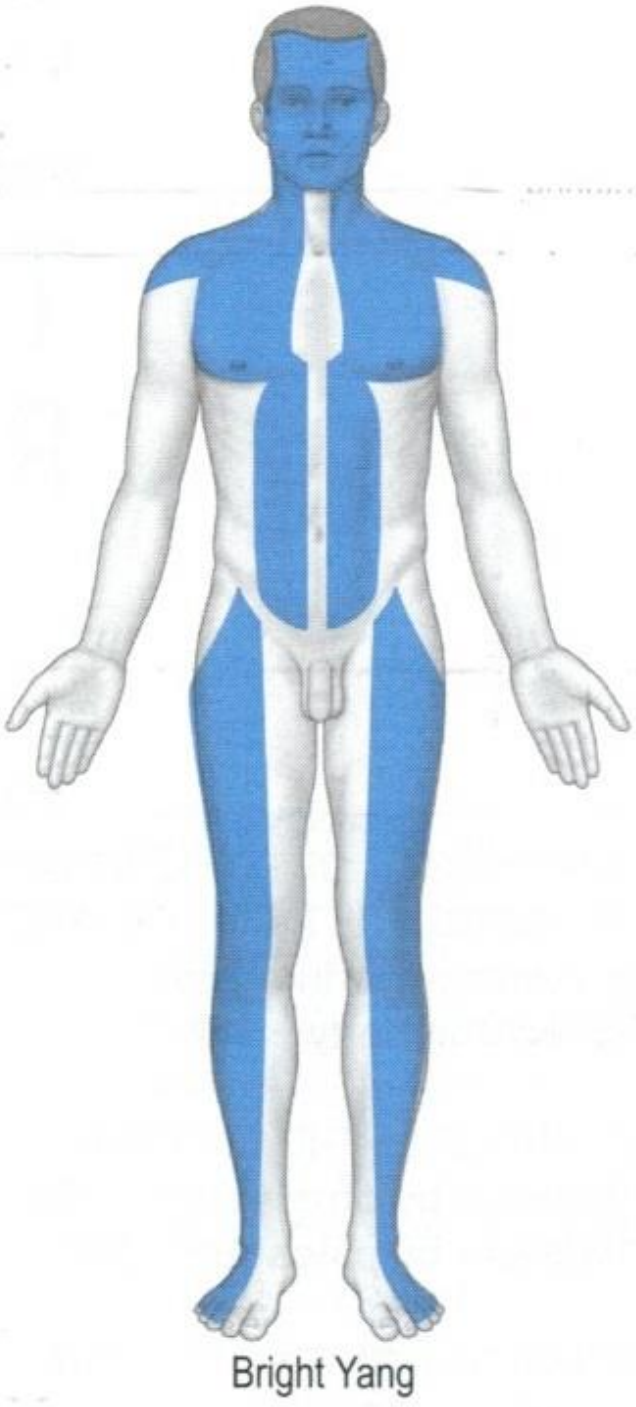

Figure Three

(After Maciocia)

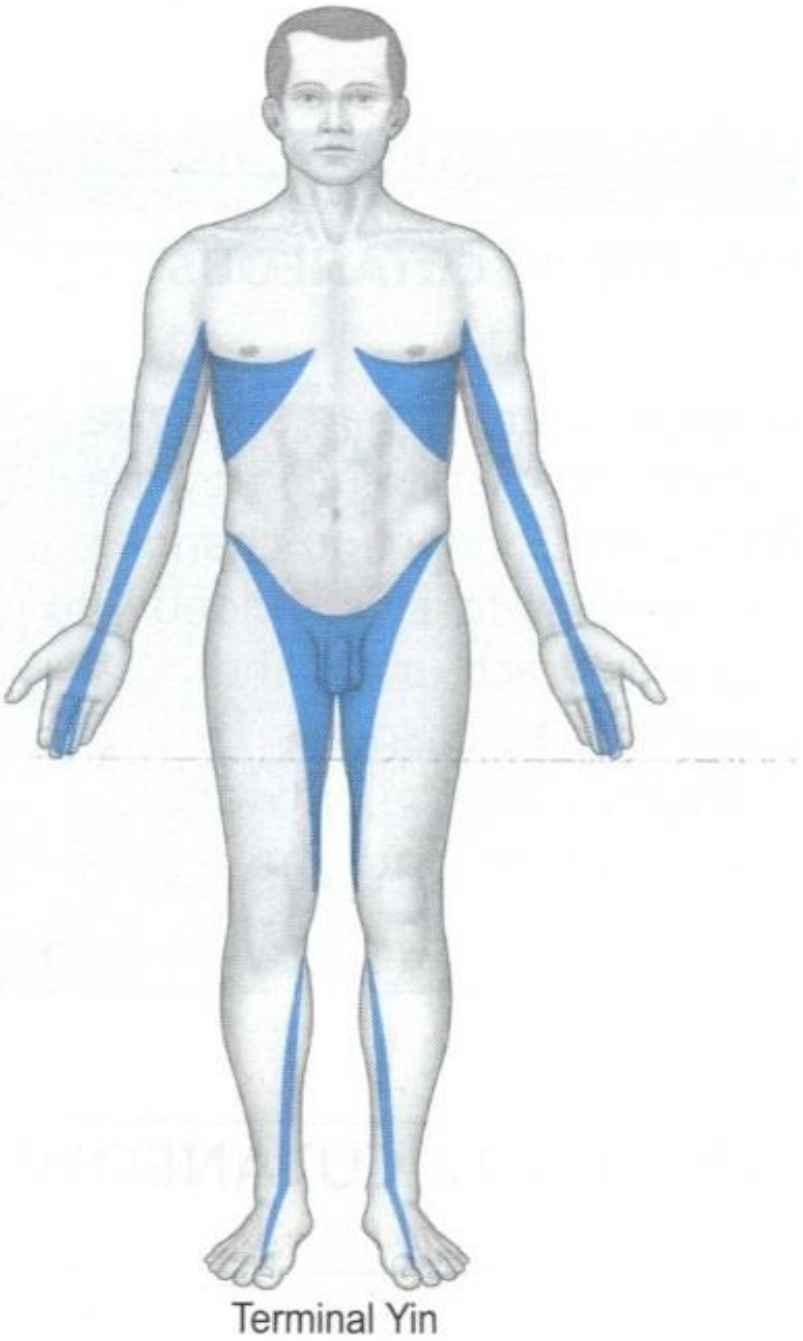

Figure Four

(After Maciocia)

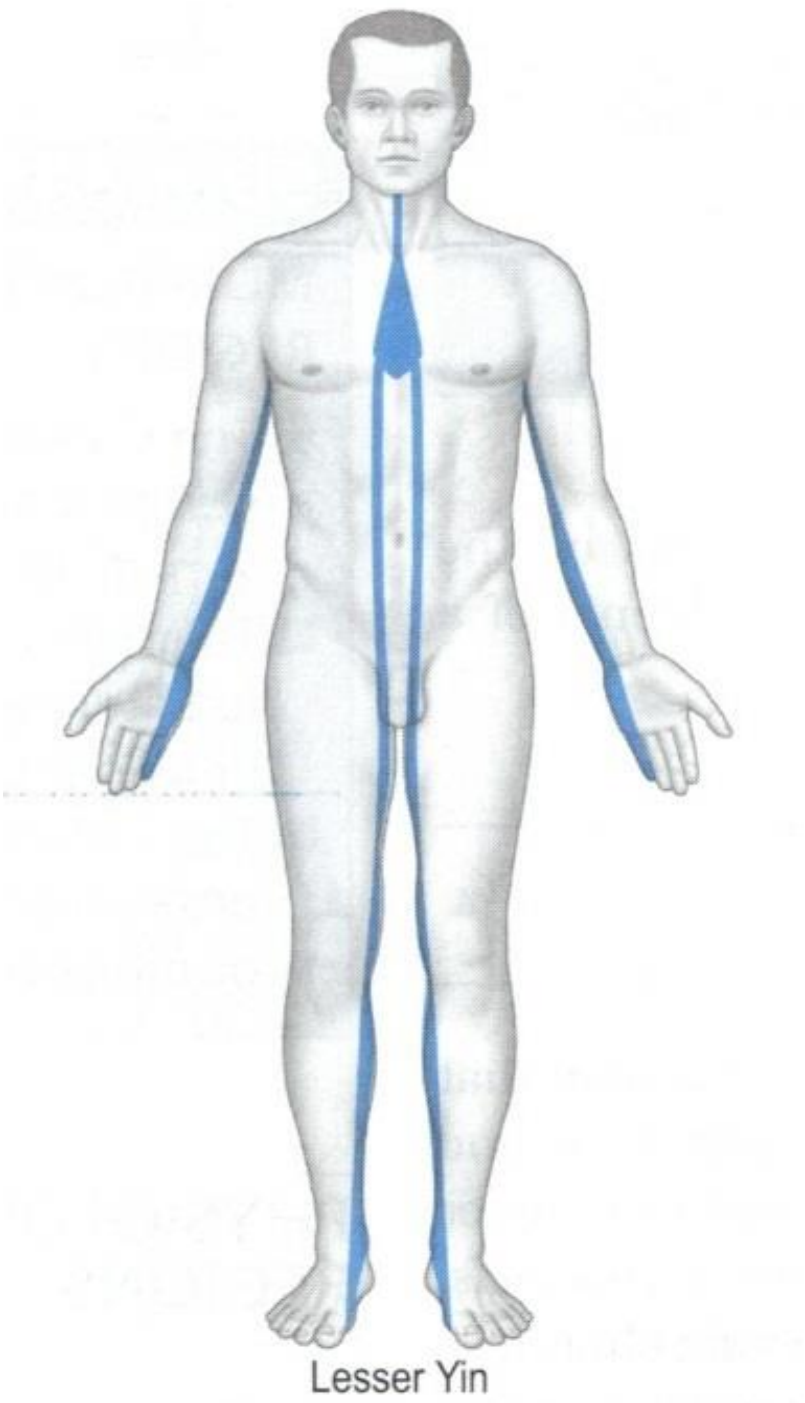

Figure Five

(After Maciocia)

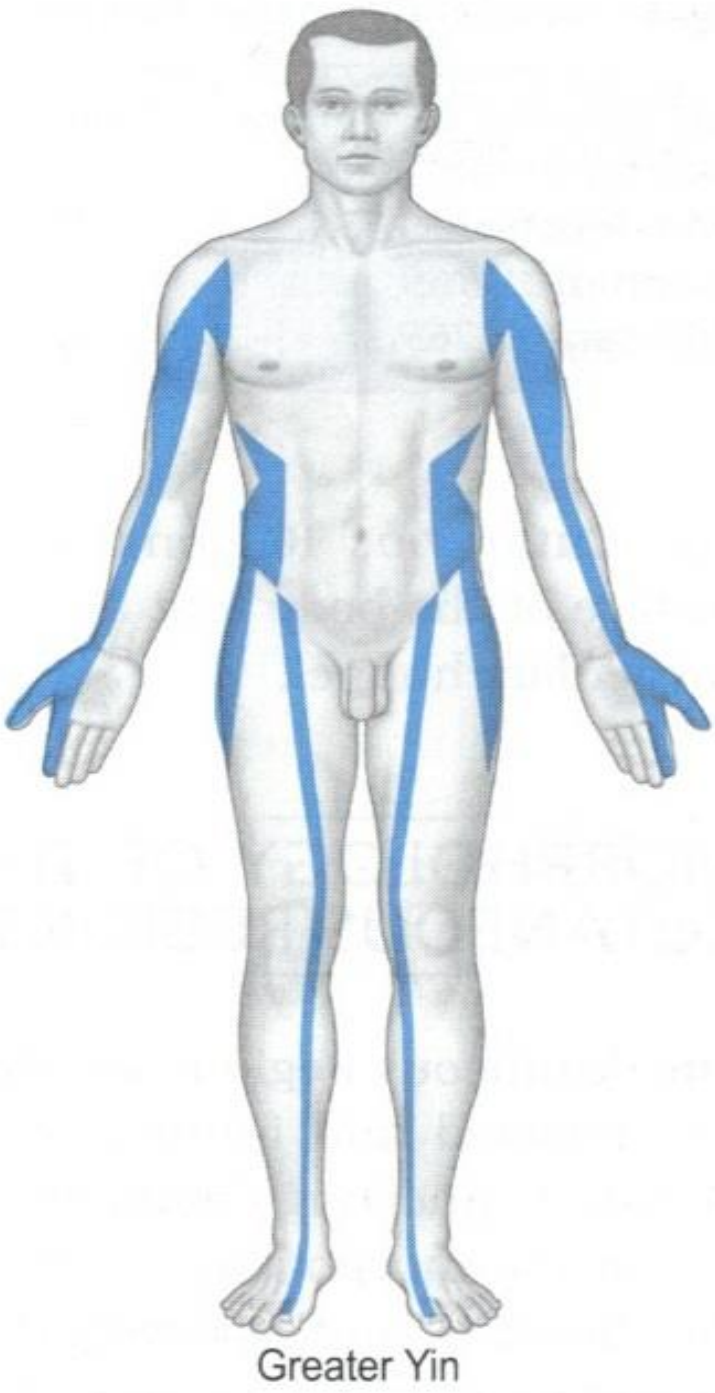

Figure Six

(After Maciocia)

Trauma Causing Eye Pain and Tearing- A Case History

Robert Ozello, D.C., DIBAK

Abstract

A case history of trauma to the eye causing eye pain and tearing is presented.

Introduction

The relationship between trauma and pain has long been established. It is important to assess all structure when evaluating a patient. In this case some muscles of the skull required treatment.

Discussion

A 26 year old male presented with severe right eye pain and tearing with neck, shoulder and back pain. He was hit in the eye with a hockey puck while playing hockey. He was not wearing protective headgear. The right pupil was permanently dilated due to trauma and he was very photophobic with that eye. His eye was saved and he was on eye drops for the dilation. He specifically asked me not to go near the eye. He was afraid that things might get worse with treatment.

Applied kinesiology examination revealed multiple muscle imbalances. These were treated with proprioceptor technique and strain and counterstrain technique. Multiple subluxation and fixations were corrected.

The patient progressed well. All symptoms except for the eye were alleviated and he was discharged from active care.

He returned several months later desperate to have the eye pain treated. The pain was getting worse. He couldn't move his right eye to the left or right without blinding pain.

I then used proprioceptor treatment on the temporalis, occipitalfrontalis, procerus, orbicularis oculi, zygomatic and levator labii muscles. After several treatments the eye pain was totally gone. The eye tearing was diminished by 75%. Unfortunately, there was no change with the eye dilation.

Conclusion

Treating the muscles of the skull is rarely mentioned in the literature. I have found that treating them can help many problems throughout the body through the stomatognathic system. If a patient has recurring cranial faults this approach is quite helpful.

The patient now wears protective headgear when he plays hockey.

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Division II

Critical Review Papers

Hamstring Manual Muscle Test in Passive Extension for Optimal Evaluation

Philip G. Cameron, D.C.

Abstract

The hamstring manual muscle test (MMT) has traditionally been evaluated in a neutral position on an examination table. This position however has proven to not put the hamstring in its shortest "strongest" (most facilitated position). A more appropriate position to MMT the hamstring is to passively extend the hamstring approximately 20-30 degrees, resting the knee on a stable surface and then performing a MMT to determine if there is neurological integrity of the hamstring muscles. The extension of the femur is a more appropriate position to test the hamstring, as extension is an action caused by contraction of the hamstring. There also exists a relationship of the hamstring and the hip flexors that work simultaneously in the flexor withdrawal mechanism of the nervous system and also explained with the feed forward and feedback mechanisms causing reciprocal facilitation of the hip flexors, quadriceps and the hamstrings.

Key Indexing Terms

Hamstring, Passive Extention, Manual Muscle Test, Feed-Forward, Feedback, Flexor Withdrawal, Flexor Reflex Afferent

Introduction

The manual muscle test (MMT) of the hamstring muscle has classically been done by keeping the leg in the neutral position resting on the table, flexing the knee to 90 degree's and then asking the patient to hold the contraction against resistance. Modifications can be made to test the medial and lateral aspects of the hamstrings by rotating the femur medially or laterally to evaluate the biceps femoris, semimembranosus and semitendinosus. However, when the knee is flexed to 90 degrees and the hamstring is MMT in the neutral position, there is a neurological relationship of the hamstring to the quadriceps and hip flexors, that causes a reciprocal facilitation of the hamstring muscles, which then interferes with the evaluation of the hamstring muscle because it facilitates due to the principles of the feed-forward and feedback mechanisms and/or the flexor withdrawal mechanisms instead of isolating the specific hamstring muscles and seeing clearly the neurological integrity of the muscle. These principles are described in Principles of Neural Science 4th Edition, by Kandel, Schwartz, and Jessell, and also Functional Neurology for Practitioners of Manual Medicine 2nd Edition, by Beck. In order to clearly identify the neurological integrity of the hamstring muscle it is important to position the hamstring by extending the femoroacetabular joint and then flexing the knee. By doing so the reciprocal relationship between the agonist and antagonist muscles of the leg are removed from its feed-forward feedback mechanism and the hamstring is isolated specifically for neurological facilitation and a clearer neurological picture is determined.

