



INTERNATIONAL COLLEGE
OF APPLIED KINESIOLOGY
U.S.A.

*Experimental Observations of
Members of the ICAK*

Volume 1, 2011-2012

Fifty-Third 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, 2011-2012

Proceedings of the Annual Meeting



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Message from the Chairman

David Leaf, D.C., DIBAK

*F*or 35 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. continues to thrive as an “Arena of Ideas” through which members have the opportunity to present their observations and research results. These published works document the first steps toward the furtherance and development of the authors’ hypotheses, concepts and procedural techniques which can culminate in their material becoming part of the accepted body of knowledge we know as applied kinesiology. We invite all members to participate in this endeavor in the future.

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.”

I am pleased to again have the opportunity to read and share with the members the advances and successes of this year.

Thank you and congratulations to all of our contributors. I would like to offer a special thanks to Drs. Allan Zatzkin, David Engel, Janet Calhoun, JJ Gregor and Mathew Keschner for all their help during the review process, and to Dr. Bart Stark, our Publications Chair. We look forward to seeing you at the Annual Meeting, June 2-5, 2011 in Orlando, FL.

Introduction

This fifty third collection of papers from members of the International College of Applied Kinesiology®-U.S.A. contains 40 papers written by 23 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.

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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@dc-kansas-city.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 title. 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; ie, 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, debilitating 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

Applied Kinesiology Protocol for Boosting the Immune System

Eugene Charles, D.C., DIBAK

Abstract

The Immune System is actually a diverse coordinated entity within the body, predominately including the gut, spleen and thymus glands. Regarding the gut Wikipedia states, "The gastrointestinal tract also is a prominent part of the immune system.[10] The surface area of the digestive tract is estimated to be the surface area of a football field. With such a large exposure, the immune system must work hard to prevent pathogens from entering into blood and lymph.

The low pH (ranging from 1 to 4) of the stomach is fatal for many microorganisms that enter it. Similarly, mucus (containing IgA antibodies) neutralizes many of these microorganisms. Other factors in the GI tract help with immune function as well, including enzymes in saliva and bile. Enzymes such as Cyp3A4, along with the antiporter activities, also are instrumental in the intestine's role of detoxification of antigens and xenobiotics, such as drugs, involved in first pass metabolism.

Health-enhancing intestinal bacteria serve to prevent the overgrowth of potentially harmful bacteria in the gut. These two types of bacteria compete for space and "food," as there are limited resources within the intestinal tract. A ratio of 80-85% beneficial to 15-20% potentially harmful bacteria generally is considered normal within the intestines. Microorganisms also are kept at bay by an extensive immune system comprising the gut-associated lymphoid tissue (GALT).¹

The following concise protocol has been effective in apparently stimulating these systems to aid the patient to ward off illness or those with an infection to recuperate more quickly.

Key Indexing Terms

Applied Kinesiology, Chiropractic Therapy, GALT, Gut Associated Lymphoid Tissue, Human Gastrointestinal Tract, Immune System, Probiotics, Spleen, Thymus Gland

Introduction

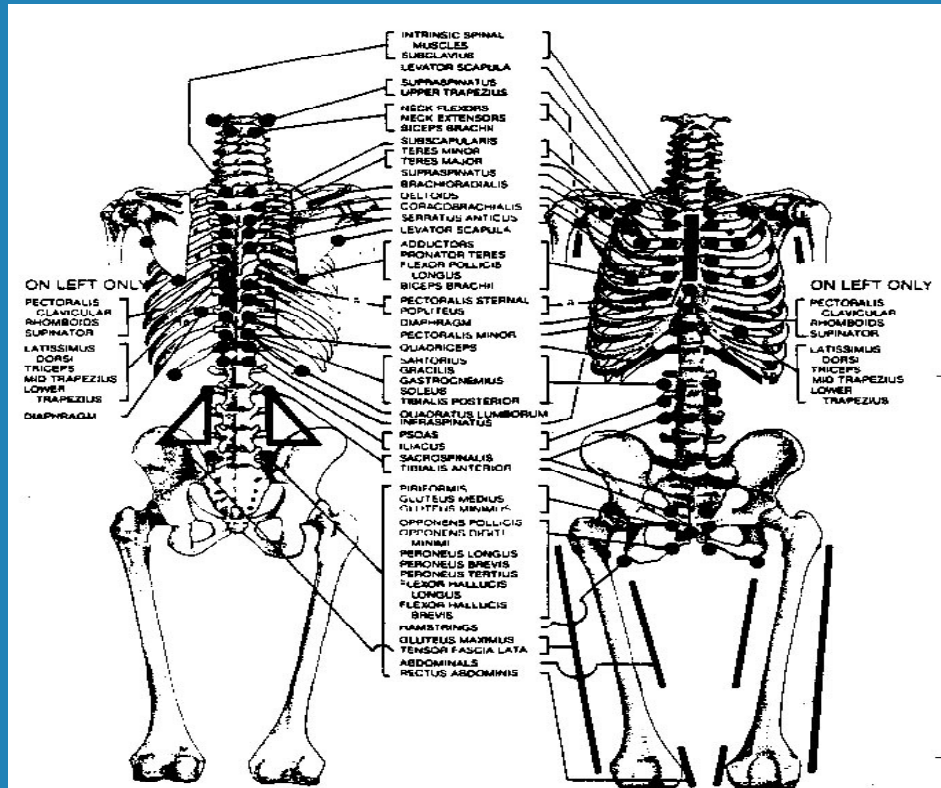
Every winter, at least in the temperate climate areas is a struggle to keep our patient's healthy. There are numerous common sense and nutritional avenues people can follow (see Five Flu Preventing Tips in addendum). This paper will focus on a concise protocol that clinically has shown to be highly effective in helping patients to stay healthy in the winter months.