Discussion

As with any scientific art such as manual muscle testing (MMT), technique is constantly being evaluated and refined to progress to new, clearer understandings and methods. The MMT of the hamstring muscle has traditionally been done in a neutral position flexing the knee and asking the patient to hold against resistance to determine if it was facilitated or "strong". It has come to my realization that this neutral position of the hamstring during a MMT is not however the most appropriate position to test the hamstring to determine optimal neurological integrity of the muscle. The appropriate position I have found is to passively extend the knee approximately 20-30 degree's off the table and rest the leg in the extended position and then proceed with the MMT as taught in applied kinesiology (AK). The reason for the extension of the femur during the MMT is because naturally part of the hamstrings function is to extend the femur as well as flexing the lower leg at the knee as described in Hollinsheads Textbook of Anatomy. By not extending the femur the hamstring has not been placed in its shortest most facilitated position, which is how we are instructed in AK to perform MMT. Proper positioning of the body with MMT requires the biomechanical knowledge and positioning of the patient to clearly isolate an individual muscle and not have the patient be able to recruit other muscles to stabilize the muscle being tested. This is described in chapter seven of Dr. Goodheart's book You'll Be Better. "He is describing testing the rhomboid muscle in the side lying position verses sitting or standing, because recruitment of the opposite rhomboid, or muscles of the shoulder will create a facilitation pattern and reinforce the rhomboid being tested making it appear strong in the manual muscle test when it is truly not."

Neurologically there appears to be a relationship of the leg between the hamstring and the quadriceps and hip flexors, which provides a feedback loop that interferes with the isolation of the hamstring specifically when in the neutral position. These neurological principles are described in Principles of Neural Science 4th Edition, by Kandel, Schwartz, and Jessell, and also Functional Neurology for Practitioners of Manual Medicine 2nd Edition, by Beck. I believe this extra neurological recruitment is integrated from the flexor withdrawal pattern that is seen during the protection of the body drawing the leg away from a nociceptive stimulus. As the knee flexes so does the hip at the femoroacetabular joint. As an example if a person where to step on a tack on the floor while they were walking they would immediately raise the foot off the ground away from the nociceptive stimulus of the tack, dorsiflexing the foot, flexing the knee, and flexing the femoroacetabular joint all in unison.

It has been my observation that this same principle holds true during the MMT of the hamstring. Often you will see patients trying to flex their pelvis to maintain the strength of the hamstring during the manual muscle test in the neutral position. Even with careful instruction and observation of the doctor performing the MMT on the patient, there tends to be a tendency toward pelvic flexion when testing the hamstring in the neutral position with the knee in flexion. This has been observed many times clinically in the treatment room.

To test the theory of the appropriate position of the hamstring during the manual muscle test, I tested a suspected weak hamstring in the neutral position and found it facilitated normally. I then passively extended the femur and placed the leg on two Airex balance pads four inches high, and approximately six inches proximal to the distal end of the femur and let the leg rest naturally. I then re-tested the hamstring while it was passively extended and found the hamstring was inhibited in this position. Using the five factors of the IVF I was then able to facilitate the hamstring in the passively extended position and bring relief to the patient.

To further evaluate and test this theory of passive hamstring extension when I found a weak hamstring muscle in passive extension resting four inches above neutral on two Airex balance pads, I wondered what would happen if I were to keep the knee extended on the Airex pads but re-flex the pelvis using the tilt feature of the pelvic drop on the chiropractic table. I observed the previously inhibited hamstring muscle regain the facilitation in this flexed hip position. This proof of my theory was thought of by personal correspondence with Dr. Walter Schmitt, D.C., DIBAK, D.I.C.B.N. as I had reached out to him when I had made my initial observation and was formulating my theory about the flexor withdrawal pattern being a possible explanation for my findings, as he understands the neurological withdrawal pattern so well and utilizes it in the injury recall technique (IRT) which he perfected. His guidance in leading me to evaluate the weak hamstring and then flexing the pelvis and seeing it re-facilitate further proved the theory of a significant correlation between the flexed hip and the excitation of the hamstring when both the knee and hip are flexed together.

To further defend the argument of proper positioning of the hamstring, I know many AK doctors will utilize the neutral hamstring as an indicator muscle when therapy localizing areas of the body, challenging the patient's spine or other area's of the body when in the prone position. When a hamstring is inhibited in the neutral position after a challenge or therapy localization, I believe it is still confirming areas of dysfunction within the body.

As seen with AK muscle testing when an area of the body that is dysfunctional is therapy localized or challenged it will weaken every muscle of the body for one contraction. Therefore if both the hip flexors and the hamstring are inhibited at the same time, there will be no reciprocal firing pattern taking place, and therefore the hamstring in the neutral position will inhibit and may still be used as an indicator muscle.

If you are to find a weak hamstring in the neutral position, I would suggest there is a more significant systemic problem in the patients body affecting larger aspects of their nervous system; potentially altered physiology or trouble with the cranial-sacral mechanisms, and those problems should be looked for and evaluated first before treating the hamstring. Once the problem is found and corrected most likely the hamstring will facilitate in the neutral position. Next passively extend the hamstring and re-test to see if the hamstring has regained full integrity.

Procedure:
To evaluate for proper neurological facilitation of the hamstring muscle:

1. Position the patient prone on the treatment table.

2. Extend the femur at the femoroacetabular joint and rest the knee so that it is approximately 20-30 degrees off the table resting passively. I use two Airex balance pads stacked on top of each other approximately four inches in height; I have also used an SOT block to rest the knee on creating the same extension of the femur.
3. With the leg resting passively in extension have the patient bend the knee to 90 degree's as taught in standard AK courses. See AK Synopsis if unfamiliar with the hamstring MMT.
4. Proceed with MMT of the hamstring muscle asking the patient to hold against your resistance to test for normal neurological facilitation.
5. If the hamstring is facilitated then you have determined the hamstring has proper neurological integrity. If the hamstring is inhibited proceed to evaluation of the 5 factors of the IVF to determine the appropriate therapy needed to facilitate the muscle and make the appropriate correction.
6. It has been my observation that usually a unilateral inhibited hamstring will need correction to the attachment using origin/insertion technique; however evaluation of all five factors is recommended.
7. It has been my observation that if bilateral hamstrings are inhibited in the passive extension position, there is most often a need to manually correct the sacrum. I have found it most often needs a counter nutation (sacral flexion) adjustment. Always confirm the need for correction with therapy localization and/or manual challenge.

Conclusion

The hamstring muscle is very important in the integrity of the pelvis, femoroacetabular joint and the knee. Therefore the hamstring plays a very important role in stabilization of the spine as well because of the closed kinetic chain. Dysfunction of the hamstring muscle will ultimately effect the joints that it crosses and create altered biomechanics to those joints and create compensations to the rest of the biomechanics of the body that can ultimately lead to injury and/or degeneration. As with any healing art, the more we understand scientifically the more refined our techniques and procedures can become to be more specific in our evaluations and the treatment of our patients. Properly evaluating the hamstring muscle gives the doctor a much better understanding of the patient's dysfunction and pain, and when the dysfunction is corrected it will bring relief and stability to the patient to allow optimal function and health.

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Manual Muscle Testing Inter-Examiner Reproducibility Including Investigation on the Role of Intent Versus Double-Blinded Neuro-Lingual Challenges

John K. Wittle, D.C., D.A.C.B.N., C.N.S.

Abstract

To observe reproducibility in double-blinded findings between experienced AK practitioners; To investigate reproducibility in brief instance between two test patients' MMT (manual muscle testing) findings; to investigate the role of intent vs. the neuro-lingual challenge. A final observation was to allow other doctors to recreate the experiment simultaneously.

Introduction

The following controlled experiment was conducted at an ICAK-U.S.A. Annual Meeting in front of a live audience. A total of four AK Diplomates (DIBAK), each with 20+ years' experience, participated in testing. The primary controlled portion was conducted in two phases [1&2] under complete observation and analysis by two IBE examiners. The purpose of the IBE examiners was to examine accuracy and correctness of the main doctors MMT procedures. After treatment, IBE examiners were asked to critique the MMT performed by doctors. The ancillary portion [Phase 3] was conducted at the same time in a less controlled environment, with no IBE examiners. The primary portion consisted of phase 1&2; doctors #1 (D1) and #2 (D2) performed their own experiments on participants #1 (P1) and #2 (P2); both D1&2 and P1&2 were blinded to the experiment and to each other's results. The ancillary phase of the experiment occurred simultaneously with two additional DIBAK doctors #3 (D3) and #4 (D4) in the audience; the environment was not controlled or observed by IBE examiners as compared to primary controlled portion, however, the results are worth noting. Doctors D3&4 were blinded to the experiment on a third participant (P3) but were able to consult with each other during the experiment. P1&2 were solicited from the general audience requesting participants with a history of common chemical sensitivities. The goal was to determine congruency between MMT of P1&2 between D1&2, and MMT of P3 between D3&4 in response to toxic or beneficial exposures.

Phase 1 [Primary]

Objective: Determine reproducibility between D1&2; finding similar muscle weaknesses and/or strengths, also known as conditionally inhibited/facilitated muscles respectively. Both doctors were

instructed to find normal functioning muscles and weak muscles on P1. The doctors were instructed to test standard muscles commonly assessed according to applied kinesiology protocols (latissimus dorsi, pectoral major divisions, middle deltoid, trapezius, etc.).

Phase 2 [Primary]
Objective: Determine the role of intent on neuro-lingual challenges between D1&2. Each Doctor was provided four substances to administer neuro-lingual challenges to P1&2. D1&2 were informed that the substances provided were two likely toxic and two likely beneficial. D1&2 were blinded as the substances provided were in mislabeled containers. The four containers were labeled with MSG, P-5-P, Histamine, and Antronex: MSG and Histamine representing likely toxic substances, and Pyridoxal-5-Phosphate (active B6) and Antronex (a supplement marketed for natural antihistamine properties) representing likely beneficial substances. The MSG and P5P vials were swapped with each other; the Histamine and Antronex vials contained identical inert placebos (plain psyllium husk powder).

Phase 3 [Ancillary]
Objective: D3&4 volunteered from the audience. D3&4 collaboratively performed the exact same experiment as was conducted in Phase 1&2 using a different participant, in this case P3. D3&4 were allowed to collaborate and relay their findings to each other. First, D3&4 tested P3 for weak muscles using MMT. Neuro-lingual challenges were then applied to P3 using the same mislabeled containers as described above; this resulted in blinding of the doctors and P3.

Measures
There were several outcomes to evaluate:

1. Were there similar MMT findings between the D1&2 on P1&2; D3&4 on P3?
2. What were the participants MMT responses to toxic/beneficial neuro-lingual challenges?
3. Were participants' responses appropriate or inappropriate to positive or negative Neuro-lingual challenge? (Did the participant challenge "weak" to *actual* toxic substances when they likely would have, or "strong" to a beneficial substance, regardless of label and Doctors' *perceived* response?)
4. What was the correlation of D3&4 collaborative efforts to support actual substance? (Did participant strengthen/weaken to appropriate Neuro-lingual challenge, *actual* versus *perceived*?)
5. What were the observations from the IBE examiners regarding properly performed MMT of P1&2?

Results

1. There was not a single correlation of muscle findings between either of the test patients. Both testers found biased inhibited muscles on both of the patients; however, not a single muscle was the same for P1&2.
2. As there was no correlation among the muscles inhibited, there was still a possibility of the substances causing either facilitation of an inhibited muscles or inhibition of previously

normotonic muscles. In each case the test doctor did find changes with at least one of the substances on each subject. There was no agreement between the testers with the individual patient subjects. To state another way: if one tester found a specific substance positive or negative on a patient, the other tester did not find the same result when he tested that person. The most interesting finding on this point was how the patients reacted to the actual beneficial vs. toxic substance, and whether the tester thought he was testing the actual beneficial vs. toxic substance—which was measure 3 (above).

3. In all cases of Neuro-lingual challenge, a beneficial finding only took place with a substance that was thought/perceived to be beneficial. Similarly any negative findings were found on a perceived toxic substance. Although the Histamine and Antronex were actually the same substance, only one of the four possibilities produced the same reaction, which was no reaction to either. In the case of the MSG and P5P, again there was only one response, which was that neither had any affect.
4. The audience testers were completely un-blinded to each other and the patient subject was aware of the test as well. In the primary case the test was performed again by two very experienced DIBAKs on another likewise doctor/patient. In this case the two testers agreed 100% in finding weakening to the perceived toxic substance of MSG of the PMS muscles and strengthening from the perceived beneficial P5P substance. Additionally, they found a negative finding to the perceived toxic (actually fiber) substance but no change to the other exact same fiber substance.
5. Comments from the IBE examiners: one of the test doctors did not stabilize several of his muscle tests. Several of the tests were conducted in poor conditions since the patient was standing. One of the testers tested for biased facilitation patterns (improperly called "over-facilitated" or "hyper-facilitated"[1]), and the other tester never checked. Both examiners agreed on the same tester's performing higher quality testing than the other. The only unbiased agreement of the entire experiment.

Discussion

All Doctors, D1-4, involved in this experiment are experienced, successful, and accomplished doctors in their discipline. Despite inability to achieve reliability with double-blinded trials, Professional Applied Kinesiology (PAK) shares potential benefit to patients of PAK through treatments and diagnosis. While results were less positive than hoped, this study raises weak points and/or questions about the application of the MMT, and/or the effect of intent, and/or the effect of observer-bias. These play a substantial role in medical research.

While the conditions and set up had definite limitations, it appears certain concepts should still have held constant. If the neuro-lingual challenge is a truly neuro-physiological response, one could reasonably maintain that it should theoretically override unknown bias or intent.

Once results were finalized, conversation of severe limitations regarding outcomes were discussed. D3&4 mentioned they felt P3 was biasing the test since P3 was aware of the labels on the bottles (although they were still mislabeled). This raises the question, why did D3&4 not blind P3 or retest if they saw that? Patient awareness occurs frequently in practice; as such, an experienced PAK

Practitioner should be able to adapt to the patient once noticing he is aware of the substance utilized for the neuro-lingual challenge.

The outcomes of this study showcases several areas of improvement for applied kinesiology; sheds light on why AK studies will fail when attempting to fit within the current, and undoubtedly flawed, scientific model for human observation that is rife with placebo effects[2], observer bias, and the "White Coat effect." In AK, the many variables that are involved with healthy individuals and their ability to rapidly cause severe limitation in double-blind studies. This leads to false positive outcomes, and less than reliable results. For example, vast medical literature exists showcasing the effect of participant perception on measurable outcomes as well as the issues of reliability and credibility and how they relate to patient expectation and fulfillment[3,4,5].

Former ICAK-USA Research Director; Tony Rosner, PhD, observed one clinically experienced DIBAK with many more years of experience was less accurate than two younger doctors on a particular day[6]. The reality is every doctor can have a good day or bad day. Key benefit exists in utilizing orthopedic, neurologic, and other commonly accepted diagnostic tests in addition to MMT, especially in hard cases where accurate information is unremarkable. However, this does not mean that information and treatments might be gained from the use of manual muscle testing by methods that do not fit into the simple three-dimensional scientific paradigm.

Dr. George Goodheart himself, the founder of AK, stated that one of the most important pieces of MMT is intent; he also stated applied kinesiology could have been equally been called applied physiology[7]. Researchers can say that often the positive outcomes are placebo effect. Despite the likely truth of this observation, would this necessarily be bad? A shibboleth of MMT utility states that it be utilized in conjunction, and not in place of, other diagnostic procedures.

If a non-invasive approach helps a person heal and function better, is that not a fantastic outcome? Dr. Dan Monti, MD stated that in the medical research world of psychiatry the issue with placebo is that it does not last a prolonged period before symptoms return, whereas medications have been shown to alter ongoing chemical emotional patterns. This may in fact be true. A possible pitfall in Monti's argument is that the patient who continues to have prolonged effect of medication has himself continued the administration of the medication, which is not the same as a once-applied placebo. In order to test and validate his theory, one would have to continue to administer the "placebo" as often as medications are being taken. Additional factors are involved in doctor/patient interaction that can override many accepted "scientific" realities. This strongly questions what really takes place with the neuro-lingual challenge reflex.

True blinding of AK nutritional testing requires more thoroughly conducted research. True knowledge and understanding are imperative to a viable outcome when dealing with the human condition.

More testing is needed in order to advance the study of applied kinesiology. We must call for more openness to examine failures rather than dismiss them. There is beneficial utility in sharing failures.

An attitude of hiding negative outcomes is no better than pharmaceutical companies' only publishing positive results, submitting literature that supports exactly what the tested drug was intended to find.

Future Related Considerations

Any practitioner can have incorrect observations (bad days) regardless of experience. This exists for several reasons: his personal state of being, the patient's state of being, the interaction between the two, or other influences. Practitioners unaware and/or ignorant of these effects on diagnosis and treatment may be destined to failure from lack of knowledge and/or awareness of the parameters within. Practitioners are also subject to bias from their own belief systems. For example: While arguably not AK, David Hawkins, MD observations and opinions are quite interesting: Does the concept that "enlightenment exists without ego" and his contradictory assertion that if anyone questions him (self-proclaimed enlightened), the questioner is incapable of being enlightened[8] seem completely hypocritical? The Colloquium of Experts survey[9] showed 100% of experienced DIBAK teachers surveyed admit observing their colleagues' biased MMT on occasion, whether purposeful or not. This greatly exemplifies a need for doctors to review their testing procedures and to remain up-to-date and accurate with advanced testing procedures. Tests they once believed true may have been mistakenly forgotten, disproven, or simply updated over the years. Unfortunately, programs to solidify and review MMT techniques are met with great resistance from "experienced" testers.

MMT requires unspoken parameters for any test performed in PAK. For example, the "tap water theory" and MMT: A doctor takes tap water vs. special bottled water (ionized, reverse osmosis, distilled) and shows that those samples they dislike cause muscle inhibition and others they approve show benefit. Yet studies have shown bottle waters can be worse than plain tap water[1]. How well would this water perception hold up in a double-blind, controlled test? Take a person who weakens to bad tasting city tap water. Would that person still weaken if dehydrated? Would he weaken when comparing diet cola vs. sweet tea vs. that water? Another obvious example exists when testing table sugar. Sugar, even fructose, occurs naturally in food. Placing a small amount on the tongue should not cause a healthy participant to weaken unless he has a severe aversion; nevertheless, this test is commonly used in AK to demonstrate how bad sugar is for a person.

Finally, an organization responsible for and connected to the discovery of MMT as an integrated diagnostic tool for dysfunction should seek to update and further its research. Is attempting to adapt flawed scientific principles the norm, rather than paving the way to future paradigms? Most AK practitioners are clinicians not researchers, and therein lies a problem. It is more advantageous for the practitioner to acquire knowledge that aids the patient in health rather than research to prove prior accepted AK methods. To move forward takes teamwork from all persons and perspectives, without ego, to acquire unbiased data that will advance the study of AK.

I applaud those who do research; I applaud those who think about these concepts. I challenge us all to take collaborative action to explain the missing pieces.

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Prioritizing Cranial Fault Correction Incorporating Immune and Meridian System Factors

James D.W. Hogg, D.C., DIBAK

Abstract

A series of trials were conducted by the author on patients in his practice who had recurring cranial faults. Cranial faults were identified as being primary, requiring mechanical correction or secondary to either immune system factors or acupuncture meridian system imbalances. Statistical data on 122 patient trials were collected demonstrating the frequency each of 1. primary cranial faults, cranial faults secondary to 2. immune factor or 3. meridian factors. Other factors contributing to cranial fault recurrence such as meningeal tension were not included in this study.

Key Indexing Terms
Applied Kinesiology, Cranial Adjusting, Acupuncture Meridian Therapy, Chapman Reflex

Introduction
Cranial adjusting is an important part of the "structural" side of the Triad of Health used in applied kinesiology (AK). Any recurring condition is a cause of concern for the clinician and, at least for this author, especially concerning with cranial faults. In this paper I explore two causes of recurring cranial faults: immune system factor [1] (as per Schmitt) and meridian system imbalances as well as the frequency of cranial faults as primary, secondary to immune factors or secondary to meridian factors, in my patient population. The usefulness of the "priority hand mode[2]" was also explored.

Materials and Methods
Patients were tested for the presence of a cranial fault using therapy localization (TL) and/or mechanical challenge observing for a change in muscle facilitation (testing strength) on manual muscle testing (MMT), in particular looking for a change from facilitated (strong) to inhibited (weak). While maintaining the positive TL(above) a second factor was added to determine if the addition would change the state of the MMT from inhibited to facilitated. These factors were:

1. The addition of the "priority hand mode[2]"
2. Stimulation of skin receptors over three reflex points suggested to represent immune system factors by Schmitt[1] via rubbing.
3. TL to acupuncture meridian system pulse points.

If a change was noted using the priority hand mode and none of the other above factors cranial correction was performed in the usual fashion. If one of the immune system reflexes caused a change in MMT, the corresponding Chapman reflex was rubbed and the cranial fault rechecked to verify correction. If TL to the meridian pulse points caused a change in MMT, the meridian was identified with alarm point analysis and the appropriate meridian point treated, usually with low level laser therapy (LLLT) with the cranial fault tested afterward to verify correction.

Findings were recorded with the patient initials as well as whether priority hand mode, immune reflex stimulation or pulse point TL changed TL to the cranial fault. Note was also made of which meridian changed the cranial TL and ultimately corrected it (see Table 1).

Discussion

Wally Schmitt, D.C. first introduced me to the idea that the majority of cranial faults were not primary conditions but rather secondary to immune factors creating secondary mechanical effects via the mesencephalon[1]. He felt that as much as 80% of cranial faults were secondary to immune factors. In my practice I found a somewhat lower percentage of immune factor primacy but still quite large. I was very interested in Schmitt's findings because I had become frustrated with cranial fault recurrence and was always looking for why that should be so in the absence of mechanical trauma. I had postulated that tension or imbalance in the neck and jaw muscles might be one cause which did turn out to be at least part of the answer.

At the 2014 ICAK-USA International Meeting Tracy Gates, D.O. indicated that she was on a similar quest for the cause of recurring cranial faults. She suggested some remedies, including thumb sucking to prevent or correct cranial faults[3]. At the same meeting, Sheldon Deal, D.C. presented a number of AK short cuts including reminding us of the "Priority hand mode" which is performed by touching the tip of the third finger to the distal inter-phalangeal joint of the thumb[2]. If the hand mode changed the TL or challenge results then the problem (eg. cranial fault) was considered to be primary, if no change was noted with the addition of the hand mode the condition was considered to be secondary to some other problem. Inspired by Drs. Gates and Schmitt and using the tool presented by Dr. Deal I decided to look further into the primary and secondary nature of cranial faults.

When a cranial fault TL or challenge did not show a change with the priority hand mode (indicating that it was secondary to another problem) I looked for a causative factor. While a number of other problems, including other cranial faults, meningeal tension, vertebral subluxations, extremity (especially foot) subluxations, allergies and emotional factors were discovered, two areas seemed to most frequently primary to cranial faults. These were the immune factors as per Schmitt and meridian imbalances. Interestingly enough, the two meridians that were almost always primary (when it turned out that a meridian problem was primary to a cranial fault) were the spleen and liver meridians. Since both liver and spleen contribute to our immune defense, this may corroborate Dr.

Schmitt's admonition that most cranial faults are secondary to immune factors albeit from a different angle. For the purposes of this study, I focused on immune and meridian factors and did not record other factors causing a secondary cranial fault.

Over 122 patient trials, I kept track of whether a cranial TL changed with priority hand mode, immune reflex stimulation or pulse points. If priority hand mode did show a change (indicating the cranial fault was primary) I also checked for the other factors. Priority mode created a change in six (5%) trials wherein there was also found to be immune (requiring chapman reflex) or meridian involvement. In three trials (2.5%) both immune and meridian factors were found primary to a cranial fault (see Table 2). In nearly every case that an immune reflex was indicated and the associate Chapman reflex treated or indicated meridian point treated, the cranial fault and various associated muscular inhibitions were resolved without needing further cranial therapy.

Based in the data in Table 1, we can see that a little more than half (55%) of the cranial faults found were primary. 21% were secondary to spleen meridian imbalance with the remainder more or less evenly divided between primary Chapman immune reflexes (9%) and liver meridian imbalance (12%). The discrepancy between these findings and those of Schmitt may be due to the fact that I have a high retention practice (patient visit average 82 in 2014) and most of the patients in this study had been previously checked and treated for immune factors. No doubt the percentages would be different with a sample composed of primarily first time patients.

Conclusion

The goal for most clinicians is to provide the highest quality care to the greatest number of people while preserving personal resources and avoiding burn out. The priority hand mode has proven to be a useful tool for improving efficiency of screening for cranial faults in my practice. I'm now to the point that, if the priority hand mode changes the TL to a cranial fault, I'm 95% confident in directly correcting that cranial fault without concern that it may be secondary to another problem. On the other hand, if the priority hand mode does not change the cranial TL, I'm fairly certain that I will find another factor that is primary and, based on this study, the first areas I investigate for primacy are immune reflexes, spleen or liver meridian imbalance.

The quest for clarity in our patient's health picture is ongoing. This organization excels in finding pieces of that puzzle. This is one such piece. I hope you find it helpful.

Table 1

Total Cranial Trials	Priority	Immune reflex primary	Spleen meridian	Liver Meridian Primary
122	67	13	25	15

Table 2

Total Cranial Trials	Priority mode + immune or meridian	Chapman + meridian
122	6	3

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Supplement Testing: Have We Been Doing it Wrong All These Years?

Michael Lebowitz, D.C. & Noah Lebowitz, D.C.

Abstract

Supplement testing with applied kinesiology has been a big part of many physicians' practices, not to mention all the poorly trained lay people who profess to do applied kinesiology. The realization that some products can yield hypertonic reactions has complicated things. The issues are much more involved than even that. Without trying to unsort these reactions, it can be very easy to prescribe a supplement that "facilitates" an inhibited muscle but is actually contra-indicated. We tested 27 patients in various ways to explore this phenomenon.

Introduction

For decades it has been the norm in many muscle testing based practices to prescribe supplements. Besides case histories, laboratory tests, etc., muscle testing is used to help determine what to prescribe. A supplement is often given that conditionally facilitates an indicator muscle. Another way to prescribe is to give a supplement that negates a positive finding be it a therapy localization (TL) to an organ, a particular muscle inhibition, negates a substance that inhibits etc. In the year 2011 Dr. Michael Lebowitz and Dr. Ami Kapadia co-wrote a paper for the ICAK-U.S.A. Proceedings entitled Food Toxins. Dr. Lebowitz had observed that many times a substance someone was sensitive to would make a normally responding muscle become "hypertonic" (the spindle cells would not "turn off" when being approximated) and in some patients this was more common than having an indicator muscle become conditionally inhibited. Upon further testing it was observed that this held true for nutritional supplements as well as foods (potentially any substance can do this). Using this finding we found many more foods the patient could not tolerate and eliminating the foods temporarily and treating the findings yielded improved patient outcomes.

The following year Dr. Lebowitz observed while testing under the south pole of a magnet over GV-20 that if a substance yielded a hypertonic reaction and you left it there for ten seconds that the hypertonicity would turn into an inhibitory response. Dr. Lebowitz (having never taken a post grad neurology course) hypothesized that the original hypertonicity was likened to a sympathetic overload response, which would soon be exhausted and lead to the inhibition of the indicator muscle. Dr. Sheldon Deal has taught that these hypertonic findings more often occur with foods a patient is physiologically "addicted" towards.

When it came to supplements this put us in a quandary. If we were just testing a pure herb powder it was simple. What if we tested a B Complex or a multivitamin or an herbal mixture? Let us say for example the supplement has 10 ingredients and three of them cause a facilitated muscle to become inhibited, three cause an inhibited muscle to

facilitate and four cause hypertonicity. As a result how would that product test on a patient? Could it test positive while in reality the patient still might react poorly since 3 ingredients were contraindicated?

Even worse, what about a four ingredient product where two of the substances cause hyper tonicity and two cause inhibition? Is it possible the hypertonicity and the inhibition might cause the facilitation of an inhibited indicator muscle? To us the thought seemed very plausible that the combo of hypertonic causing ingredients and inhibiting substances might give you an intermediary response of a facilitation. If so, we can make many mistakes in our prescribing. Would this hold true in both oral testing and magnet testing? How can we accurately access the need for multi-ingredient supplements when this phenomenon exists?

The fact that the hypertonic reaction turns to an inhibitory response after approximately 10 seconds gave us a clue on how to make this determination. If we have a supplement that either negates a positive reflex (eg. inhibition to a TL to one of Chapman's reflexes negated by a multi-ingredient vitamin C) or negates a positive substance (eg. blocks the inhibition to ammonia) or facilitates an inhibited indicator muscle (eg. inhibited pectoralis sternal facilitated by B Complex) will that finding change if we either leave the substance in the patients mouth for 10 seconds or leave them exposed to it under a magnet for 10 seconds? If so should we be waiting that long on all patients before performing the test?

We decided to take a random group of 27 patients to see if the above mentioned theory is true.

Methods and Procedure

Patients were randomly tested on four substances either under a magnet on GV-20, orally in ones mouth, or both. They were tested in the offices of Dr. Michael Lebowitz in Honolulu, HI or of Dr. Noah Lebowitz in Scottsdale, AZ. The four substances being tested were:

1. Pure 100% Camu berry powder.
2. A multivitamin containing vitamin A, vitamin C, vitamin D, vitamin E, Thiamin, Riboflavin, Niacin, B6, Folate, B12, Biotin, Pantothenic Acid, Calcium, Iodine, Magnesium Citrate, Zinc, Selenium, Manganese, Chromium, Molybdenum, Potassium, Choline Citrate, Boron, & Vanadium.
3. A multivitamin protein powder containing vitamin A, vitamin C, vitamin D, vitamin E, Thiamin, Riboflavin, Niacin, B6, Folate, B12, Biotin, Pantothenic Acid, Calcium, Phosphorus, Magnesium, Zinc, Selenium, Manganese, Chromium, Molybdenum, Potassium, Glycine, Medium Chain Triglycerides, L-Glutamine, L-Lysine, Quercetin, Taurine, MSM, Betaine Anhydrous, N-Acetyl-L-Cysteine, Choline Citrate, Glutathione, Green Tea Extract, Boron, Vanadium, Pea protein, Rice Protein, Molasses, Rice bran, monk fruit, vanilla, and orange flavoring.
4. An anti-microbial containing Deglycyrrhizinated Licorice (DGL) extract, Bentonite Clay, Bismuth Citrate, and Berberine.

Each substance was tested on a patient after finding an inhibited division of the pectoralis major muscle. If the muscle was facilitated by any of the substances the spindle cells were immediately approximated to check and see if the substance elicited a hypertonic response. If the substance did not cause a hypertonic response then the patient was continuously exposed (orally or via a magnet) for 10 seconds, and then re-tested. These results were written down and calculated.

Results

Twenty-six patients were tested on the multivitamin with 12 (46%) showing a positive response (indicator muscle becoming facilitated). Of the 12 positive tests two of the tests were a hypertonic result. After exposing the substance to the patient for 10 seconds the patient was re-tested and seven of the initial 12 people's indicator was no longer facilitated, returning to its initial inhibited state. Of the initial 12 positive tests, only five (19%) remained.

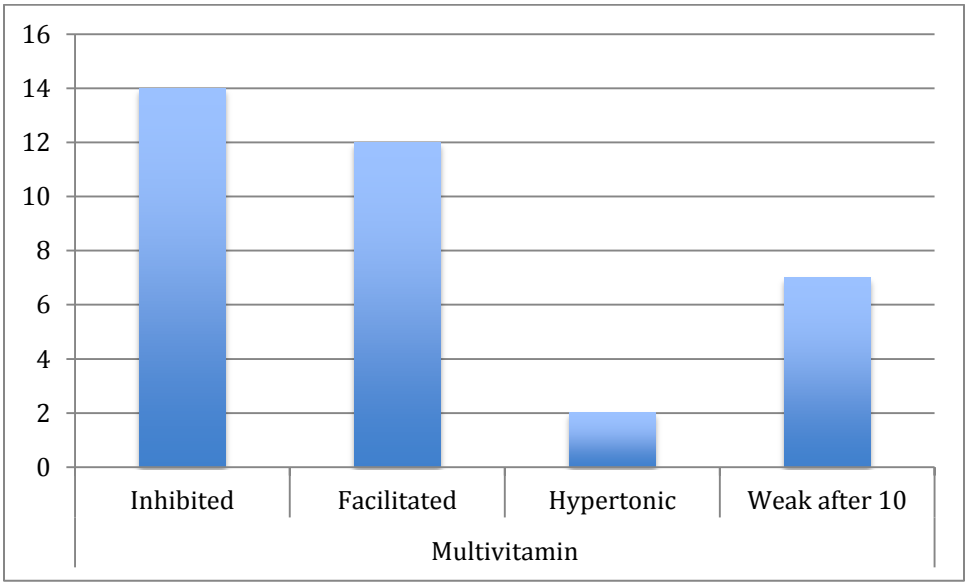

Figure 1 The results are shown of 26 patients tested on a multivitamin

Twenty seven patients were tested on the protein powder/multivitamin with 14 (52%) showing a positive response (indicator muscle becoming facilitated). Of the twelve positive tests three of the tests were a hypertonic result. After exposing the substance to the patient for 10 seconds the patient was re-tested and 10 of the initial 14 people's indicator was no longer facilitated, returning to its initial inhibited state. Of the initial 14 positive tests, only four (15%) remained.

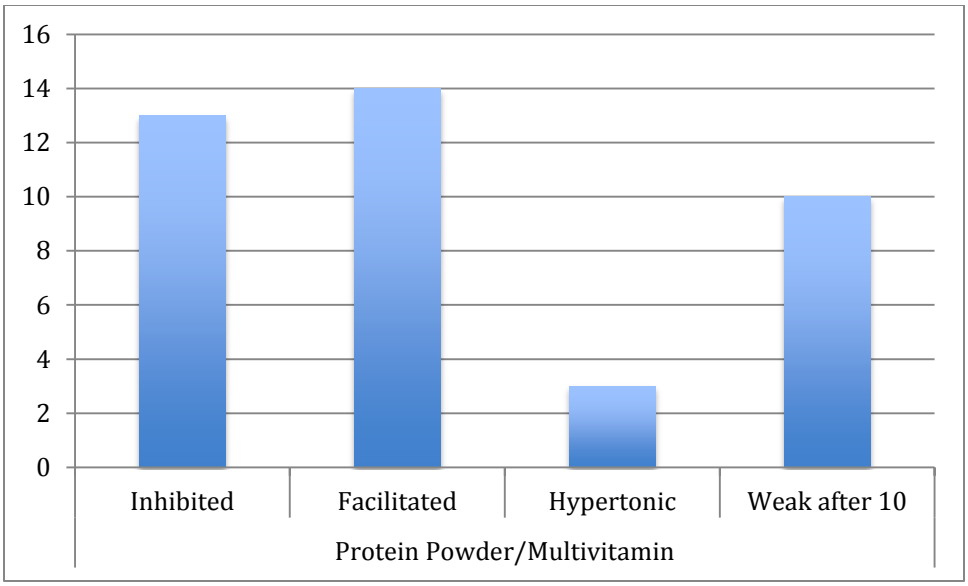

Figure 2 The results are shown for 27 patients checked on a protein powder/multivitamin

Twenty six patients were tested on the antimicrobial with 11 (42%) showing a positive response (indicator muscle becoming facilitated). Of the eleven positive tests one of the tests was a hypertonic result. After exposing the substance to the patient for 10 seconds the patient was re-tested and 8 of the initial 14 people's indicator was no longer facilitated, returning to its initial inhibited state. Of the initial 11 positive tests, only three (12%) remained.