Discussion

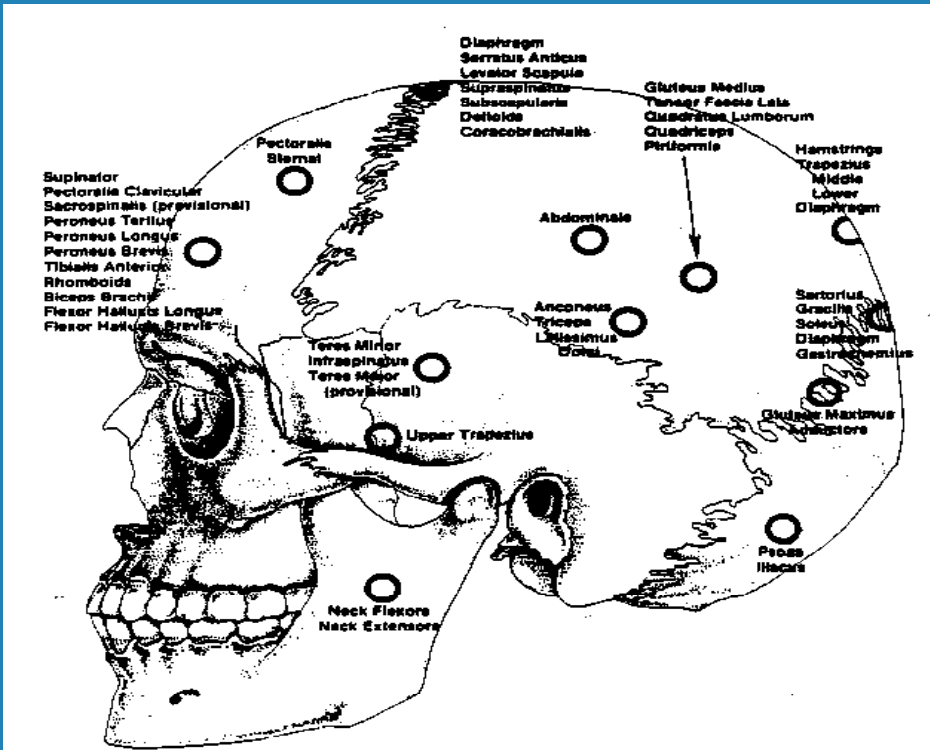
Research continues to confirm that the gut is a major contributing factor to the immune system, estimates ranging from 70% to 80%. AK physical modalities include the 5 factors to apparently affect these organs somatoviscerally. Empirically the Neurolymphatic skin reflexes (NL), the Neurovascular Reflex (NV) and the Spinal Vertebral segment seem to have a powerful modulating affect to the Immune System. The Cranial Sacral Mechanism and Acupuncture have not shown to be a major factor in THIS protocol; however they should be treated if indicated

1. Begin Therapy Localizing the Neurolymphatic Reflex (NL) to the Large Intestine. Then proceed to TL to the Neurovascular Reflex (NV) and the correlating Vertebral Segment. The Temporal Sphenoidal (TS) correlation seems to be the most strongly indicated with regards to the indicated subluxation. In this case the fourth lumbar (L4). Naturally investigate the Lovett Reactor Vertebral Segment (C2). Challenge for the appropriate Prebiotic / Probiotic supplement.
2. Therapy localize the Small Intestine NL, NV and Vertebral level (T10) and the Lovett Reactor Vertebral Segment (T1). Challenge for the optimal nutritional supplement: Vitamin D and/or Okra—Pepsin.
3. Therapy localize the Stomach NL, NV and Vertebral level (T5) and the Lovett Reactor Vertebral Segment (T6). Challenge for the optimal nutritional supplement: Betaine Hydrochloric Acid, Zinc, choline, B vitamins.
4. Therapy localize the Thymus NL, NV and Vertebral level (C5) and the Lovett Reactor Vertebral Segment (L1). Challenge for the optimal nutritional supplement: Thymus extract, calcium, reishi, shitake, andrographis, Echinacea, astragalus etc.
5. Therapy localize the Spleen NL, NV and Vertebral level (T6) and the Lovett Reactor Vertebral Segment (T5). Challenge for the optimal nutritional supplement: Spleen extract, Zinc, Vitamin A.

The patient should be instructed to manipulate the NL reflexes at home, 30 seconds 3 times daily for a week, as well as be diligent with the indicted supplements.

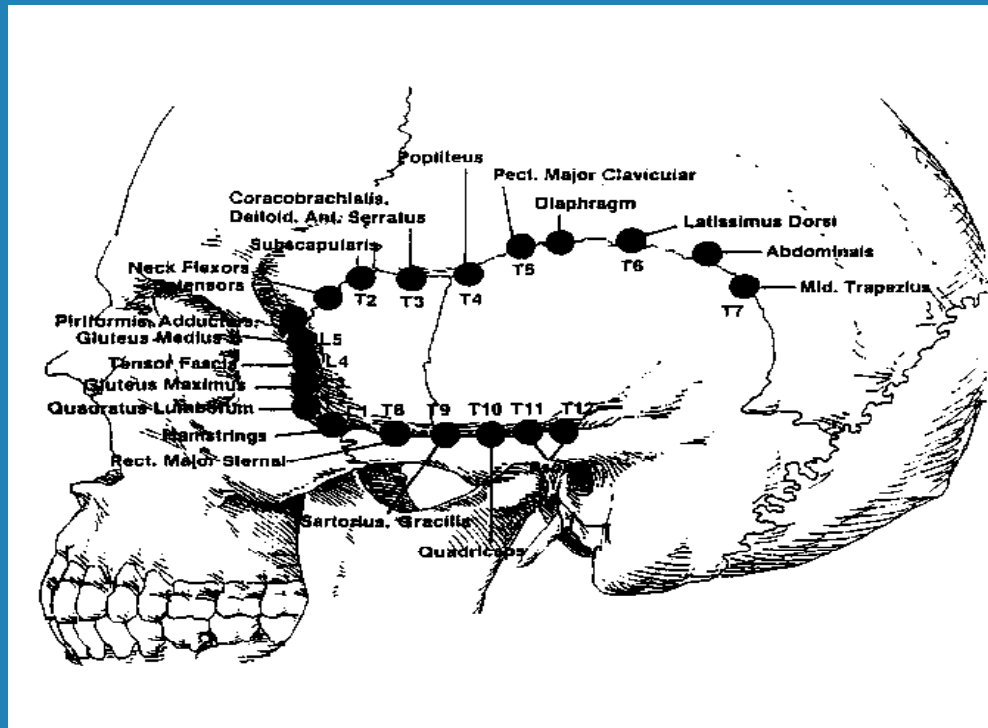


taken from Walther, D. 1988 *The Synopsis* pg. 47



taken from Walther, D. 1988 The Synopsis pg. 48

ILLUSTRATION OF THE TEMPORAL SPHENOIDAL LINE



Conclusion

Naturally the AK tenet of fix what you find wrong is applicable. This concise protocol is meant to systematically assess and treat any functional aberrations within the Large Intestine, Small Intestine, Stomach, Thymus and Spleen.