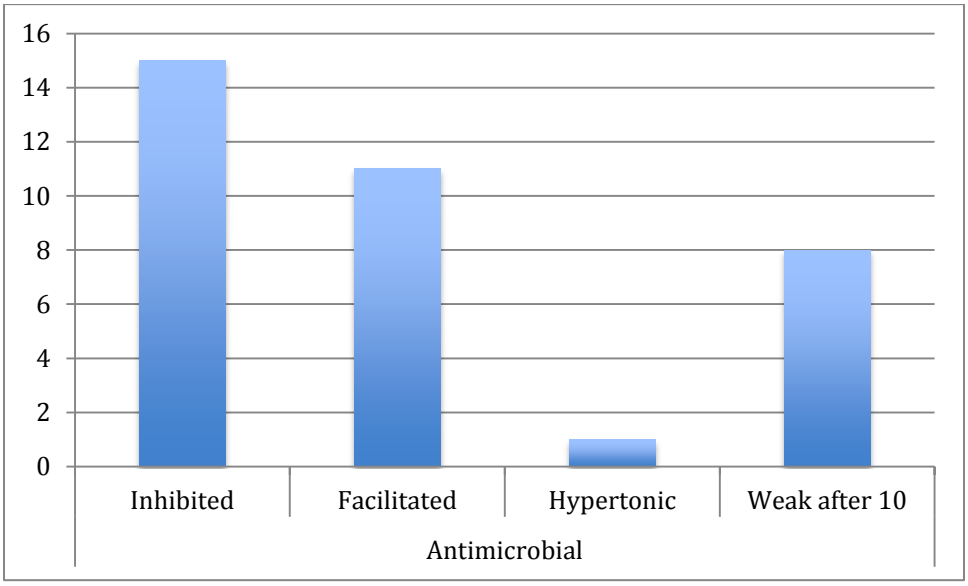

Figure 3 The results are shown for 26 patients checked on an antimicrobial

Twenty two patients were tested on the camu with 13 (59%) showing a positive response (indicator muscle becoming facilitated). Of the twelve positive tests zero of the tests were a hypertonic result. After exposing the substance to the patient for 10 seconds the patient

was re-tested and zero of the initial 13 people's indicator was no longer facilitated, returning to its initial inhibited state. Of the initial 14 positive tests, all 14 remained facilitated.

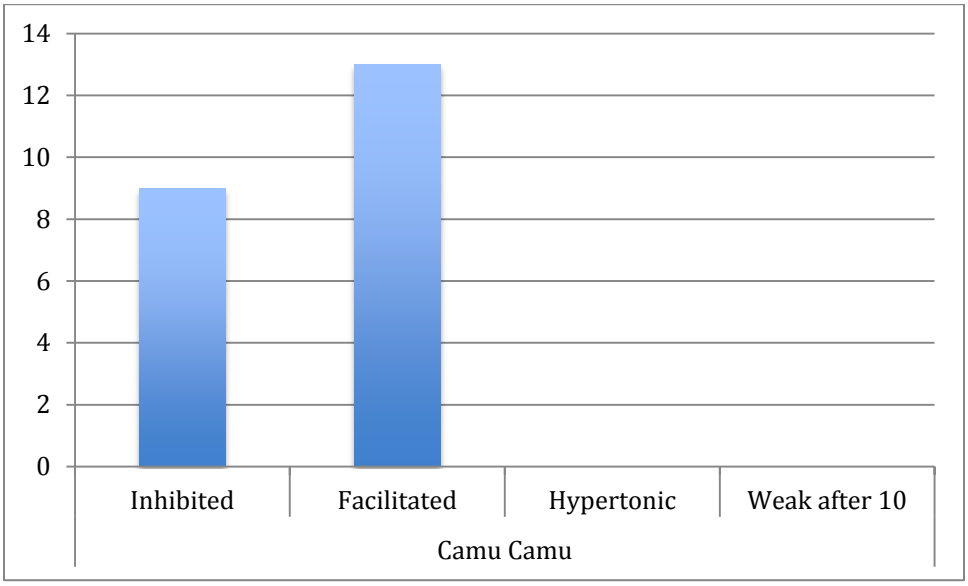

Figure 4 The results are shown for 22 patients checked on camu

Conclusion

A quick initial glance at the data may make one wonder of the validity of MMT and nutritional supplementation. In actuality though, it may mean we have been getting false positives for many years when testing multi-ingredient supplements. A person tested on the multivitamin may have a severe Vitamin A and Vitamin C deficiency but have a sensitivity to artificial chromium and boron. The patient may be in such need of Vitamins A and C that the supplement initially tests positive. Similar to how sugar will strengthen people with hypoglycemia, even though it could exacerbate their adrenal fatigue. We hypothesize that the initial facilitation was due to the need of certain nutrients, but once the body was able to process the good and bad, the re inhibition of the indicator muscle showed the presence of the "bad" components.

Certain single foods (caffeine, albumin, zein, solanine, etc.) have previously been shown to cause hypertonicity, which will turn weak after 10 seconds. If an individual food or herb (with no fillers) does not cause hypertonicity, then the indicator muscle will facilitate if the person needs the supplement. It will not become inhibited after 10 seconds, as it does with some multiple ingredient supplements. This was demonstrated by testing camu on patients, which revealed no false initial positives. The test was either facilitated or not, unlike the three other mixes, with no change after 10 seconds.

While it does take more time to screen products this way, the authors recommend all nutritional supplements which have multiple ingredients should be tested initially and then re-tested after the patient has been continually exposed to the substance for 10 seconds. This will help us know when to test the individual ingredients of a multi-product

supplement to give our patients the most benefit without any of the possible negative consequences of prescribing bad along with the good.

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Surface EMG Comparison of Four Variations of the Manual Muscle Test of the Sartorius

Katharine M. Conable, D.C. & Tracy L. Edelmann, D.C.

Foot line: sEMG of 4 variations of the Sartorius MMT

Abstract

Background: The manual muscle test (MMT) of the sartorius is described and illustrated differently in different MMT references. Four variations were identified based on the tester's hand placement.
Objective: To identify the MMT variation which best isolates the sartorius from the medial hamstrings.
Methods: With IRB approval, 23 volunteer subjects (18 male, five female) between 20 and 58 years old were tested on four variations of the sartorius MMT. Each test was repeated twice, with a 10 second rest between tests.
Measures: Pressure at the lower testing hand, surface EMG amplitude from the right sartorius and medial hamstring.
Results: Ratio of root mean square (RMS) of sEMG amplitude between sartorius and medial hamstrings was compared with a Kruskall-Wallis test. Test variants differed with $P < 0.0001$ overall. Variant C differed significantly from tests A and D, with the sartorius:hamstring ratio higher than the other tests. Test C used lower pressure than other tests.
Discussion: Variant C has not been previously published. Generalizability of this study is limited by the use of a single tester.
Conclusion: MMT of the sartorius with a flat hand lower contact appears to minimize confounding contribution of the medial hamstrings.

Key Indexing Terms
MeSH Key Words: Electromyography, Applied Kinesiology

Introduction
Manual muscle testing is used to evaluate muscle function in many health disciplines. Kendall and Kendal[1] have long emphasized the diagnostic importance of testing individual muscles from a standardized starting position and minimizing substitution by synergists, fixators and antagonists. Schmitt and Cuthbert[2] have further described guidelines for accurate manual muscle testing, including repeatable hand position for the tester.

The sartorius stabilizes the medial knee as well as the ilium. It is frequently manually muscle tested and treated with local manual therapies in applied kinesiology practice. Accurate testing of this muscle is necessary if manual therapy is to be specific.

The actions of the sartorius muscle include both external rotation of the thigh and flexion of the knee and thigh. The medial hamstrings extend and internally rotate the thigh and flex the knee. [1,3,4] Thus, the hamstrings are antagonists to the sartorius with regard to thigh flexion/ extension and internal/external rotation but are synergists in knee flexion. The manual muscle test (MMT) of the sartorius is described and illustrated differently in different MMT references. All include test pressure to internally rotate the thigh and extend the knee to varying degrees. In manual muscle tests that emphasize knee flexion, the more powerful hamstring could prevent knee extension and obscure the tester's perception of any sartorius weakness. However, if the knee flexion component of the manual muscle test is minimized, sartorius weakness may be revealed.

The purpose of this exploratory study was to evaluate three published variants and one novel variant of the sartorius MMT to identify which best activates the sartorius with minimal recruitment of the medial hamstrings by quantifying the relative sartorius:hamstring sEMG amplitude ratio of each test.

Our hypothesis was that testing with the tester's hand flat and not wrapped around the Achilles (variant C below) would have the least hamstring contribution to the test resulting in a higher sartorius:hamstring sEMG amplitude ratio than the other tests (variants A, B and D below) with an alpha of .05.

Institutional Review:
This study was approved by the Institutional Review Board of a chiropractic college.

Muscle Tests:
All tests were submaximal break tests as described in Kendall and Kendall[1], from a position in the middle of the muscle's range of motion in a vector opposite to its pull.

Each test began with the hip externally rotated and the knee flexed approximately 90 degrees, or with the heel at approximately the level of the inferior border of the patella, about six inches anterior to it and somewhat lateral. In all tests except variant D, the testing pressures on knee and lower leg are in directions to internally rotate the hip and extend the knee, in an unwinding motion. In variant D, the test pressure is primarily extension of the knee.

The main difference between tests is the tester's hand contacts. The superior hand is always about a hand's breadth above the knee and the inferior hand is always slightly above the ankle.

Test A. Kendall & Kendall[1] – Superior hand is lateral. Inferior hand is underhand behind the Achilles tendon from the lateral side.

Test B. Walther,[3,4] Leaf/Goodheart,[5] Garten[6] – Superior hand is lateral. Inferior hand on medial lower leg, with fingers wrapping behind the Achilles tendon.

Test C. Taught to both authors in their chiropractic training but not found in published literature – superior hand is lateral. Inferior hand on medial lower leg, with flat hand on medial lower leg, no contact with Achilles.

Test D. Beardall[7], Walther [3,4] – Superior hand is on the medial knee stabilizing in an anterior-posterior direction. Inferior hand is underhand behind the Achilles tendon from the lateral side.

The test position includes more external rotation of the hip than others.
Vector: Extend knee through coronal plane

Tests A, B and D above potentially facilitate the activation of the synergistic hamstrings during the test due to test vector and/or contact behind the Achilles.

We employed surface electromyography (sEMG) to evaluate the relative contributions of the sartorius and hamstrings to each test variant. The amplitude of a sEMG signal increases as more and larger motor units are recruited.[8] A common way to report sEMG amplitude is to calculate the root mean square of the amplitude (RMS). Since the size of muscles and resulting amplitude of the sEMG signal varies greatly between subjects, we calculated a ratio of sartorius:hamstring sEMG amplitude for each subject for each test variant.

Muscle Grading: Muscles were graded per Kendall and Kendall [1].

Grade 0 = no contraction palpable,
Grade 1 = palpable contraction but no motion of the limb,
Grade 2 = motion of the limb only with gravity reduced,
Grade 3 = can move the limb against gravity but cannot maintain position against any added testing pressure,
Grade 4 = can resist some testing pressure but breaks away,
Grade 5 = can resist gradually increasing test pressure without breaking away.

Subjects: Twenty-three chiropractic college student volunteers were recruited by bulletin board, classroom and electronic announcements on the university's communication platforms. Eighteen males and five females participated, mean age 31 years, range 20 – 58 years.

Subjects were screened for exclusions including:

- Spinal, hip, or knee pain, pathology or disability that would interfere with testing of either sartorius muscle.
- Age under 18 or over 75 years.
- Weakness of the sartorius on pre-test of test C of grade 4 or below[1].
- Recent spinal, hip or knee surgery.
- Pregnancy.
- Unwillingness to expose skin for sEMG measurement or skin lesions at electrode sites.
- Current litigation.

Subjects read and signed an informed consent document. The right sartorius was tested with variant C by one of the investigators. The subject was included if the muscle tested grade 5/5.

Skin at electrode attachment sites was prepared with brisk cleaning with abrasive electrode prep gel. Surface electrodes (Biopac EL503) were attached over the proximal right sartorius and right medial hamstrings according to *Cram's Introduction to Surface Electromyography 2nd ed.*[9] The upper sartorius electrode was at four centimeters (cm) distal to the anterior superior iliac spine. Medial hamstrings electrodes were placed approximately half way between the gluteal fold and the back of the knee, about three cm from the medial edge of the thigh, with the location over the hamstrings confirmed by palpation Electrodes were oriented parallel to the muscle fibers. Inter-electrode distance was two cm with a reference electrode on the mid-lateral thigh for the sartorius

leads and on the posterior lower leg for the hamstring leads. Electrodes were connected to the leads of the Biopac MP36 unit. The skin at the electrode sites was not shaved. Electromyography presets at 5-250 Hz bandpass with a 60 Hz notch filter were used. Sampling rate was 1.000 kHz.

One investigator (KMC) tested each subject's sartorius by each of the four methods above, from the same starting position: Hip in external rotation, foot at the level of the lower border of the patella, six to eight inches in front of the leg, knee at approximately 90 degrees of flexion. Test D had the knee somewhat lower than the other tests. (Figure 1, A-D)

The examiner's contact on the lower leg was through the pneumatic pressure-recording module of the Biopac (clench force bulb transducer SS56L) with the bulb replaced with a partially-inflated child-sized blood pressure cuff. The tester's hand was placed inside the loop of the cuff so that the contact of the test was through the "artery" marking on the cuff. The cuff covered the tester's entire test contact. The pressure channel of the Biopac was calibrated to zero and to a five-pound weight each day before testing. Biopac presets with a 60 Hz line frequency filter were use.

Each muscle test lasted four seconds. There was a 10 second rest between each test with the knee bent and the foot resting on the table. The rest period was based on that used by the author in a prior study[10].

The sequence of muscle tests was randomized using the random number function in Microsoft Excel 2008 to randomize the 24 possible sequences of four tests.

One investigator (TLE) ran the recording equipment and called the variant to be tested. She recorded any muscle grade below five on a scale of zero-five on paper.

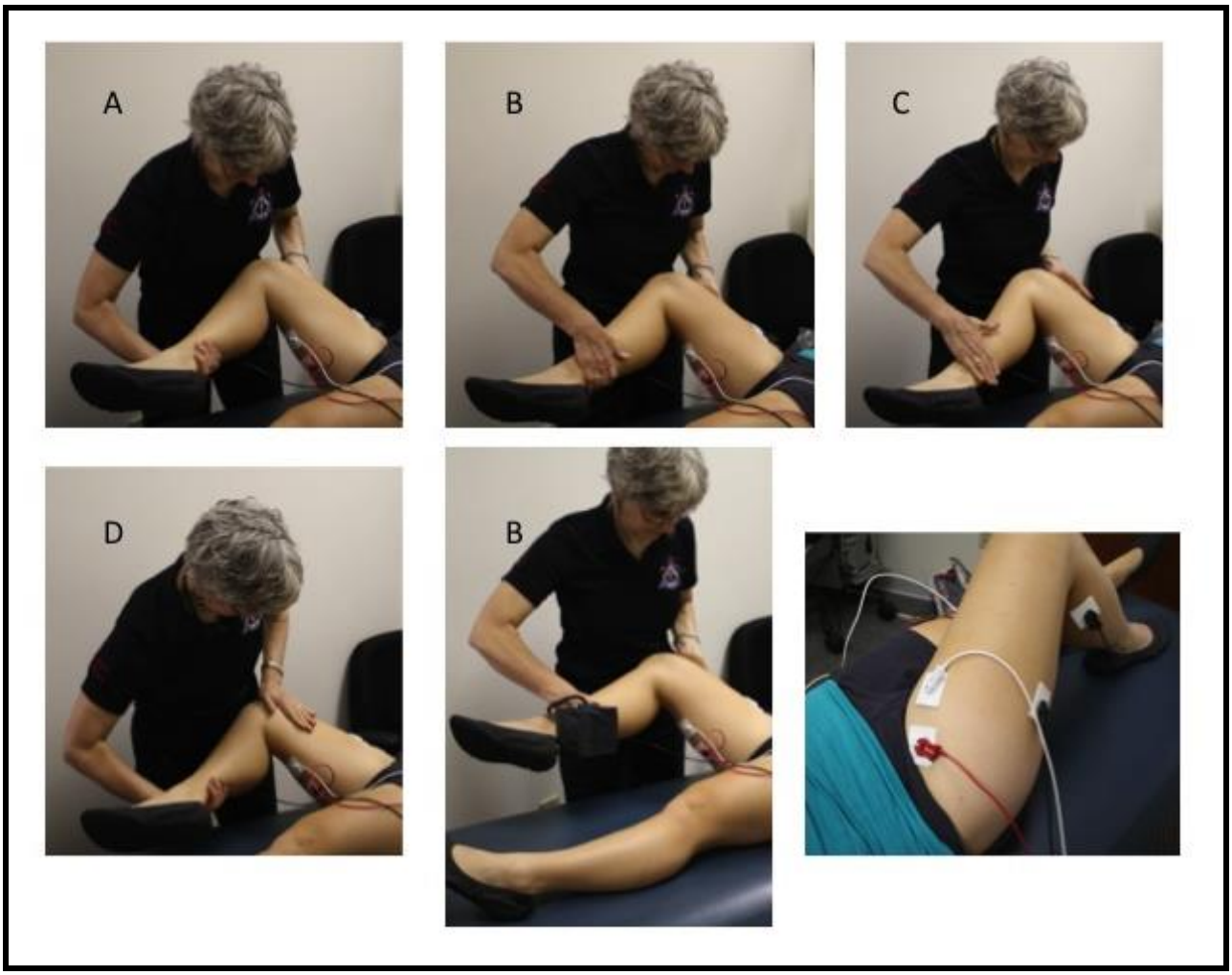

Figure 1. Author demonstrating test variations and electrode placement

Data Analysis

The middle two seconds of each four-second test were measured and the following parameters recorded:

1. Root Mean Square (RMS) of the amplitude (millivolts) of EMG signal from each muscle was calculated using the AcqKnowledge 4.1 software provided with the Biopac. Windowed RMS was based on .03 seconds / 30 samples. The mean RMS was used.
2. All sEMG amplitude data were normalized to the largest reading for the muscle on test B, the most commonly cited variation of the sartorius test.
3. Sartorius:hamstring ratio: The ratio between the normalized RMS of EMG amplitude of the sartorius and the hamstring, averaged over the two repeats of each test variant, was calculated in Excel.
4. Mean pressure of the lower contact in kilopascals over the same time period.