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Five Flu Preventing Tips

No one wants the flu. So, how do we prevent it during the winter months when everyone is in cooped up quarters and the people around us seem to be rapidly succumbing to this awful virus? Well, take a deep breath and read on to arm yourself with knowledge and tips.

The key to preventing and limiting the effects of the flu is to understand that **IT IS NOT THE VIRUS ALONE THAT CAUSES THE FLU**. If this were the case, everyone would be getting it all the time. It is the body that must be able to keep the effects of the virus at bay.

The following are tips to protect against the flu. The first three tips address the body itself and the last two deals with limiting exposure to the virus

1. TAKE SUPPLEMENTS TO IMMUNIZE YOURSELF.

Build your immune system now and your body will thank you later. Andrographis, astragalus as well as calcium lactate all help keep your immune system strong against viruses like the flu. Also, at least 50% of the immune system is in the gut. Therefore, 64 oz (2 Liters) of water per day, probiotics such as acidophilus found in natural yogurt (though supplement pills are recommended), and daily bowel movements help regulate the approximately 28-feet of intestines inside your body.

2. SLEEP.

A run-down body is more susceptible to getting sick. S-L-E-E-P. I can't emphasize it enough. Get at least 8-hours of rest at night and take a 15-minute power nap in the afternoon if you are feeling a little tired. **LISTEN TO YOUR BODY**. If you're feeling inescapably tired at work – use part of your lunch break to shut your eyes and recharge. When dogs get tired, they don't drink coffee and keep going. They lie down and rest. Not only do you heal your body physically when you rest, but mentally as well. Lastly, check your mattress. If you are waking up sore or fatigued, it may be time to get a new one. I recommend Duxiana, Tempurepedic, Posturepedic and Beauty Rest.

3. CHIROPRACTIC ADJUSTMENTS.

A quiet piece of American history is that the flu epidemic of 1918 is the single event most responsible for chiropractic growing to become the largest American-born health profession. People were dying from this terrible epidemic with a notable exception of people being treated with the new healing procedure known as chiropractic adjustments. Why? Because proper movement of the spine influences the nervous system, which in turn, controls the immune system. Chiropractic adjustments are another way to strengthen your immunity. So, get a precise chiropractic adjustment regularly and keep your neurology functioning optimally.



Photo Credit: Anna Gutermuth. Photo taken from Flickr Creative Commons.

4. WASH, SWEAT, EXERCISE AND BATHE IN SALT.

Skin is the biggest organ of our bodies and it is greatly responsible for our interaction with the environment. Can anyone even count how many objects, people, surfaces, doorknobs, handles and light switches they have touched in a given day? You need to keep your hands clean and avoid touching your mouth, nose and eyes at all costs unless your hands are thoroughly clean. It's also important to remember to wash with natural soaps as much as you can – not the antibacterial type – and avoid touching high microbe areas such as door knobs and public toilets. Use your sleeve or a piece of paper-towel. Don't be afraid of looking strange to others. You should never be ashamed of protecting your health. Also, the skin is a way of keeping viruses from accumulating in the body. Sweating and salt-water baths are excellent means of cleansing your internal environment. Exercise or visit the sauna 3-4 times per week and take weekly warm water salt-water baths for 20-minutes at a time. Masada Dead Sea salts are exceptional. While in the bath, treat yourself with a medicinal drink of green tea with a tablespoon of raw honey and apple cider vinegar – both are excellent immune builders. Remember to brush your teeth right afterwards, though, because apple cider vinegar is very acidic and can damage tooth enamel.

5. CLOSE YOUR MOUTH, BREATHE THROUGH YOUR NOSE!

Breathe the way nature intended – through your nose. One of the first things I watch with new patients is how they breathe. Mouth breathers seem to get more infections, lung problems and sore throats. Your two nostrils have small hairs that filter, humidify and ionize the air that enters your lungs and then your blood stream. So be sure to breathe through your nose.

Stay healthy and stay positive,
Dr. Charles

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Applied Kinesiology Protocol for Boosting the Immune System
Eugene Charles, D.C., DIBAK

Case Study: Treatment Strategy for Herpes Zoster Using Applied Kinesiology

Jac Daccardi, D.C., F.I.A.M.A., F.A.S.A.

Abstract

Applied Kinesiology assessment and treatment of a 41 year old woman with 3 episodes of Herpes Zoster (shingles) in the cutaneous distributions of the ophthalmic, maxillary and mandibular branches of the trigeminal nerve.

Key Indexing Terms

Applied Kinesiology, Shingles, Herpes Zoster, Varicella Zoster, Trigeminal Nerve, Homeopathy, Cold Laser, Glutathione

Introduction

A 41 year old woman presented with a long history of intermittent herpes zoster that appear in the left corner of the mouth and upper lip and are generally confined to the V2 (maxillary) nerve distribution. Typical episodes occur once per year under times of stress, last 2-3 weeks in duration, are initially associated with malaise, paraesthesias and itching which progresses into severe localized burning pain with occasional stabbing, and vesicular lesions which crust over.

The patient sought care as this was an atypical presentation based on her past experience. Prior to treatment there were two such 3-week episodes with completion of the first episode and initiation of the second episode only 3 days apart. After the completion of the second episode, a third episode began, with the interval between them likewise approximately 3 days. At the time of examination, the patient was on the 2nd day of the 3rd episode, with fairly severe pain and swelling which started to extend outward from the region of the lip and mouth to include parts of the cheek. Stabbing pain began to move into cutaneous distributions of ophthalmic and mandibular nerves as well, with burning pain up to the left orbit and around the TMJ region. Patient reported that the severity and the size of the region affected was much greater than before, and that this was the first time swelling was noted, which was also mildly to moderately disfiguring.

Discussion

Patient was assessed using manual muscle testing for thymus (infraspinatus) and spleen (mid and lower traps) along with checking for a 51 percenter for each. All muscles appeared fully facilitated bilaterally. Next the patient was asked to therapy localize each

of the cutaneous areas related to each of the branches of the trigeminal nerve, and it was found that inhibition of a facilitated indicator muscle occurred over each in the entire nerve distributions.

While the patient therapy localized the affected area, I did not find that a systemic supplementation approach caused the inhibited indicator muscle to facilitate. Consulting with a representative of a large well known homeopathic company, it was suggested that I use an injectable varicella preparation along the nerve distribution. Not being able to administer injectables in my state, I then considered oral administration of the varicella preparation, which when challenged did not cause a noticeable change in the indicator muscle. Nor did a homeopathic ointment containing arnica and other ingredients. Likewise, challenging the area with cold laser did not seem to have much of an effect, which was consistent with her prior experience with this modality.

On further investigation, it was also found that neither oral administration of arnica homeopathic liquid (actually a complex containing arnica used in typically in trauma and inflammation), nor topical administration of glutathione in a liposomal delivery system negated the challenge when used alone or in combination. Neither did it appear that the combination of oral varicella preparation and topical glutathione was helpful. However when the oral homeopathic liquid was thoroughly mixed into the liposomal cream and applied it topically over the affected area and allowed time for it to be absorbed, a fully facilitated indicator was found on therapy localization to each area treated. I then challenged the area treated with the mixture for 635nm <5mw cold laser, which appeared to increase the facilitation of the indicator muscle.

By using therapy localization, the entire distributions of V1, V2, and V3 were tested and the mixture was applied. After waiting several minutes, this was followed by 15 minutes with a cold laser. The patient was instructed as to where application was needed and how to mix the two remedies just prior to use. The patient started getting relief later that day, and 24 hours later the majority of the pain symptoms were gone; less than a day after that all signs and symptoms disappeared and have not yet recurred several months later.

Conclusion

Using a combination of glutathione in a liposomal form, mixed with arnica followed by cold laser rapidly brought a recurring and worsening case of shingles to a halt with good resolution. I would recommend using this approach, and also encourage experimentation with various homeopathic preparations in combination with glutathione cream should the patient not appear to be responsive to the arnica preparation.

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Case Study: Treatment Strategy for Herpes Zoster Using Applied Kinesiology
Jac Daccardi, D.C., F.I.A.M.A., F.A.S.A.

Cerebral Hemisphericity Testing Utilizing Applied Kinesiology

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Abstract

A rapid clinical method for determining the presence of cerebral hemisphericity and its relationship to altered neurophysiology.

Key Indexing Terms

Applied Kinesiology, Cerebral Hemisphericity, Neurophysiology

Introduction

Hemisphericity, also known as laterality or asymmetry of the cerebral hemispheres is a theoretical model utilized in functional neurology to describe unequal firing rates of the cerebral hemispheres, wherein each hemisphere maintains a different central integrated state. Because the hemispheric theory is a model that is becoming increasingly clinically relevant, determining the nature of the asymmetry can prove to be of great value in the Applied Kinesiology practice. While there are a variety of methods in functional neurology to help determine hemisphericity such as bilateral blood pressures, ocular vein-to-artery ratios, etc., a rapid assessment using AK methodology is presented here.

Discussion

Imbalances between efferent hemispheric outflow are generally thought to exist as a product of asymmetry of afferent stimulation. Along with the necessity of fuel and oxygen, afferent stimulation appears to be the primary determinant of the central integrated state of the hemisphere, which in turn determines the rate of firing and level of function for various downstream neuronal pools and that which it ultimately innervates.

In this model, neurologic dysfunction manifesting in spinal, behavioral, cognitive, sensory, emotional, and autonomic alterations, etc. may be due to differential efferent outflow associated with cerebral hemisphericity resulting from asymmetry of afferentation. In the realm of spinal biomechanics alone, signs of hemisphericity may appear as subluxation, increased extensor tone, spondylosis, intrinsic spinal weakness with decreased postural tone, decreased A-P curves in cervical and lumbar regions, increased A-P curves in thoracic region, increased postural sway in sagittal or coronal planes, and pelvic floor weakness.^[1]

This being the case, those concerned with utilizing joint manipulation and other receptor-based therapies contained within the field of Applied Kinesiology may find that effectiveness of treatment increases, and global physiological dynamics change more

rapidly and favorably with concurrent application of this model.

Utilizing this procedure yields the information that the physiology of involved muscles and possibly their related viscera may be affected by cerebral hemisphericity and further that an asymmetry exists which may have other global physiological implications. There is also the reciprocal relationship that must be considered which is that the hemisphericity itself may be caused by altered afferentation originating with dysfunctional physiology within the muscles being tested or its associated organs. It is up to the examiner to make that determination.

Procedure

Presuming normal hearing bilaterally, test to determine if inhibition is caused by hemisphericity, and to determine hemisphericity in general:

1. Find inhibited muscle, when present:
2. Increase afferentation to one brain hemisphere by striking a 128 hz tuning fork and placing it in front of the ear contralateral to the side of hemisphere to be challenged for 10-15 seconds
3. Retest muscle; if it facilitates, the hemisphere challenged is the one with a decreased frequency of firing; if muscle remains inhibited:
4. Challenge the other hemisphere by repeating step 2 over the opposite ear
5. Retest muscle; if it facilitates, that hemisphere is the one with a decreased frequency of firing. If muscle remains inhibited, hemisphericity is either not a factor in relationship to this muscular inhibition or is being masked by another factor which must be corrected first.

Note: Efferent signals to the ventral horn are dominantly contralateral, however because there is an ipsilateral component, both hemispheres tend to influence bilateral muscle firing patterns.

The examiner may also apply the same principle in the patient who has a hearing problem, or just as an alternate method by stimulating several metacarpal-phalangeal joints unilaterally with the handle of the tuning fork for 10-15 seconds after it has been struck. Each hand is to be stimulated in turn following the above procedure, which naturally relates to the contralateral hemisphere. It has also been found that repeated tapping of the metacarpal phalangeal joints unilaterally will also generate a similar response.

Correlations may be made on a case by case basis by utilizing a pre- and post-challenge assessment for sagittal/coronal postural sway or normalizations of altered posture along with the standard functional neurology assessments.