The sartorius:hamstring ratio of sEMG amplitude and the pressure were compared across the four test variants. Due to unequal variances, the non-parametric Kruskal-Wallis test with Dunn's multiple comparisons post-hoc test were used rather than a single-factor Anova. Statistics were calculated GraphPad Instat 3.1a software.

No volunteers were excluded based on exclusion criteria. No grades less than 5/5 were recorded on any test variant, so no comparison of results between test variants was done.

Test C had the highest Sartorius to Hamstring sEMG ratio. Variation between medians for the test variants was significant with P value <0.0001. The null hypothesis of no difference between tests was rejected. Dunn's Multiple Comparisons Test showed that test C was different from A and D significantly and not significantly different from test B, which differed from C only in that the fingers wrapped around the Achilles tendon in B and not in C. Test B and D were also significantly different from each other while A and D were not.

The pressure used in test C was lower than the other tests, and standard deviation was smaller. The Kruskal-Wallis test for pressures was significant with a P value of 0.0021. Dunn's Multiple Comparisons Test showed significant differences between test C and tests A and D, with other comparisons non significant.

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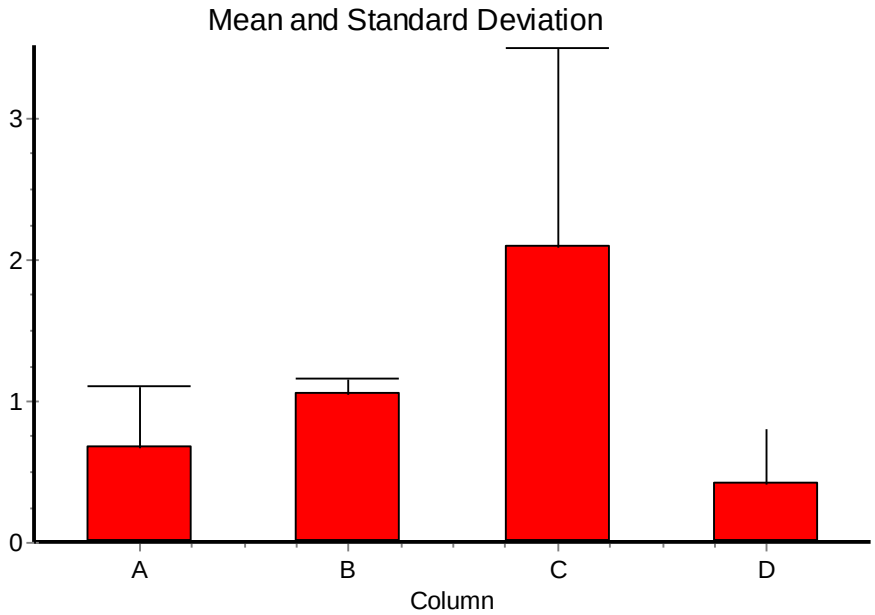

Figure 2. Sartorius:Hamstring sEMG amplitude ratio for MMT variants A, B, C, and D.

	Test A	**Test B**	**Test C**	**Test D**
sEMG S/H Ratio Mean	0.6775	1.0516	2.0944	0.4136
sEMG S/H Ratio SD	0.4345	0.1048	1.4047	0.4012

Table 1. Normalized Sartorius:Hamstring sEMG amplitude ratio mean and SD for MMT variants A, B, C, and D.

Comparison	Mean Rank Difference	P value
S/H Ratio A vs B	-21.304	*
S/H Ratio A vs C	-40.087	***
S/H Ratio A vs D	14.870	ns
S/H Ratio B vs C	-18.783	ns
S/H Ratio B vs D	36.174	***
S/H Ratio C vs D	54.957	***

Table 2. Dunn's Multiple Comparison Test: **Sartorius:Hamstring sEMG amplitude ratio** for MMT variants A, B, C, and D. ns = p>0.05, * = P<0.05, **= P<0.01, *** = P<0.001

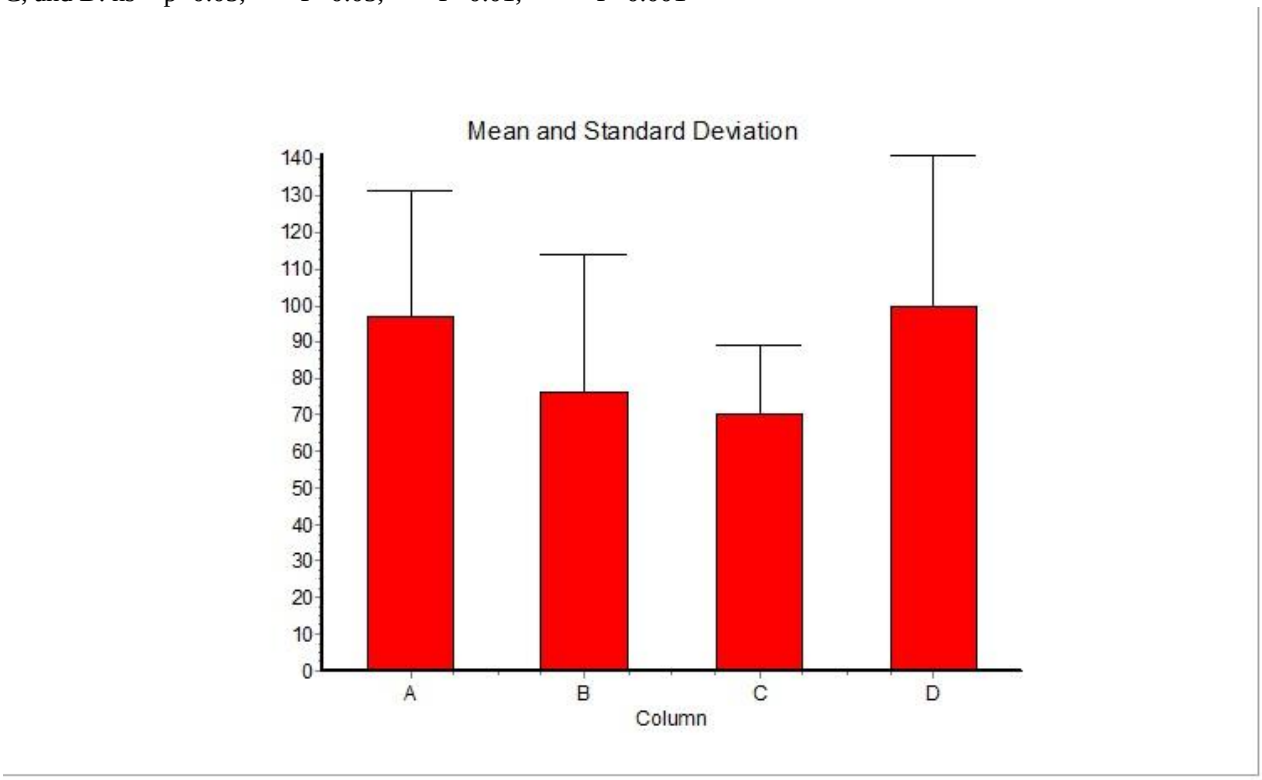

Figure 3. **Manual muscle test pressure** on lower testing contact for MMT variants A, B, C, D. kPa = kilopascals

	Test A	Test B	Test C	Test D
Pressure, Mean kPa	97.0	76.3	70.4	99.8
Pressure SD	35.9	38.6	19.2	41.6

Table 3. Manual muscle test pressure on lower testing contact for MMT variants A, B,C, D. kPa = kilopascals

Comparison	Mean Rank Difference	P value
Pressure A vs B	17.935	ns
Pressure A vs C	23.522	*
Pressure A vs D	-0.4130	ns
Pressure B vs C	5.587	ns
Pressure B vs D	-18.348	ns
Pressure C vs D	-23.935	*

Table 4. Dunn's Multiple Comparison Test: **MMT Pressure** for variants A, B, C, and D. ns = p>0.05, * = P<0.05, **= P<0.01, *** = P<0.001

Discussion

A search of PubMed and available muscle testing texts failed to reveal any previous sEMG study of sartorius muscle testing. Nor were we able to find a description or illustration of the variant C test. Kendall and Kendall's muscle testing books have been a gold standard of muscle testing for decades. Somewhat to our surprise, it appears that their test can be improved upon.

Each subject was tested with the electrodes in the same, standardized location for all tests according to a sEMG reference text.[9] Because each subject's muscles are different sizes, it is not usual to compare raw data in sEMG studies.[9] Often sEMG signals are normalized as a fraction of a maximum voluntary contraction or a specific submaximal contraction before comparison. This would have been more cumbersome than our resources allowed. We normalized each individual reading to the highest reading for that muscle on test B before averaging the signals and calculating the sartorius:hamstring ratio. Other methods of normalization should be considered in future studies. When we calculated the statistics using un-normalized, raw data to obtain the S:H ratio, the results were much the same except that tests A and B were not significantly different from each other.

The medial hamstring electrode placement is considered to be specific and the sartorius placement to be quasi-specific due to potential cross-talk from iliopsoas and rectus femoris.[9] Therefore the sartorius signal was an estimation. We palpated carefully to ensure that electrodes were directly over the sartorius to minimize cross talk. Additionally, since the electrode sites were not shaved, the sEMG signal may have been compromised on some male subjects with hirsute legs.

Standard deviations and variances for the sEMG ratios were rather large. A larger sample and more rigorous site preparation would clarify whether this was due to artifacts or represents a meaningful variability in the testing.

Test C, with a flat hand and no contact on the Achilles tendon minimizes the opportunity for hamstring contraction to confound the test. This test appears to engage the sartorius in a more isolated fashion than any others, with Test B being the next best. Test D appears to be primarily a hamstring test and probably should not be considered a sartorius test at all.

Test pressures were significantly different from each other, but post hoc testing showed that these differences were only significant for test C vs A and C vs D. Tests A and D with the most opportunity for the hamstring to engage had the highest pressure. Test C was accomplished with less pressure and a smaller standard deviation than the other tests. This may be because the powerful hamstring is less involved or because the tester is more familiar with this test and able to perform it more consistently. We tried to mitigate this source of bias by careful testing. Test B had similar pressure to C, but a greater standard deviation in the raw data than test C, suggesting that the larger hamstring component may have introduced more variability into the tests. Our use of a single tester for all subjects and tests is both a strength, in that inter-tester variation was eliminated, and a weakness as generalizability is limited.

This study also piloted a novel way to record the pressure of a manual muscle test. Previous studies by the author have used thin film force sensors that were too small to capture the entire force of the test. Using the small blood pressure cuff allowed us to capture the pressure applied over the entire area of contact between tester and subject's limb. The area of contact was different on different tests – mainly the fingers for variant C, or about six to nine square inches, and most of

the hand for the other variants which wrapped around the Achilles tendon, about 15-18 square inches, dispersed through the soft blood pressure cuff. Without a consistent, exact area of contact it is impossible to calculate force from the pressure readings. The cuff conformed easily to the limb, was comfortable and did not interfere with contact or vector as the Biopac clench bulb did. The cuff held calibration remarkably well from day to day. One problem was that occasionally the cuff slipped and contact was made off of the "artery" marking which gave a distinctly lower pressure measurement. When noticed this was corrected, but some of the pressure readings may have been underestimated. Future studies should actively control for this factor.

Another strength was the randomization of the test sequence so that no two subjects were tested in the same order of the four tests, eliminating confounding by fatigue or practice effects.

Conclusion

The manual muscle test of the sartorius muscle labeled "C" in our trial – with a lateral contact at the knee and a medial flat-hand contact at the lower leg engaged the sartorius muscle with the least contribution from the medial hamstrings of the four variants tested. This test is likely to discover sartorius dysfunction that might be obscured by substitution of the medial hamstring in the three other test variants.

Declaration of Conflicting Interests:
Authors have no potential conflicts of interest to declare with respect to the research, authorship, and/or publication of this article.

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The Solar Plexus Stimulation Assessment (SPSA)

Tyran Gregory Mincey, D.C., DIBAK

Abstract

The Solar Plexus or Celiac Plexus is a comprehensive network of nerves, it also is intertwined and anterior to several branches of vital blood supply to the gut, reproductive, and systems of elimination. The objective here is to share information about uses of this plexus diagnostically and therapeutically. Combined with muscle testing, this plexus may be used as a window to evaluate the status of enteric nervous system (2nd Brain) functions and in the early detection of digestive dysfunction. With this new understanding of this access point, applied kinesiology examination and procedures can be combined to elucidate the cause of dysfunction or the completeness of treatment.

Key Indexing Terms
Chiropractic, Applied Kinesiology, Solar Plexus, Enteric, Herbs, Manual Muscle Text, MMT, Nutrition, 2nd Brain, Physiological Phenomena, Functional Medicine, Stomach, Large Intestine, Colon, Ileocecal Valve, Solar Plexus Chakra, Xiphoid process, Abdomen, ICV, GERD, Gastroesophageal Reflux Disease

Introduction
The enteric nervous system in 1999 was heralded as the 2nd brain" by Dr. Micheal Gerson. His work exposed the role of the enteric as an independently functioning system and created breakthrough types of thought in management of gut function and its overall symbiotic but several role in areas of health. Even with this breakthrough we are still left with questions; What are good ways to assess function of digestion objectively? Noninvasively? And prior to a disease process taking an irreversible hold? And how can we assess our clinical interventions for effectiveness, and completeness, quickly objectively, and noninvasively?

The enteric nervous system has only a few entry points for an examiner. Up until this point, these entry points consisted of taking a subjective history, and gross and microscopic evaluation of buccal, and anal orifices and excreta thereof, as well as surgical options. In addition, with the advent of applied kinesiology procedures and proper evaluation we have been able to detect several areas in need of early intervention and treatment. This has been done effectively for many years with conditions such as GERD, the iliocecal valve syndrome, hypoacidity, hyperacidity, gall bladder dysfunction, colon dysfunction, dysbiosis, malabsorption syndromes, leaky gut, hiatal hernia, pancreatic imbalances (exocrine), and sometimes areas connected to and outside the enteric such as liver, pancreas, and kidney.

The alimentary canal is the principle target of the enteric nervous system and contains several functional valves; these include Iliocecal, colic, valve of houston, cardiac sphincter, lower esophageal sphincter, and the internal (involuntary) and external anal sphincters (voluntary). And although the neurophysiology is not completely clear, these structures seem to have the ability to communicate with one and other and impact function of one on the other as well as remote areas of the body. The mechanism of this communication and outcomes in many patients seems random and unique!

Anatomic knowledge has dominated clinical practice at a cost of ignoring possible functions of these structures. More commonly clinicians look for anatomic pathology. Considering functional health of the enteric nervous system paramount is going to help bring patients to new heights of health and wellness.

Only those trained to understand that functional, chemical, and structural illness may precede poor function and then lead to pathology actually look for it.

In an anatomic and gross pathology oriented healthcare world, subpar function often takes a backseat to the more glamorous gross pathology and disease; high tech malpractice preventing lab tests are preferred to basic exam procedures and thorough history taking. While these viewpoints and tools are useful in the detection of less frequent pathology, the majority of patients do not statistically suffer from such a maladies and are are left with no answer. Also the ordering of invasive tests are premature many times The solar plexus to is an anatomic structure, not an "area." This is a common misconception among clinicians. It has been overlooked as a tool for the assessment of digestive dysfunction in a gross manner.

Background

The area on the abdomen which represents the solar plexus is talked about in many disciplines; these include yoga - as a major power center which impacts and supports spleen, pancreas, kidneys, and liver, and is heralded as a major power chakra - a source of power to be distributed over various parts of the body. Martial arts practitioners use this area as a target for attack, to disable opponents or foe. The osteopath Fulford regarded the solar plexus as an area which could serve as a source of relief from Past moments of shock. He used it therapeutically as an entry point to stimulate emotional healing.

In acupuncture and meridian therapy, the solar plexus area or chakra is a source of energy for the lung meridian, which descends to meet the large intestine and travels up and through the body past the stomach, crosses the diaphragm ends up at LU1 in the shoulder. Is interesting to note that this meridian is associated with the element " metal," and disorders of the throat, chest, and nose. It is also associated with the seven emotions and self-preservation, as well as protection. This might account for Fulford's explanation of "shock release" or the yogi's belief in the area as a power center which in many when stimulated changed the hormonal tides of the body through lungs, intestines and emotional discharge.

Anatomic knowledge supports the viewpoints and theories put forth by both yogis, the martial artist, Fulford, meridian therapy, and applied kinesiologists. We know anatomically that the solar plexus is a bundle of nerves that surrounds the digestive system and vessels supplying it. When we view the body as a profile or hemisection, the solar plexus looks like the sun and its nerve endings point toward the anterior surface of the abdomen. This appearance is why it has been dubbed "solar" - sun, plexus "bundle of nerves." These nerves intertwine with several vital blood vessels which supply structures relating to digestion and elimination. Among these are the celiac trunk which supplies blood to the stomach, spleen and liver, and the superior mesenteric artery which supplies large intestine, and the renal arteries. Also we must not forget that the solar plexus is a major area for both sympathetic and parasympathic influences. First via the vagus nerve which is parasympathic and is 95% afferent. Sympathetic functions are governed via the celiac plexus. As side note, vagal stimulation has been used as a treatment for depression because 95% of its fiber afferentate the brain.

Nociception is the perception of harmful stimuli which is then encoded and processed in the nervous system, It is this mechanism that supplies the body's ability to sense potential harm, and it is an afferent activity. These fibers may be stimulated by chemical, mechanical, emotional or thermal stimuli. Nociception in the enteric may be manifest as indigestion, heart pain, back pain, thoracic pain, nausea, and ICV dysfunction. It may be caused by food, environmental, chemical, or nutrition deficiency, hormonal imbalance, structural imbalance - like subluxation, hiatal hernia, reactive muscles, and stress to temperatures exposures both hot and cold.

Antenna effect in meridians was documented by Walther. There seems to be a sort of antenna effect at the solar plexus but only when dysfunction is present. This is also the area of CV14. This effect perishes when normal function is restored. This effect may also be more a thermal stimulation as it is distance dependent.

Stretch. The basis for GI function is stretch- expansion by content. Fiber is essential to this internally. This is one method of feedback that determines fullness. External stretch may play a role in improving digestion and can be accomplished via visceral manipulation.

Simplicity - the hallmark of a truth is simplicity. When explanations become very intricate and obscure we need to consider that we may be getting away from truth, while Brobdingnagian in volume the subject of anatomic structures is actually simple to learn and know over time as it represents the truth of what structurally is the human body.

Assessment. After history and examination one can add the simple procedure of rubbing over the solar plexus. Rubbing will cause nociceptive input and weaken any primary indicator muscle. But only if digestive function has gone astray. This can be used as a method too gauge effectiveness of treatment rendered, if more areas need to be addressed, or if interventions are working. When normal function is restored rubbing will no longer weaken a PIM.

Although more mysterious, there appears to be an antennae effect where simply waiving the hand over the solar plexus may create a weakening effect in some individuals. Descriptions in yoga, and acupuncture may partially explain the phenomenon but clearly do not explain the mechanics of such a phenomenon. This needs to be investigated to discover the less important "why" this happens.

SPSA Protocol
Using a case which is not switched in the clear do the following;

1. After taking an appropriate history and physical exam and ruling out obvious pathologies.
2. Choose any primary indicator muscle which is intact. The middle deltoid is usually convenient.
3. Rub below the xiphoid process (CV 14).
4. Recheck the PIM
5. Inhibition may be interpreted as dysfunction somewhere in the digestive tract, most commonly stomach and large intestine.
6. Locate, correct and then go back to #3 above until the test is negative.

Discussion

The enteric nervous system is a somewhat complicated system in terms of function. However, it has been observed over a span of many years that this function has a profound impact on human and other vertebrate mammals overall health and vitality. The fact that action or activity at the beginning of the alimentary canal controls outcomes at the end based on documented reflexes gives us the tools we can use to assess our clinical outcomes inexpensively. The presence of this new evaluation point at the solar plexus gives us yet another tool that we can employ that will allow us to assess our clinical outcomes. This technique allows us to objectively and expediently assess interventions in the area of parotid, stomach, small intestine, large intestine and other outlying entities such as the liver, pancreas, gallbladder, and those that have a direct impact on activity in the canal and upon the enteric nervous system.

This test should be used concurrently with appropriate history, physical exam and imaging modalities and procedures. The result is enhanced diagnostic accuracy and improved outcomes.

Conclusion

The solar plexus has a long history and several philosophies attached to its presence. It is clear that the interest in this was sparked by simple observations of human function. Early expressions of the purpose and function of the solar plexus were visionary and amazingly accurate when compared to what we know about the anatomy of the human body. Based on what we know about physiology of the human body it seems that over time all disciplines that have treated, analyzed, and studied the solar plexus in health and even spiritual practices have made positive

contributions. The combination of knowledge from multiple disciplines adds yet another piece to the puzzle of digestive health. Health in this area is likely to be one of the most important areas to master for the long-term benefit of mankind; it is also clear that health in the area of the second brain is effected by spiritual/emotional states, nutrition status, structural status, environmental factors, and the status of the endocrine system. The combinations of these six factors lead us to many presentations - in fact if we were to keep it a really simple and linear, which it is not, and include a single person and pretend only the enteric nervous system function was involved without accounting for other complicated factors, such as genetic individuality, hormonal status, etc, the person could present to our office with at least 720 different enteric health related issues.

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Vestibulocochlear Hemispheric Integration

Dale H. Schusterman, D.C., DIBAK

Abstract

This paper explores the function of the vestibulo-auditory system, which is the first sense to develop in utero and the last to cease before death. Manual muscle testing can guide specific stimulation of the vestibulocochlear nerve using externally sourced and self-generated sounds to balance the brain hemispheric patterns behind most imbalances in the body. The work of Dr. Alfred Tomatis, the pioneer in understanding hearing and listening, provides important insight for these methods. Proper listening is the key to success in most endeavors in life, including health. This paper will show how to align the nervous system to the proper listening focus, in both body and ear, which helps unlock the hemispheric imbalances associated with the patterns we work with in our patients.

Discussion

Brain Hemispheric Dominance

There are many ways to evaluate hemispheric dominance, or imbalance. Applied kinesiologists often evaluate muscle facilitation/inhibition with left or right brain activity. Humming is usually used for right brain activity, and doing some simple math problems is used to evaluate left-brain activity. Chiropractic neurologists evaluate many patterns (blind spot comparison, palate deviation, gait patterns, facial movements, etc.) to establish hemisphericity. This paper will explore methods to activate and balance left and right hemispheric patterns using the vestibulocochlear system.

Humming, and counting backwards from 100 by threes, are both done using sound. The activity of humming activates the right hemisphere and math is a left hemisphere activity. But, what these two have in common is that the ears hear the activity. These are self-generated sounds. If I hum for the patient, it generally has no effect on their muscle test. The same holds true for me doing math out loud, unless they are actively doing it along with me in their head.

Alfred Tomatis, MD (1920-2001) was a surgeon and an ENT specialist from France. He pioneered many new theories and therapies in auditory training. Most audiologists approach the ear as an organ of hearing, which of course, it is. Dr. Tomatis, however, also looked at the ear as the organ for listening. His father was an accomplished singer and he ultimately worked with many of the great singers, musicians, and orators of his day. Through his experiences, Dr. Tomatis made many important observations about listening, some of which will be discussed in this paper.

Anatomy of the Ear

The ear, both auditory and vestibular, begins developing the third week of fetal life and is fully formed by about 18 weeks. Hearing is also the last sense to remain at death. Dorinne Davis in her book, *The Cycle of Sound*, said, “The ear is viewed as the body’s global sensory processor and

not just as a hearing mechanism as all of the body's senses are stimulated either directly or indirectly through the ear." The ear has three basic functions: hearing, balance and posture, and as an engine for brain stimulation. As much as 95% of cortical re-energizing comes from the ear: 65% from the vestibular system, and 30% from the cochlea.

The ear is comprised of three compartments, the outer, middle, and inner ear. (Figure 1) The outer ear consists of the pinna and auditory canal, ending at the tympanic membrane, or eardrum. The anterior portion of the ear canal is innervated by the vagus nerve (CN X).

The middle ear consists of the three smallest bones in the body—the malleus, incus, and stapes—which are the only bones that are fully formed at birth. The two smallest muscles in the body are found here. The stapedius, an extensor innervated by a branch of the facial nerve (CN VII), connects the stapes to the oval window via a small ligament. It is the smallest muscle in the body and is virtually always working. It can contract over 100 times per second. The tensor tympani, a flexor innervated by a branch of the trigeminal nerve (CN V) connects the malleus to the eustachian tube, with a small projection to the greater wing of the sphenoid bone. These muscles serve to protect the ear from loud sounds, normalize the pressure in the middle ear, and to help focus the ear on specific sounds. Dr. Tomatis states that the quality of the voice is a result of the interplay between these two muscles, and that they are influenced by and stimulating of the rest of the flexors and extensors of the body. This is one reason why posture is so important in voice control.

The inner ear sits in the petrous portion of the temporal bone and contains both the vestibular and auditory receptor systems. The vestibular mechanism consists of three semicircular canals, the saccule and utricle. (Figure 2) These inform the brain about spacial orientation, gravity, coordination, muscle tone, muscle planning, and linear movement. This is the organ of equilibrium and balance.

The cochlea contains the organ of Corti, which is the organ of hearing. Over 20,000 small cilia inside the organ of Corti convert sound vibration into electrical energy. Both vestibular and auditory information enter the vestibulocochlear nerve, cranial nerve VIII. CN VIII enters the midbrain at the inferior colliculus and has projections throughout the brain. Auditory, vestibular, visual, and cerebellar functions all intertwine as one major system and treating one affects all. But in this paper we will focus on CN VIII as a therapeutic tool.

The ear provides more stimulation to the brain than any other sense. Joshua Leeds in *The Power of Sound*, said, "Music engages the brain at almost every level…researchers found evidence of music's power to affect neural activity no matter where they looked in the brain, from primitive regions found in all animals to the more evolved regions thought to be distinctly human." According to Thaut, Kenyon, Schaeur and McIntosh, "Auditory cues create consistently 20-50 milliseconds faster physical reactions than do visual or tactile cues." Dr. Tomatis found that lower frequencies discharge energy in the brain and that the higher frequencies charge the brain and serve to energize the whole nervous system. Lower frequencies energize the body, but too many lows can be tiring. Higher frequencies enliven the brain. He called sound a 'nutrient' to the brain and said that listening to Gregorian chants was the equivalent of drinking two cups of European coffee in its energizing effect.

The left ear hears low frequencies better and the right ear is more responsive to higher frequencies. Dr. Tomatis said that higher frequencies are not perceived as well when the stapedius muscle (extensor) over functions compared to the tensor tympani (flexor), and lower frequencies are poorly perceived when the tensor tympani is over controlling. If this is the case, then we have some new insight into how posture affects hearing and how hearing can impact upon the body's structure. Dr. Tomatis found that singers who had lost their voice also lost their posture, causing them to slouch and constrict their chests.

The vestibulocochlear nerve interacts with cranial nerves 2-11 either directly or indirectly, the cerebellum, the mesencephalon, sensory and motor cortexes, most organs via the Vagus nerve, and all muscles via the vestibular apparatus. When we make an impact on this nerve, the effects are systemic. The use of poor quality sound files found in our phones and iPods (MP3, etc.), loud music, noise pollution in our cities, restaurants, and malls, all have a deleterious affect on the hearing, hence the body. There are some highly effective sound stimulation technologies that have been developed in the past 20 years that work to help remediate this damage. Some are listed in the references.

One of Dr. Tomatis' most important discoveries is that, "The voice can only reproduce what the ear can hear." He found that by training the ear muscles to hear properly and changing auditory dominance to the right ear, he could quickly improve the voice as well as the processing of language. If the stimulation was done properly, the changes were permanent. Thus, his sound technologies have great application for many conditions.

The ear hears through bone conduction and air conduction, but there is also a 'body hearing,' which is a function of the vestibule of the ear. Our balance sense comes from the semicircular canals, utricle and saccule of the vestibule. The vibrational sense from bone conduction and the vestibular system contributes to our equilibrium. In a way, it is one continuum of auditory sensing, from the body level, to bone, to air conduction. This spans the gamut of frequencies from low to high. There are ways to evaluate all three types of hearing and to use them in a diagnostic as well as a therapeutic method.

Listening

The key to many things in life is listening properly. Hearing is involuntary, but listening requires an act of will, or internal focus. In order to really listen, we must open to something other than ourselves. Few of us really do that well. Most problems in life can be directly attributed to incorrect, or poor, listening. We either don't listen properly, or we are busy listening to 'other voices' such as the voices of our parents or ancestors, a past injury, or our subconscious fears. We filter our listening to prevent concepts that might be threatening. Dr. Tomatis, in his research, found that listening is the key to learning, healthy social interaction, and physical balance. He first demonstrated in 1952 that proper listening is a function of the right ear. We have two ears, but one is dominant and the other follows. He found that the right ear must lead audition in order for proper listening to take place. He also felt that posture was an important part of listening. "The listening faculty requires optimal hearing to control the whole ear, both vestibule and cochlea. When the vestibule orients itself in space to the position that allows it to take control over the body, listening can be at its best, so for our purposes, posture in both the ear and the body are of paramount importance."

It makes sense that language should be right ear dominant since the auditory centers are in the left hemisphere. Therefore, the shortest pathway to the language centers is via the right ear. When a person leads with the left ear, the information needs to be transferred back to the left side for processing, especially so that a motor response to sound can occur. It takes 200-400 milliseconds for this rebound from right to left hemisphere to occur.

Dr. Tomatis found that the right ear also guided listening to music and singing. In his career, he worked with many professional singers and actors and he had a chance to do many experiments with their auditory and vocal systems. He once took a well-known and accomplished singer and saturated his left ear with loud sound for 10 seconds. The result was a slight improvement in the singer's quality of voice. When the right ear was saturated with sound, the singer was unable to sing in key, or in correct rhythm, a song he had been performing for years. He found that by filtering different frequencies to the right ear, he could selectively alter pitch, quality, and other aspects of the voice. Dr. Tomatis did many tests like this as he developed his theories of hearing, listening, and the use of the voice to sing and speak.

Likewise, he found that he could correct many speech, and learning problems by restoring right ear dominance. For instance, many cases of stuttering come from the lag involved in getting information from the left ear to the right hemisphere and back to the left side of the brain. This is also the case with most learning issues. He was able to correct many of these conditions through the use of his Electronic Ear, which fed specially treated music into the ears, with an emphasis on the right ear. There are many interesting books that describe this process, and you can now get small devices with iPods that are like his original Electronic Ear, the device he developed for training (Integrated Listening, Advanced Brain Technologies).

Most children with learning problems test to be left ear dominant. To assess this in a child, cup one hand in front of her left ear and the other behind her right ear to push the right ear forward. Now have her talk by reciting the alphabet or counting. If the child is right ear dominant testing a muscle should result in strength. If the muscle inhibits, the child is most likely left ear dominant. You can also observe that the left side of the face is more active than the right.

Dr. Tomatis found that when sounds were too loud, or the message too painful, there would be an avoidance in the nervous system resulting in the left ear taking over the lead for that auditory input. The 200-400 millisecond delay is not much, but is enough to protect the sensitive nervous system, and ego. It is an adaptation mechanism, but one that has consequences. Once the left ear takes over, the voice is diminished in quality, the coordination and equilibrium of the body is distorted, and attentiveness to the environment and learning is compromised. Since laterality, or handedness, is a result of normal language development, these children are sometimes left-handed. Tomatis often had children under 14 revert to right-handedness when he did auditory training with them.

Dr. Tomatis also made the observation that the vagal nerve branch to the larynx, the recurrent laryngeal nerve, is longer on the left side and shorter on the right side. The left laryngeal nerve traverses around the aorta thus making it a bit longer. This anatomical asymmetry is the key to many important functions in the nervous system. The shortest pathway to activate the larynx is from the motor centers in the left side of the brain since the right recurrent nerve is shorter. So, the right ear, to the left hemisphere, to the right larynx is the preferred pathway. Nature always does things in the easiest and most efficient manner. Right, Occam? In order to hear sound,

decode meaning and make a verbal response, the healthy nervous system will lead with the right ear and left hemisphere motor stimulation of the larynx.

Hearing involves both ears, but the right ear should organize listening. It is interesting that many mystics state that the sounds of the subtle realms, and inner guidance are heard with the right ear. Nada Yoga, the yoga of sound vibration, trains the user to listen to the inner sounds with the right ear. There are a variety of inner sounds that correspond to the different chakras. The great yogi, Swami Yogananda Paramahamsa, told his disciples to whisper OM in his right ear to bring him back from very deep meditation if they needed him.

We can demonstrate the importance of right ear listening with muscle testing. Test both upper trapezius muscles on a person for strength and ability to inhibit with autogenic inhibition (AI), approximating the muscle spindle cells. Now place a cell phone, or iPod, playing loud music (but not enough to damage hearing) up to the person's left ear for about 10 seconds. Do not damage his hearing, but the music should be slightly uncomfortable. Retest the upper trapezius muscles and check for AI. All should still be normal.

Now place the cell phone, or iPod, with the loud music up to the person's right ear for about 10 seconds. This time you should find that the right upper trapezius is over facilitated and will not inhibit with AI. If you check a strong muscle before and after this experiment along with a positive sentence such as, "I choose to be healthy," you will find that the loud sounds in the right ear create a psychological reversal to the statement. There is no psychological reversal when the loud sounds are heard in the left ear. Therefore, you can see that the right ear has a more important function in the process of listening. In fact, this function is vital for physical, mental, emotional and social health.

Vestibular System

The vestibular system, also part of cranial nerve VIII, needs to be guided by the right side as well. It has been my observation that all distortion in the body routes itself through the left ear/vestibular pathway. When you reestablish proper vestibular control to the right side, the body is more harmonious and balanced. Accomplished athletes have good body control directed by the right vestibular system.

Here is a test to show that the vestibular system is also designed to be right side dominant. Have a patient stand while you gently rock each mastoid anterior to posterior to make sure that they both test strong. Then have the patient shift his weight to his left foot and retest each mastoid in the same manner. Do the same with his weight on the right foot. Gently rocking the left mastoid should inhibit any previously strong indicator muscle when the patient shifts to either foot. This is not a gait pattern. Spreading the muscle spindle cell will not facilitate the inhibited muscle. Gently rocking the right mastoid should test strong. It shows that the right vestibular system leads the process. Gently rocking the left mastoid disrupts the lead of the right ear. If you did not get these results in your test, then the patient is out of balance in some way and once he is properly adjusted your results should show the above response.