Conclusions

Determining if a hemisphericity of cerebral function is affecting the physiology of a patient can be a helpful and powerful diagnostic tool that may provide a window into

global physiological dysfunction. The methods here outlined appear to be a viable approach to making this assessment.

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Cerebral Hemisphericity Testing Utilizing Applied Kinesiology
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Determining Direction and Ratio of Spin Therapy in Cerebellar Rehabilitation

Jac Daccardi, D.C., F.I.A.M.A., F.A.S.A.

Abstract

An Applied Kinesiology approach to assessing the direction and ratio of spin therapy in cerebellar rehabilitation as a tool to augment functional neurological approaches based on clinical observations.

Key Indexing Terms

Functional Neurology, Cerebellum, Cerebellar Rehabilitation, Spin Therapy

Discussion

In combination with a thorough functional neurological workup to determine the necessity of cerebellar rehabilitation, this approach to testing for direction and the ratio of directions of spin can be used to confirm and refine a therapeutic program. It is also possible that findings between the functional neurologic and Applied Kinesiology workups will conflict. In this case, it may be a sign that a different type of therapeutic procedure is indicated for the patient. It may also serve to prompt further investigation into causal mechanisms involved in the dysfunction.

Because very frequently a unilateral functional lesion is part of a larger complex of generalized neurologic dysfunction and degeneration, a more bilateral approach appears to be appropriate when dealing with rehabilitation protocols. In practice I have found that this approach tends to improve patients faster than the unilateral approach, with perhaps greater restoration of function.

Procedure

A. Direction:

The examiner may challenge the patient for direction of spin by doing the following:

1. Have patient sit on a chair designed to spin, such as an office chair (it is helpful to have a back to reduce risk of the patient falling)
2. Find a facilitated indicator muscle. I typically test anterior deltoids bilaterally, simultaneously. However, the supraspinatus may prove to be a more appropriate indicator because of its somatovisceral relationship with the brain.
3. Spin the chair for one complete revolution at a slow to moderate pace toward the side of cerebellar deficiency. (If a right cerebellar deficiency is suspected, spin chair to the patient's right.), retest indicator.

4. Wait for approximately 10 seconds or so for neurologic response to decay from the spin, then spin the chair once in the opposite direction at the same rate, retest indicator.
5. The direction in which the indicator remained facilitated is the appropriate direction for spin. If both directions inhibit, it may be wise to consider a different therapeutic intervention.

B. Ratio:

As in cerebral hemispheric imbalances, it appears that a unilateral deficiency in the cerebellum may be concurrent with generally decreased neurologic function. i.e. a decreased central integrated state. To assess as to whether this is the case, and to determine the appropriate rehabilitation protocol:

1. Spin the patient at the same rate as in the previous test in the direction which did not cause inhibition of indicator for 2 full revolutions, then immediately in the opposite direction for 1 full revolution. This represents a 2:1 ratio. Retest indicator; if it remains facilitated, go to step 2.
2. Again spin the patient at the same rate in the appropriate direction for 3 full revolutions, then in the opposite direction for 1 full revolution. This represents a 3:1 ratio. Retest indicator.
3. Continue increasing the ratio in the same manner until the indicator muscle becomes inhibited.
4. The ratio appropriate for rehabilitation is the one which causes the indicator muscle to inhibit. You can check this by increasing the ratio by one more spin toward the deficient side, which causes the indicator muscle to facilitate once again, there will be inhibition only at one ratio.

In directional testing, the inhibited or weak indicator denotes that the direction of spin which produces the weakness is the opposite of the therapeutic direction. I equate this inhibition to the response of the nervous system to a noxious stimulus. In ratio testing however, it is the inhibited or weak indicator muscle that denotes the proper therapeutic ratio. Rather than considering this inhibition being driven by a noxious stimulus, it seems to me that it is an indicator of state change in this binary testing method. In this case, the state change driving the inhibition of the indicator is desirable.

After applying spin therapy according to rehabilitative protocols at the indicated ratio, check the ratio again to monitor changes. It has been found on checking direction of spin that inhibition of indicator when spun in both directions indicates a decreased overall firing rate of the cerebellum and requires further spin therapy at a 1:1 ratio. If no inhibition occurs on directional testing it is presumed that the firing rate of the cerebellum is adequate.

Conclusion

Cerebellar rehabilitation procedures can be refined by using Applied Kinesiology assessments for direction and ratios of spin. In many cases, the rehabilitation of the cerebellum, like the cerebrum, can benefit from differential bilateral stimulation.

Clinically, this approach of bilateral stimulation with biasing of therapy toward the deficient side appears to increase unilateral function as well as overall firing rates more efficiently than a unilateral approach alone.

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Determining Direction and Ratio of Spin Therapy in Cerebellar Rehabilitation
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Determining Ratios of Laterality of Afferent Stimulation in the Rehabilitation of Neurodegeneration Accompanied by Cerebral Hemisphericity

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Abstract

A clinical method is presented for examiners to determine the ratio of afferent stimulation applied in the brain-based rehabilitation of patients with decreased cortical function globally, who have a further unilateral decrease in the frequency of firing of one hemisphere.

Key Indexing Terms

Hemisphericity, Brain-Based Rehabilitation, Neurodegeneration, Transneuronal Degeneration, Functional Neurology

Introduction

Cerebral hemisphericity, the reduced frequency of firing of one cerebral hemisphere in relationship to the other, when evaluated and treated from a functional neurological perspective, tends to obscure the examiner's view of decreased overall cerebral firing rates. A typical approach utilized in brain-based rehabilitation features unilateral therapeutic procedures such as manipulative adjustments, electrotherapies, vibration, sound, olfaction, eye exercises, etc. as a method designed to restore balance between the hemispheres.^[1] Clinically, I have found that stimulating both hemispheres differentially has improved patient progress and outcomes over the unilateral approach. Thus, a means for determining the proper ratio of lateralized stimulation when applying receptor based therapies appears to be an extremely useful tool in cases where global cerebral firing rates are decreased in addition to having a further decrease of function in one hemisphere.