We will be working with several types of listening. First, there is vestibular listening, or body 'hearing.' Next, we will work with auditory listening that allows us to consciously take in sounds that come from outside of us-music and language. Both of these types of listening need to be right side focused. Finally, we will listen to our own self-generated sounds such as language, singing,

and humming. This will help us evaluate and stimulate the left and right hemispheres. There are techniques to stimulate the nervous system with each type of listening, and it will lead to a remarkably effective protocol for balancing the body.

Activating the Language Centers of the Left Hemisphere

I have tried many methods to activate the right ear-left brain connection. In 1997 I wrote a paper, *Balancing Internal Acoustics*, on my research into the Tomatis Method. I described the technique of closing the right tragus, the small flap in front of the opening to the ear, when speaking. This activates bone conduction in the right ear, which stimulates the left hemisphere. Bone conduction is much faster than air conduction; therefore, the left ear does not lead. I often have patients vocalize statements in order to find psychological reversal patterns. When they say a sentence aloud, such as, 'Dear Mom, the life I got from you is good,' they might or might not weaken. If I know that there is a deep conflict with the mother, then I suspect a sentence like that might cause a reversal in a muscle test outcome. However, I have learned that the patient has two ears, and if they are both working, the brain has a choice. Does it lead with the right ear and immediately take in the truth of the sentence resulting in muscle inhibition? Or does it avoid the discomfort of the concept and route the information through the left ear for a slight delay, resulting in a strong muscle test. If we don't know which ear is leading when a patient makes such a statement, it is not possible to account for the accuracy of the test. The patient has no conscious control over this process of left versus right listening. The subconscious mind makes these decisions. As physicians we should know that any pain, physical or otherwise, causes the left ear-right brain auditory pathway to gain ascendance. Therefore, I always have patients close the right tragus when saying a statement, so that I am assured that the language centers of the left-brain directly get the information.

The other way to do this is to have the patient silently mouth the statement. This means she moves her lips with the statement, but makes no sound. This includes whispering. If the patient can't silently mouth a statement without whispering, she can hold her breath while moving her lips. This activity activates the larynx without the production of sound. Since the right recurrent laryngeal nerve is shorter, the motor centers in the left hemisphere directly activate the right larynx. The ears don't get a chance to 'choose' to approach or avoid the truth. So, there are two ways to assure that the patient's left hemisphere directly receives language information. Have her silently mouth the statement, or close the right tragus when she speaks. This will dramatically increase your accuracy in assessing psychological information from the patient.

Vestibular Dominance

We saw above that a TL, or slight movement, of the left mastoid would cause an intact muscle to inhibit when a person shifted weight from one foot to the other. In other words, movement activating the vestibular system would cause inhibition with a TL to the left mastoid, but not the right. The left ear serves the lead of the right ear. It has a supportive role, but should not be in the lead unless there is some distortion present, or if there is major brain or vestibular damage.

We can use this information to evaluate any positive TL in the body. If a patient has an inhibited muscle, or TLs an area, which results in a muscle inhibition, touching, or gently rocking, the left mastoid should neutralize that inhibition. This shows that the left ear is leading body equilibrium, instead of supporting the right ear in doing so. The method to un-switch the brain is described in the next section.

Also, if a TL does not cause a muscle to inhibit, but you suspect that there is still a problem with that area, touching, or gently rocking, the right mastoid might cause inhibition. Touching anywhere on the body should result in a strong muscle test if you simultaneously touch the right mastoid, assuming there is not a cranial subluxation. In other words, you can test to see which vestibule is controlling any pattern in the body. When the right vestibule is in control, then all is well. Left sided control indicates distortion of some kind. **If neither mastoid contact counteracts the positive TL, or weak muscle, then the issue is usually related to a biochemical need.**

Activating Right Vestibular Listening

Start by finding a positive TL, or a weak muscle, or a psychological reversal statement, and see if simultaneously touching the left mastoid brings the patient back into strength. If it does, then this is the abnormal vestibular dominance. Let go of the left mastoid and touch the right one. If the test muscle remains inhibited, then the brain is switched and the vestibular system needs to be reset to right-sided control.

There are two steps to restoring right-sided vestibular control. The first is to have the patient stop breathing for a few seconds while the doctor gently rocks the right mastoid back and forth one or two times. Do this while the patient touches the positive TL. When you have a patient say a psychological reversal statement, hold a contact (doctor or patient) on the right lower lateral mastoid. After the statement causes a test muscle to inhibit, rock the right mastoid a few times while the patient holds his or her breath.

The second step in restoring right vestibular control involves activating a semicircular canal (SCC) along with some sound generated above and behind the right ear. The vestibular part of the vestibulocochlear nerve brings equilibrium information from the semicircular canals into the brainstem. There are 3 semicircular canals on each side that act as the gyroscope for the central nervous system. They sit in 3 planes and tell the brain where it is in three-dimensional space. Along with visual cues and proprioceptive data from the joints and muscles, the vestibular system supports balance and equilibrium.

There is an anterior, posterior, and a lateral SCC on each side and they sit at roughly 90 degrees from each other. The lateral SCC is stimulated with simple head rotation to one side, so left head rotation stimulates primarily the left lateral canal (activating the right hemisphere). Extending the head on the neck and rotating the head to one side stimulates the posterior canal on the same side. So left head rotation with extension stimulates the left posterior SCC (activating the right hemisphere). Of course, all the canals continuously provide neural input during movement, but the specific head positions accentuate specific canals and the neural pathways they activate.

Flexing the head on the neck and rotating the head to one side stimulates the <u>opposite</u> anterior SCC. Think of it as rotating the head so that the temporal bone (ear) is forward on that side. Neck flexion with right head rotation stimulates the left anterior SCC (left ear forward).

In the first step above, you rocked the right mastoid while the patient held his or her breath. Then you can challenge each supraspinatus muscle to find which side of the brain is involved (ipsilateral hemisphere to supraspinatus). That way you only need to test 3 head positions. The semicircular canals send information to opposite side of the brain via cranial nerve VIII.

Therefore, if the left supraspinatus is inhibited, you need to evaluate the 3 right-sided SCCs that activate the left hemisphere.

Test the left hemisphere by activating the right SCCs. If positive, a strong indicator muscle will inhibit:

1. Turn the head to the right (right lateral SCC)
2. Extend the neck and turn the head to the right (right posterior SCC)
3. Flex the neck and turn the head to the left (right anterior SCC)

Test the right hemisphere by activating the left SCCs. If positive, a strong indicator muscle will inhibit:

1. Turn the head to the left (left lateral SCC)
2. Extend the neck and turn the head to the left (left posterior SCC)
3. Flex the neck and turn the head to the right (left anterior SCC)

Dr. Walter Schmitt in his excellent *Brain on Fire* seminar series discusses the SCCs and how to find the one that is not firing properly. He found that the anterior SCC head position would block autogenic inhibition (AI) of flexors on the same side if working normally, and not if malfunctioning. Likewise, the lateral and posterior SCC head positions would block autogenic inhibition of extensors on the same side if working normally, and not if malfunctioning. This type of AI testing should correlate with the active SCC head position.

There are 3 SCCs to choose from for each hemisphere. Find the one that inhibits a strong muscle or facilitates the weak supraspinatus muscle. This is the one that carries the distortion in the body. Once you find the positive SCC, it is necessary to realign it to right-sided control. This is simply accomplished by holding the head in the proper SCC position and creating a sound in the area of the Listening Point as described in the next section.

Activating the Listening Point

For many years, I was content to use the right tragus, or silently mouthing sentences to direct information to the left hemisphere. It is highly effective. This is fine for language, but Dr. Tomatis has proven that the right ear needs to be the lead for all listening, including music. Also, using the tragus only works for self-generated sounds. We will do more with self-generated sounds later on, but there is a difference with listening outside oneself. I tried many things to accomplish this before I realized that there is no place on the head to touch to activate listening. It was necessary to bring sound to the patient from a specific direction.

When sound is given to the patient from a location above and behind the right ear, it has a profound affect on the body. You can play some soft music on your phone, or make some other sound in this location, but it is easiest to snap your fingers, tap the table, or use a tuning fork. Snap your fingers once or twice, or place a vibrating tuning fork, about 3 inches above, behind, and away from the right ear. (Figure 3) I call this area the Listening Point (LP). You can find the exact position with muscle testing. The point is not on the body, but just outside the right temporal bone above and behind the ear. This is the proper listening perspective. **Hold the tuning fork, or snap your fingers, at the LP while you hold the patient's head in the proper SCC position.** This redirects listening to the right ear. The SCC can be on the right or the left, but the LP is only on the right side. Also, if you are activating the right lateral or posterior SCC, it might

be necessary to have the patient sit up so that you can access the LP. After this step you will find that the original TL is still present, but it now neutralizes to a right mastoid contact instead of a left contact. The right ear dominance has been restored in preparation for the final steps of the procedure.

For example, if extending the neck and rotating the head to the left caused facilitation of a right weak supraspinatus (or weakened a strong muscle), you know that the left posterior SCC needs help, which is a right brain issue. Keep the head in that position (along with any TL) and hold a tuning fork or snap your fingers in the area of the LP. Any sound from this orientation will immediately balance this pattern.

If flexing the head on the neck and rotating the head to the left causes facilitation of a weak left supraspinatus (or weakened a strong muscle), you know that the right anterior SCC needs help, which is a left-brain issue. Keep the head in this position (also holding the TL) and hold a tuning fork or snap your fingers in the area of the LP.

It does not matter which of the six SCCs is out of balance. The correction is always to make some sound at the Listening Point on the right side. We are trying to reestablish control to the right CN VIII. However, the involved hemisphere found in this step will be the one that is stimulated throughout the rest of the technique. If you are working in a functional neurological model, it might not seem appropriate to focus the vestibular system and listening, to the right side if the left hemisphere is over-dominant. However, the later steps will allow you to support the right hemisphere if needed. Think of this step as having more to do with consciousness and the accessing of the will. Listening is an active state (in both body and ear), whereas hearing is passive. You will find a good outcome in left-brain dominant individuals when you restore vestibulocochlear control to the right side.

Restoring Right-Sided Vestibulocochlear Dominance:

1. Have the patient stop breathing a few seconds while the doctor gently moves the right mastoid back and forth once or twice.
2. Check the supraspinatus muscles to determine which side of the brain needs support. Find which of the 3 SCC head positions for that side neutralizes the supraspinatus, or causes an indicator muscle weakness. Keep the head in this position while you place some sound in the area of the LP (tuning fork, or snap your fingers). The LP is above and behind the right ear.

These simple steps refocus the brain to the proper listening focus, as the right vestibular and cochlear systems return to the lead. These steps eliminate the temporal switching. The nervous system reestablishes proper alignment through adequate vestibular and sound stimulation to the right ear.

Self-Generated Sounds

So far we have been discussing how to bring the proper listening focus with sound that comes from outside of us. This is listening. Now we need to look at how self-generated sounds effect us. We still need to listen to our own sounds from the right ear perspective; however, self-generated sounds also have a local effect in the left and right hemisphere. The following discussion assumes that the patient has normal hearing. Deafness in one or both ears can alter these patterns.

Bone Conduction

Sound moves through air about 1,086 feet/second, but it travels through bone about 13,260 feet/second, almost 13 times faster. Thus, bone conducted sound gets to the brain slightly ahead of air-conducted sound. It is interesting that the inner ear sits in the middle of the densest bone in the body, the petrous portion of the temporal bone. The Latin word *petrosus*, means "stone-like". This would assure that bone conducted sound would be quite vibrant right where it was registered by the nervous system. All bones in the body, as well as the skin, can 'hear' sound. An effective singer, using the proper posture, allows his larynx to drop back close to the cervical spine so that sound is directed into the spine and the rest of the skeleton. When you hear an accomplished opera singer using his bone conduction system in the production of sound, it seems as if the sound is coming from all around him, not just his mouth. I witnessed this once hearing the tenor Jose Carreras in a small theater. He was not using a microphone due to the small size of the venue and I could not tell where his sound was coming from. It seemed to be coming from all around him.

We hear our own bone conduction sounds when we speak, unless there is some hearing impairment. This is why we sound different to ourselves when we hear our voice in a recording. There is no bone conduction sound in the recording, only the sound component that travels through the air.

We can activate bone conduction using a tuning fork as in the Weber or Rinne tests. The way to activate bone conduction in a patient with self-generated sounds is to have him vocalize while you close the ear using the tragus. Sometimes it is painful when you close the patient's tragus, so you can have the patient close his own ear. Also, you can push the ear canal closed just behind the tragus. Placing a finger, or other blocking object in the ear canal does not work. The ear canal needs to be closed off in order for this procedure to work.

Interesting things happen when you close the left, or right, tragus. When the right tragus is closed and the person speaks aloud, any previously strong muscle should still test strong. If the muscle inhibits, it indicates distortion or imbalance in some area. We will learn how to correct this later. Closing the right tragus and speaking aloud activates the auditory system in the left temporal lobe. This makes sense because language is left hemisphere based for the vast majority of people. It is easiest to have someone count, or say the alphabet. If you ask someone to say something they usually can't think of anything on demand. So, to activate the left hemisphere using sound, it is enough to use language. Doing math problems is not necessary.

When you close the left tragus and hum a song, any previously strong muscle should remain strong. This is normal. If the muscle inhibits, it indicates distortion or imbalance in some area. Closing the left tragus and humming activates the auditory system in the right temporal lobe.

If you close the left tragus and speak aloud, it should always cause a strong muscle to inhibit. This activity directs language information first to the right hemisphere, which then needs to be transferred back to the left side for processing. The 200-400 millisecond delay in getting the auditory information from the right temporal lobe back to the left side results in the muscle inhibition. The test reveals distortion of some kind if there is no inhibition when talking with the left tragus closed. The same holds true when you close the right tragus and hum. Forcing right brain activity to the left side first causes global muscle test inhibition.

You should perform the following tests to observe how the brain processes bone conducted sound. These 4 tests are what should occur with a strong indicator muscle in a patient with normal hearing. If you get a contrary response in any of these tests it indicates there is something that needs correcting or balancing. Generally, a contrary response on one side will also show contrary on the other side. Thus, the temporal lobes test as if they are switched.

1. Close right tragus and count aloud: Muscle facilitation
2. Close left tragus and count aloud: Muscle inhibition
3. Close left tragus and hum: Muscle facilitation
4. Close right tragus and hum: Muscle inhibition

Number 2 above also reflects as over-facilitation of the left upper trapezius and inability to facilitate the right upper trapezius with muscle spindle activation.
Number 4 above also reflects as over-facilitation of the right upper trapezius and inability to facilitate the left upper trapezius with muscle spindle activation.
Numbers 1 and 3 are normal functions, so the spindles of both upper trapezius muscles exhibit normal facilitation and inhibition. Since numbers 1 and 3 are normal, they will be used to evaluate function.

Air Conduction
The same patterns occur with air conduction. The right ear is tuned to language and the left ear is tuned to humming. This time instead of closing the tragus, you need to direct sound more to one ear than the other. You can cup your hand behind the right ear and in front of the left ear for language/left hemisphere. This directs the air-borne sounds towards the right ear. You could also just place one flat hand to the left side of the mouth and nose to direct the sound towards the right. In order to preference the left ear with humming, do just the opposite placements with the hands. Humming does not produce enough air conduction sounds, therefore it is necessary that you sing 'la la la' or 'da da da'. The sound needs to come from the mouth to send sound through the air.

The same patterns occur that we found with bone conduction. Again, if you get a contrary response with muscle testing, it indicates some distortion or imbalance that needs correction.

1. Hand to the left side of the mouth and nose and count aloud: Muscle facilitation
2. Hand to the right side of the mouth and nose and count aloud: Muscle inhibition
3. Hand to the right side of the mouth and nose and sing (la la la): Muscle facilitation
4. Hand to the left side of the mouth and nose and sing (la la la): Muscle inhibition

Number 2 above also reflects as over-facilitation of the left upper trapezius and inability to facilitate the right upper trapezius with muscle spindle activation.
Number 4 above also reflects as over-facilitation of the right upper trapezius and inability to facilitate the left upper trapezius with muscle spindle activation.
Numbers 1 and 3 are normal functions, so the spindles of both upper trapezius muscles exhibit normal facilitation and inhibition. Since numbers 1 and 3 are normal, they will be used to evaluate function.

Both Hemispheres Working Together
It is time to evaluate both hemispheres now that the listening point has been activated. We spend a lot of time in AK testing the left, or right, hemispheres. But, it is very valuable to test both

hemispheres at the same time. It is important to balance one side or the other, but at some point the two need to process together and when we test for this we find many things that previously were missed.

The technique is quite simple. Have the patient touch both mastoid processes at the same time. He can use two hands, or the thumb and middle finger of one hand as long as there is no occipital contact. The doctor can also touch the mastoids. If the two sides of the brain are working together, an indicator muscle will test strong. If the two sides are not in sync, then the indicator muscle will inhibit.

If you maintain the bilateral mastoid contact, the indicator muscle inhibition will change to strength in a few seconds. The indicator muscle facilitation indicates an integration of the two sides of the vestibular system. So, once you find a TL to the bilateral mastoids, hold the contacts until strength returns to the test muscle.

Once the bilateral mastoid contact has been held a few seconds until the indicator is strong, you can then activate left or right brain auditory function. You know from testing the SCCs in step two which side of the brain is involved. Continue to hold the bilateral mastoid TL and have the patient hum, or count. If the right hemisphere is involved, then humming will inhibit an indicator muscle. Humming won't cause muscle inhibition unless both mastoids are contacted. This shows that the two hemispheres, working together, need help with self-generated right brain sound. To balance this inhibition, have the patient continue to hum until the indicator muscle becomes strong. The same pattern holds true for the left hemisphere with speaking, or counting.

Here is a summary of this step:

1. Bilateral TL to mastoids causes a strong indicator muscle to inhibit.
2. Hold bilateral mastoid TL a few seconds until the indicator muscle facilitates.
3. Still holding the bilateral mastoid TL, hum, or speak (whichever causes inhibition) until the indicator muscle facilitates. This should be the same as determined by the SCC-supraspinatus test earlier.

Auditory Hemispheric Balance

Once both mastoids are synchronized, and you have activated the involved hemisphere with the bilateral mastoid contact, you can now work on the individual hemisphere. Remove the bilateral mastoid TL so that you can focus on the left or right temporal lobe. You know which side is involved from the steps above.

For the left hemisphere, close the right tragus and have the patient count aloud. An indicator muscle will remain in inhibition until the bone conduction stimulation restores balance to the left temporal auditory centers. The amount of time this takes will vary. A person may only need to count to 6 before muscle strength returns, or he may have to count to 80.

Then let go of the tragus and cup the right ear forward (you can also place a hand in front of the left ear) and have the patient count aloud again. Again, an indicator muscle will remain in inhibition until the air conduction stimulation restores balance to the left temporal auditory centers. You are using the patient's sounds to activate her left hemisphere.

The same procedure holds true for right brain stimulation. The patient hums with the left tragus closed for bone conduction; however, the patient needs to sing for air conduction. Cup the left ear forward to enhance hearing to the left ear. Have the patient sing without words, 'la, la, la' or 'da, da, da'. Of course, they can sing like this in both steps, but most people are inhibited enough with humming. I usually sing (la, la, la) along with the patient the first time or two until they are more comfortable. Once they hear me 'sing,' they lose some of their inhibition.

When activating the left hemisphere you will find that the patient needs to count to the same number, or letter of the alphabet for all 3 steps: bilateral mastoid contacts, right tragus closed, right ear cupped forward. The number can vary from 10-100, as each pattern requires a different amount of brain stimulation. When activating the right hemisphere, you will find that the patient needs to hum/sing about the same amount of time for all 3 steps. The amount of stimulation will also vary for right brain stimulation.

1. Hold both mastoids until an indicator muscle facilitates.
2. Close the right tragus and count until an indicator muscle facilitates. Or close the left tragus and hum until an indicator muscle facilitates.
3. Cup the right ear forward and count until an indicator muscle facilitates. Or, cup the left ear forward and sing (la, la, la) until an indicator muscle facilitates

Example
A patient has a subluxation of C3 that you can palpate and therapy localize. The indicator muscle facilitates when the patient TLs C3 and you (or the patient) touch the left mastoid. The indicator muscle remains inhibited when you (or the patient) touch the right mastoid. While the patient continues to TL to C3, have the patient stop breathing for a few seconds while you gently rock the right mastoid back and forth (A to P) once or twice. Test both supraspinatus muscles. Place the patient's head in each of the 3 SCC positions according to the side of supraspinatus weakness to find one that facilitates the muscle. Place the head in this SCC position and make some sound in the area above, behind, and away from the right ear. It might be necessary to have the patient sit up so that you can access the LP. Once the indicator returns to strength you will find that the TL to C3 is still there, but it now neutralizes to the right mastoid and remains weak when touching the left one. The brain switching has been corrected with respect to C3.

Next, have the patient hold both mastoids until an indicator weakness facilitates (3-4 seconds). The patient continues to hold both mastoids and starts counting (in this example) until the indicator facilitates again. Finally, have the patient count while you (or the patient) close the right tragus, and then count again while you cup the right ear forward. The patient should need to count to the same number for these last 3 steps. You monitor each step with manual muscle testing to see how much vestibular and auditory stimulation is needed. Once you are done, recheck C3 and you should find that it is mostly, if not completely, improved. Sometimes it takes several sequences of the procedure to resolve a pattern.

Conclusion

Stimulation of cranial nerve VIII influences almost all parts of the nervous system. There is a natural dominance of the right vestibulocochlear nerve in both body and ear listening that we can use to our advantage in finding and correcting distortion. We can activate the right ear with various vestibular and auditory stimuli. In addition, we can also work with individual hemispheric responses to sound using self-generated humming or language. Hearing involves both sides of the

brain. Listening should be directed and organized by the right side. The proper sequence of vestibulocochlear stimulations can provide an excellent therapeutic outcome for many of the issues we treat in AK.

Summary of Procedures

1. Start with a weak muscle, positive TL, or psychological reversal statement. If the weakness neutralizes when touching (doctor or patient) the left mastoid, then you are dealing with a pattern of imbalance. Touching the right mastoid will not change the indicator. If neither mastoid contact neutralizes the weakness, then the problem is biochemical, or emotional.
2. Maintain the positive TL and have the patient stop breathing a few seconds while the doctor gently moves the right mastoid back and forth once or twice.
3. Check the supraspinatus muscles to determine which side of the brain needs support. Find which of the 3 SCC head positions for that side neutralizes the supraspinatus weakness, or causes a strong indicator muscle to inhibit. Keep the head in this position while you snap your fingers, or vibrate a tuning fork, in the area of the LP—right side only. (Now the previous TL will neutralize to the right mastoid instead of the left.)
4. Touch both mastoids (doctor or patient), and hold the contacts a few seconds until an indicator muscle regains strength.
5. Maintain the mastoid contacts while the patient hums, or counts. One self-generated sound activity (the same side as found in step 3) will cause an indicator muscle to inhibit. Have the patient continue humming, or counting, until the indicator becomes strong.
6. If humming is the phase of sound that inhibited the muscle in step 5, you need to work on the right hemisphere via the left ear.
    a. Close the left tragus while the patient hums until an indicator muscle regains strength.
    b. Cup the left ear forward and possibly place the other hand in front of the right ear. The patient sings (la, la, la) until an indicator muscle regains strength.
7. If counting/speaking is the phase of sound that inhibited the muscle in step 5, you need to work on the left hemisphere via the right ear.
    a. Close the right tragus while the patient counts aloud until an indicator muscle regains strength.
    b. Cup the right ear forward, and possibly place the other hand in front of the left ear. The patient counts until an indicator muscle regains strength.

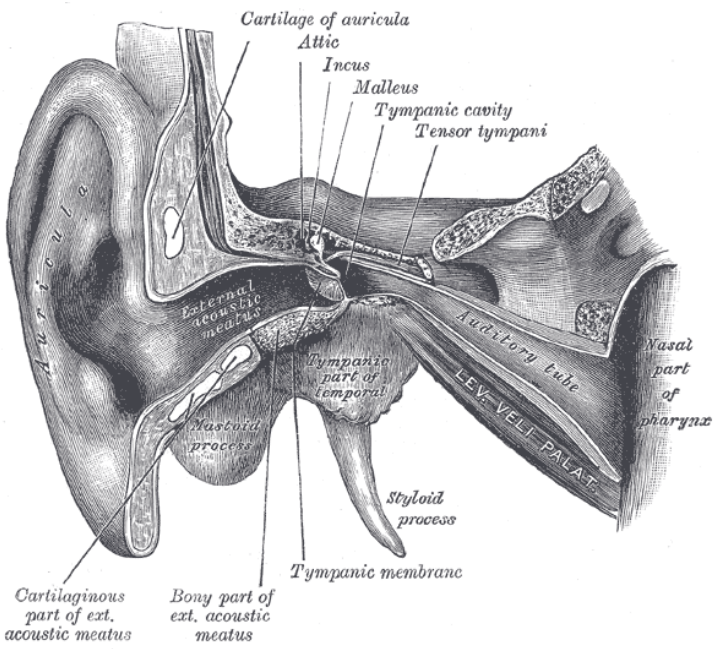

Figure 1. The Ear
"Gray907". Licensed under Public Domain via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Gray907.png#mediaviewer/File:Gray907.png

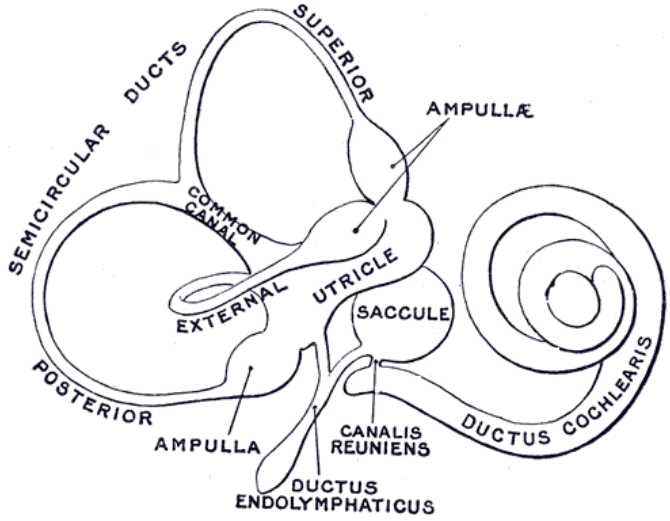

Figure 2. Vestibular Apparatus
"Gray924". Licensed under Public Domain via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Gray924.png#mediaviewer/File:Gray924.png

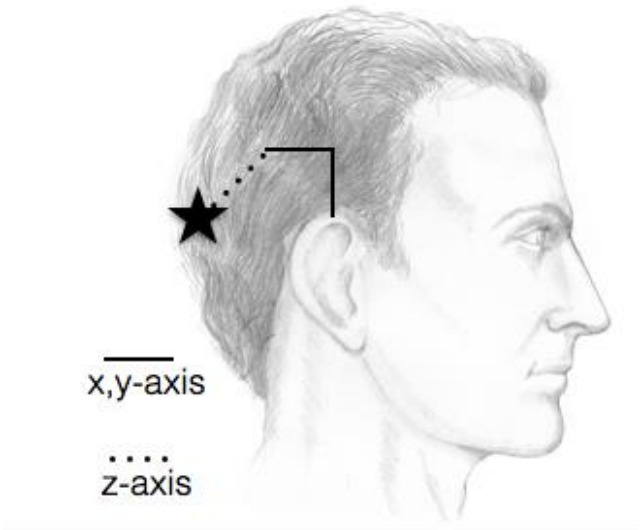

Figure 3. The Listening Point

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Division III

Constructive Review Papers

Therapy Localization Overload Phenomena Reviewed After Thirty Six Years

Paul T. Sprieser, D.C., DIBAK

Abstract

These observations were made just after the discovery of therapy localization by George Goodheart, D.C. in 1974.[1] When therapy localization shows the presence of Ileocecal Valve Syndrome (ICV), which could not be challenged as either being open or closed, or when a Category #1 and Category #2 are found to be present simultaneously, this indicated the overload phenomena is present. This priority pattern is caused by (TMJD) Temporomandibular Joint Dysfunction, and the use of north-pole magnetic field, will assist to undercover it presents.

Introduction

In the original paper on this topic published in the Proceedings of the 1978 Annual Meeting, [2, 3] I had only a few years AK practice under my belt. At that point I had found contradictory information from therapy localization (TL) on occasions while examining a patient for ICV and also pelvic categories. By this I mean, I would get a positive response over McBurney's Point, but could not challenge if it was open or closed. When checking the patient for pelvic categories I would check for both Category #1 and Category #2, even if I got a positive response to one of these I still check for the other. In some instances I would find both being present at the same time.

I had been studying and practicing AK for about four or five years and preparing to take my Diplomate examination and this was one of the two original research papers that had to be done before you can take the examination. When I came upon this pattern I did not know what to do, so I called my teachers Drs. Cordaro, Deutsch, and Rodriquez, but they had never seen this before, so I was on my own.

What I discovered through my investigation was a common pattern that all these patients had. One thing was an active TMJ involvement. Goodheart had introduced the TMJ dysfunction in 1976[4], so it would not have been examined prior to this time. I had come across a paper in the 1978, Proceedings of the Annual Meeting, about the balancing of the mandibular sling.[5]

During the week following the ICAK-USA Annual Meeting in Washington, DC, June 2014, I was trying some of the information and treatment methods that Drs. Deal and Shafer had presented. They had both used magnets to diagnose and treat a variety of conditions on doctors in attendance at this seminar.

I found two patients with the "overload phenomena" on the same day which is somewhat unusual, because this may be found in 13-15% of patients we see in any given period of time.

In the first case I knew it was there when I found an ICV pattern that would not challenge open or closed. When this occurs I know that a TMJD was present and ask the patient to TL the TMJ and test a strong indicator muscle and correct what I found. After that the ICV could be challenged to be either open or closed.

The second case that day created a perplexing problem for me when I challenged the TMJ. It was negative. I then added body in to distortion (BID)[6] and eye into distortion (EID)[7] and breathe hold (B&H) or breathe cessation again negative.[8] I then used some additional enhancement methods such as high gain TL with thumb and little finger together and TL with index, middle and ring fingers.[10] Reticular Activating System (RAS) TL[9] with the fingers of both hands interlaced to make the contact. I also tried right and left and front hand brain memory.[11] I finally tried double hand TL to the individual temporomandibular joint, and again negative. Then I remember the demonstration by Drs. Deal and Shafer with the use of magnet north pole, and with no further effort I could detect a positive TMJD pattern in the patient.[12]

Discussion

In the original paper I collected data on a total of 151 new patients, which was divided into 62 males and 89 females with an age spread between 18 and 70 years. My findings showed that TMJD was present in 82 cases or 54% of the sample, and the Over Load Phenomena (OLP) was present in 52 patients, which was 35% of these cases.[12] Since I have been following the pattern for the past 36 years and I can safely say that I have seen this pattern at least 6,500 or more times. I am not certain why I found such a large number of cases when I originally wrote this paper. Some possible reasons might be that TMJD was introduced into AK in 1976 and the use of TL was presented in 1974, therefore my experience in both testing and examining the TMJ had not been as refined as it is today.

Goodheart stated that TMJD was present in at least 50% of the total population and this is because "centric relation" (CR) and "centric occlusion" (CO) do not match.[14] The definition of centric relation refers to the condyles of the mandible in their function position in the mandibular fossa. Centric occlusion is defined as the teeth of the mandibular and maxillary arches come into intercuspation in a functional arrangement, does not match, creating this dysfunction.[15] My 1978 paper seems to prove this percentage to be correct.

The importance of the TMJ was brought out by Drs. Goodheart and Walther on a neurological basis as shown on the homunculus nucleus of Drs. Penfield and Rasmussen. In Applied Kinesiology Synopsis, 2nd Edition, this title "Prodigious Nerve Supply," the study of the proprioceptors of the periodontal ligaments, are one of the areas of the

nervous system devoted to the Stomatognathic areas as plotted by Penfield and Rasmussen.[16]

This can easily be seen in the homuncular representation of a very large jaw, mouth, lips, tongue and face while the rest of the body is very small with the exception of the hands.

When viewing the entire nervous system you find that only 20% of the input to the brain comes from the spinal column. The other 80% comes from the 12 sets of cranial nerves, and certainly more than half of the total input to our brain come from the fifth cranial nerve, the Trigeminal.[17]

It is not widely appreciated that all sensory information from the face is sent to the trigeminal nucleus. In classic anatomy most sensory information from the face is carried by the Fifth Cranial nerve and any "general somatic afferent" fibers in the Facial Nerve-VII, Glossopharyngeal Nerve-IX and the Vagus Nerve-X also carrying from parts of the mouth, ear and meninges. Without exception all sensory fiber from these nerves terminate in the trigeminal nucleus, on entering the brainstem the sensory fiber from V, VII, IX and X nerves enter is structure.[18]

The muscles of chewing or mastication are innervated by the motor branch of the Trigeminal Nerve (V)-Masseter, Temporalis, Medial and Lateral Pterygoid, with the exception of the Buccinator which is supplied by the Facial Nerve (VII). Adding to this the process of swallowing or deglutition which bring into play the Digastricus, Stylohyoideus, Myohyoideus, Geniohyoideus, Sternohyoideus, Sternothyreoideus, Thyreohyoideus and Omohyoideus. These muscles are supplied by Facial Nerve-VII, Trigeminal Nerve-V, Hypoglossal XII, and Cervical C1-C2-C3. The final part is the tongue which is innervated by the Hypoglossal XII, and finally the esophagus by way of the Vagus Nerve-X.

You can easily see how this area would certainly have a high priority with the central nervous system.

Another variable that I find on occasion was described by a past member of ICAK, Dr. Vincent A. Hochberg who's, paper spoke about balancing the mandibular sling. What I discovered is slightly different than what was described in this paper. The patients will TL the TMJ and what is found is a weakness occurs without activation of any of the muscle of mastication, which makes it impossible to test further till this is corrected.

First the patient is asked to remove one hand at a time to find what side is positive to TL. Once this is determined the patient is asked to take a deep breath in which will neutralize the weakness. The patient will take the index finger on that side and slowly move down the ramus of the jaw till a positive TL point is located. At this point I would take my thumb and contact this point using a light thrust forward with the patient taking an inspiration. This will immediately correct the positive TL pattern allowing the TMJ to be tested with the activating of the jaw muscle with opening, closing, protrusion, retraction and right and left lateralization.

Method
After returning from the ICAK-USA Annual Meeting in 2014, I started using the north pole of the magnet as adjunct diagnostic tool to find hidden patterns on all patients to see how useful it would be. I would hold the magnet in my hand and use therapy localization to the areas that were being examined. If nothing was found I would then apply the magnet to the body and retest the area being examined. If a hidden pattern was detected, a strong indicator muscle would weaken. It appears to uncover every type of problem found in AK testing. As examples, muscle weakness 51%'ers, ICV, TMJ, Cranial Faults, Pelvic Categories, AMC, Pincer Palpation and Trigger Points, just to name a few.

The study consisted of 100 different patients, 50 females and 50 males ranging in age from 20 to 89.

Conclusion

The use of the north pole of a strong magnet seems to be a good method to find hidden problems and save a great deal of time in practice. However, it doesn't take the place of other AK methods such as Body into Distortion (BID), Eyes into Distortion (EID), and Breath Cessation (BC). You may have to add the magnet in conjunction with these other methods in difficult cases.

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