Discussion

The overall decrease of cerebral function with unilateral hemispherical bias would be particularly expected in the patient with long standing inflammation such as found in chronic immune system activation, and in autoimmune processes. In this patient population there may exist a degree of compromise of the immune barriers in the intestinal tract, the respiratory tract, and the blood-brain barrier which allow antigens to

traverse these barriers. The consequences of which, at least in relationship to the brain, tend to lead to trans-neural degeneration. Consequently, for a variety of reasons we may clinically observe that this trans-neural degeneration has caused or contributed to an overall decrease in brain function, as well as a polarity or hemisphericity of brain function.

The rehabilitation process appears to be sped up by stimulating the brain bilaterally, but only when left-right bias is also addressed. Adding stimulation bilaterally without considering hemisphericity may do little in the way of rehabilitation or may possibly be counterproductive, as it is possible that the dysfunctional relationship between hemispheres may become more plasticized or strengthened. In the realm of functional neurology, there is an observed step-down effect in which there is a self-propagating neurodegenerative cycle wherein a poorly functioning hemisphere may have a negative effect upon the opposite, higher functioning hemisphere to the extent that hemisphericity reverses sides, and what was once the higher functioning is now the lower functioning hemisphere. This is apparently the result of diminished contralateral input, and is clearly an undesirable situation.

Similarly, I have observed a step-up effect in rehabilitation where unilateral afferent stimulation of the lower functioning hemisphere improved its function to the point where it became the higher functioning hemisphere, and as a result hemisphericity switched sides, albeit in an ascending cycle of function. However it was noted that progress was slowed as the hemisphere of lower function periodically reversed sides somewhat unpredictably, and thus the patient's home therapy became counterproductive at times, likely as a result of the negative contralateral influence described above. In these cases, rehabilitative unilateral afferent stimulation must periodically switch from one side to the other in order to keep the patient progressing therapeutically.

While there are many ways to create a unilateral afferent barrage, utilizing a vibrating tuning fork by placing the tip of the handle on the metacarpal-phalangeal joints, or by allowing it to ring in front of the ears are easy ways to accomplish this. This method becomes somewhat clumsy to use when attempting to do this simultaneously on a bilateral basis; however I have included the procedure in this paper regardless. I have found that it is effective and convenient to repeatedly tap on the metacarpal-phalangeal joints or the dorsal aspect of the hands and wrists to achieve a similar effect.

Once the necessity of brain based rehabilitation has been determined by a thorough patient history and a functional neurological exam, the assessment of the proper ratio of left-right bias of afferent stimulation can be performed.

Procedure

A. Tapping:

Being that this test is one which is loosely formed on the basis of temporal summation, I would suspect that the ratios involved are indicative of the relative duration of a given therapy on a side. When any therapy is performed in the same way bilaterally, the only

difference should be in the units of time for each side.

1. Determine side of hemisphericity (decreased frequency of firing) by whatever method is preferred by the examiner. In this example, let us say it is a right hemisphericity.
2. Find a strong indicator muscle, bilaterally. I find it convenient to use the anterior deltoids for this test if appropriate. Otherwise the supraspinatus would be the indicator muscle of choice due to its somatovisceral relationship with the brain.
3. Have patient extend arms directly in front of them and simultaneously tap with fingers once on the dorsum of the patient's hands and wrists bilaterally, somewhat firmly so as to create an adequate afferent barrage, and test indicator contralateral to hemisphericity, in this case on the left. This is a 1:1 ratio. If it remains facilitated, increase the ratio. The ratio appropriate for rehabilitation will inhibit the indicator.
4. Repeat test, by simultaneously tapping both hands and wrists once, but increase the total number of taps on the hand opposite the hemisphericity (left) to 2. This is a 2:1 ratio. If remains facilitated, continue to increase the ratio.
5. Repeat test again by simultaneously tapping both hands and wrists once, and increase the number of taps to the left hand and wrist to a total of 3. This is a 3:1 ratio, and so on. A indicator muscle which inhibits after tapping is indicative of that ratio being the appropriate one for therapy. There have been some fairly high ratios found.

B. Tuning Fork:

As mentioned previously, as an alternative to the tapping procedure, an examiner can perform this assessment by utilizing two tuning forks struck simultaneously and placing the tips of the handles on the metacarpophalangeal joints. They also may be held closely and equidistant before each ear for a set unit of time. To derive the ratios, the examiner may:

1. Test for facilitated indicator muscle contralateral to side of hemisphericity
2. Establish a unit of time, such as 5 second blocks
3. Challenge both sides simultaneously for 5 seconds (or for one block of time) and test the indicator; if it remains facilitated, continue to increase the ratio. This represents a 1:1 ratio.
4. Test both sides simultaneously for 5 seconds, adding additional 5 second units to the side contralateral to the hemisphericity and retesting as in the previous procedure. Each additional 5 second unit increases the ratio from 1:1 to 2:1 to 3:1, etc. When the indicator muscle inhibits, it is indicative of being the proper ratio for rehabilitation.

I test my patients in this manner before initiating treatment, and at the end of the session to see if there is a reduction of the ratio. My attempt is to get them to 1:1. At this point I will send the patient home with instructions to perform rehabilitative procedures at the ratio found at the beginning of the session. Keep in mind that if indicator inhibits at a 1:1 ratio at the end of the session, the implication is in that moment there is symmetry of brain hemisphere firing. It is important to note however, that it also appears to indicate that both hemispheres need further stimulation equally. i.e. on a 1:1 basis.

When the brain is adequately stimulated bilaterally, in general no inhibition at any ratio will occur.

Because it will take some time performing rehabilitation for the involved pathways to plasticize, it is important to recognize that the ratio change in-office will not likely stay this way for long. Therefore, at the beginning of each session perform the test to see if there is a need to alter the home rehab protocol. As always, it is important to confirm progress with other tests.

Conclusion

Testing an indicator muscle while afferentating each hemisphere differentially gives the clinician a tool to assist in the direction of neurological rehabilitation in the office and at home. It can be especially helpful in cases where there is hemisphericity of brain function concurrent with underlying global chronic neurodegenerative processes. I have found that my patients progress through rehabilitation faster using this approach.

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Determining Ratios of Laterality of Afferent Stimulation in the Rehabilitation of Neurodegeneration Accompanied by Cerebral Hemisphericity
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Utilizing the Shen Men Point for Assessment and Correction of Aberrant Afferentiation Associated with Trauma

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Abstract

Possible injury-associated neuromuscular inhibitions may be assessed for involvement of aberrant afferent signals driven by processes of Long-Term Potentiation and/or Sensitization with therapy localization to the Shen Men auriculo-acupuncture point. This model proposes that afferent signaling of this sort differs from transient afferent signaling and can thus be assessed specifically for these phenomena utilizing therapy localization to the Shen Men point. This point has also been clinically observed to be useful for correction of these patterns by its stimulation. Likewise, Shen Men may be cross-therapy localized to meridian and the somato-somatic/visceral/autonomic points associated with the five factors of the IVF, which allows assessment and treatment of tissues and organs potentially affected by aberrant Long-Term Potentiations/Sensitizations. This particular application of Shen Men serves as a subsequent iteration of Injury Recall Technique (IRT) protocols, and illustrates the usefulness of this acupoint in the clinical practice of Applied Kinesiology.

Key Indexing Terms

Shen Men, Auricular Acupuncture, Long Term Potentiation, Sensitization, Injury Recall Technique, Trauma, Neuromuscular Inhibition

Introduction

It appears that the phenomenon of inhibited muscles which do not facilitate autogenically, of the sort typically corrected by Injury Recall Technique^[1], is likely a neurologic long-term potentiation and/or sensitization () initiated by trauma.^{[2][3]} While the causal mechanisms of this scenario are beyond the scope of this paper, clinically the effects may be assessed and corrected utilizing the Shen Men auricular acupuncture point.

Due to the possible global influences on the body, the importance of identification and removal of aberrant patterns subsequent to trauma cannot be, in this author's opinion, overstated. These influences and their effects have been discussed in various forms for years in the AK literature, and elucidated at length by Dr. Walter Schmitt.

While further systemic and clinical ramifications arising from these neurological patterns will perhaps be discussed subsequently, this paper will concern itself with the brief description of the rationale and protocols for utilizing Shen Men as a tool for modulation of alterations in afferentation associated with trauma.

For clarification, the Shen Men auricular acupuncture point here referenced is not to be confused with the "ordinary" acupuncture meridian point, Heart 7, which is also known by the same name. The Heart 7 point has no relevance to this discussion.

Discussion

The Shen Men point (fig. 1) is a commonly used point by practitioners of auricular acupuncture, especially in the treatment of pain, inflammation, fear, anxiety, addiction, and regulation of the sympathetic nervous system.^[4] Of note, it is known to have a strong relationship with the ectodermal thalamus.^[5] Based on its historical clinical usage, it would also seem to also have modulatory effects on the insular cortex, the amygdala, the hypothalamus and the various pathways interconnecting those structures, along with pathways projecting to or reciprocal with the primary sensory cortex and other cortical regions.^[6] While the full extent of its influence is currently unknown, considering its history and frequency of use, Shen Men is understood to be an important therapeutic point with widespread central nervous system effects. For all of these reasons, it would seem a logical choice for the purposes of assessing and influencing central nervous system function.

The benefit of using Shen Men is that the same point may be used for both assessment and correction of what I suspect are aberrant signals (of which IRT patterns are constituent) in the head, trunk, and extremities (i.e. anywhere in the body). It can also be used in combination with the five factors of the IVF in a cross therapy localization pattern to assess and treat tissues for apparent neurologic dysregulation secondary to localized or global trauma.



Figure 1, Shen Men

Procedure

Depending on the context, the use of The Shen Men point appears to function in different modes:

I. Where the muscle being tested is inhibited. In this mode, the examiner tests for the presence of aberrant LTP/S by having the patient contact the Shen Men point ipsilateral to the inhibited muscle during retesting. If the muscle strengthens or facilitates, it represents an indication of aberrant LTP/S (or Injury Recall patterns) affecting this muscle and/or possibly its visceral associations. In the case of any inhibited muscle, where the cause is unknown, Shen Men may be used first as a screening tool. This is can be an incredibly useful application for the utilization of Shen Men.

A. When in area of known injury:

1. Test for inhibition of muscles around an area of known injury, if weak:
2. Therapy localize to the Shen Men point, ipsilateral to injury (if on midline, also check contralateral point)
3. If the muscle facilitates, this indicates the necessity of correcting this neurologic pattern; treat by:
 4. Activating nociceptors in injured area in a manner similar to IRT protocols, i.e. doctor pinches area of injury, or patient can therapy localize the area
 5. Simultaneously stimulate Shen Men with 635 nm (red) laser, tei-shin needle, or finger for 10-20 seconds
 6. Retest previously inhibited muscle for strengthening
 7. If remains inhibited, test as usual the five factors of the IVF, or according to QA^[7] or another applicable protocol.

B. When existence or location of injury is unknown, and neuromuscular inhibition present:

1. Find inhibited muscle
2. Therapy localize to each Shen Men point individually
3. If muscle facilitates, this indicates the necessity of clearing this neurologic pattern generally ipsilateral to the Shen Men point which facilitated involved muscle
4. Without localizing the Shen Men point, hunt for the area of injury by rubbing over the suspected areas of injury, as is typical in the IRT protocol
OR:
5. Another way of hunting for areas of injury is by cross therapy localization of Shen Men and suspected areas of injury. Therefore if the inhibited muscle facilitates while continuing to therapy localize Shen Men, when the correct area of injury is found, facilitated muscle will inhibit.
6. Activate nociceptors in injured area by having patient therapy localize to the area, or alternately, examiner induces nociception by pinching, etc., as

in IRT protocols.

7. Simultaneously stimulate Shen Men with 635 nm (red) laser, tei-shin needle, or finger for 10-20 seconds
8. Retest previously inhibited muscle(s) for strengthening

II. Where the muscle being tested is facilitated. In this mode, the examiner utilizes a facilitated indicator muscle. This is used if the examiner suspects or wishes to assess for possible aberrant causing systemic effects, but there is no known specific muscle inhibition. In other words it may also be used as a shortcut when areas of injury are suspected, or if it remains to be determined as to whether or IRT patterns are having systemic effects anywhere in the body.

A. When assessing areas of possible injury:

1. Test for a strong indicator muscle
2. Have patient therapy localize to areas in question or examiner initiates a nociceptive barrage by pinching area.
3. Test indicator muscle, if it inhibits, correct according to the five factors, as this is theoretically indicative of a transient aberrant afferent signal.
4. If SIM remains facilitated, have patient therapy localize the ipsilateral Shen Men point while repeating steps 2 and 3
5. If SIM becomes inhibited, this indicates necessity of correcting this neurologic pattern
6. Activate nociceptors in injured area by having patient therapy localize, or have the examiner pinch, consistent with IRT protocol
7. Simultaneously Stimulate Shen Men with 635 nm (red) laser, tei-shin needle, or finger for 10-20 seconds
8. Retest previously inhibited muscle for strengthening

B. When assessing for causing systemic effects:

1. Test for strong indicator muscle
2. Have patient therapy localize to Shen Men
3. If indicator weakens, it suggests an somewhere in the body, find the area by going through the process described in (A) above.

C. When assessing for altering other systemic factors (via the):

1. Test for strong indicator muscle
2. Rule out “51 percenter” according to standard AK protocols for the indicator muscle
3. Have patient therapy localize to any reflex or meridian point of a given factor such as the Chapman Reflexes or Acupuncture Alarm Points. If no inhibition of indicator occurs:
4. Simultaneously, cross therapy localize reflex or meridian point to the Shen Men point to determine the presence of an aberrant which may be interfering with normal tissue expression and regulation.
5. If strong indicator muscle inhibits, this indicates a possible which needs correction.

6. Stimulate or have patient therapy localize Chapman reflexes, etc.
7. Simultaneously stimulate Shen Men with 635 nm (red) laser, tei-shin needle or finger for 10-20 seconds
8. Retest previously inhibited muscle for facilitation, (with cross therapy localization to the Shen Men point and the reflex point chosen).
9. Continue to check any other relevant reflexes/points similarly

As with IRT, reduction of pain or tenderness, increase in of range of motion, as well as decrease in tonicity of musculature should be checked pre- and post-treatment for confirmation of necessity and effectiveness of treatment.

Conclusion

Aberrant afferent signaling proposed to be driven by the neurologic processes of injury-associated Long-Term Potentiation and/or Sensitization are apparently disruptive to physiological function throughout the body, even remote from areas of trauma. The Shen Men auricular acupuncture point appears to have an important stimulatory effect upon various areas of the brain and has been used clinically to successfully assess and remove patterns likely driven by in thousands of instances over the last three years.

It is easily incorporated into existing protocols and allows for rapid assessment and treatment of driven afferentation associated with trauma. Utilizing Shen Men in this context appears to supersede the the talus/occiput IRT treatment.

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**Utilizing the Shen Men Point for Assessment and Correction of Aberrant
Afferentation Associated with Trauma**
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Case Study: Low Back Pain and Correlations to Helping the Heart and Brain

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Abstract

Effective treatment of low back pain.

Key Indexing Terms

Chiropractic, Applied Kinesiology, Manual Muscle Testing, Dr. George Goodheart's Muscle Testing, Oxygen Therapy

Discussion

The patient, Dave, presented in my office with chronic low back pain. The pain was identified as a gross area more over his right pelvis that he rated as a 7 on a pain scale from 0-10 with 10 being the worse. His demographics: 59 years old, 5'6" tall, 180 lbs, well kept and mentally sharp.

The history revealed that he had tried many different health approaches. The more relevant ones were: cortisone injection in the low back, physical therapy, acupuncture, massage, exercise, and chiropractic! He also was currently working with a more holistic MD mainly for nutritional and herbal advice. He received temporary relief from the injection, chiropractic, and massage.

He was referred to me for Professional Applied Kinesiology (PAK). The relevant standard exam finding was: a positive Ragland's (positional blood pressure test), pulse oximeter percentage of 95%.

The Acoustic Cardio Graph revealed a reversed peak sound in the aortic valve. Also, a stress spike was present in the second sound of the aortic valve and both sounds of the Mitral valve.

Professional Applied Kinesiology testing found: right quadriceps and Sartorius Muscle weakness grade 3 (patient can perform the motion but with no resistance). We corrected this on the first day with an adjustment to the right hip listing PIEX.

PAK testing also found a weak right Subscapularis (grade3) only with patient performing a 30 second cardio challenge. This test was negated with both heart tissue supplement and 90% pure oxygen separately.

We made no initial recommendations and rescheduled for one week later. On the next visit, the patient was pleased to have no pain for the first four days and then it slowly crept back, but still at half the original pain at a score of 3.

Conservatively, his right pelvis was readjusted adding in a "Lovett brother" correlation of his occiput and, in addition to that, his second and seventh thoracic bones were manipulated. At that time he had no pain and the blood oxygen saturation (BO2) post adjustment was 100%.

The following three weeks he had no pain, but then it crept back to a pain rating of 4 with no adjustments for three weeks. Curiously, the BO2 was registering lower at 98%. I made a phone call to collaborate support from his other doctor working with his diet and nutrition. We added both the heart tissue and oxygen therapy. The heart supplement was taken one three times a day with food. The oxygen therapy was given at aerobic intervals three days a week (3 times in a 30 minute workout) and AM/ PM every day for a three breath, two second burst.

The conclusion has been zero low back pain for six months now. Patient has been checked monthly with unrelated areas manipulated and the original area of the right pelvis only blocked twice since. The Acoustic card graph was normal.

Conclusion

My conclusion is that patients can present with overlapping and integrated health problems that deserve the same integrative collaboration and investigative mentality towards chronic cases. In general, chiropractic alone proved to be an affordable pain management tool. However, for the forward thinking chiropractor, PAK offers a better pain management and arguably whole person health approach that has far reaching health implications.

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Case Study: Low Back Pain and Correlations to Helping the Heart and Brain
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Detailed Preparation Procedure Technique Review

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Abstract

Exercise with oxygen therapy and Applied Kinesiology (EWOT) and AK is a discussion about a simple clinical procedure that can add value to the practitioner and aid in many health supportive systems using Muscle testing and classic exam techniques.

Key Indexing Terms

Dr. George Goodheart's Muscle Testing, Applied Kinesiology

Discussion

The sports world comes and goes with different trends on giving athletes a competitive advantage. Blood doping for example is a highly controversial technique that some athletes are willing to try. In review of the literature for oxygen therapy here were the main claims and key points.

Some claims:

- Increase energy and strength during exercise
- Burn up to 30% more calories and burn fat!
- Train at peak strength levels for accelerated conditioning
- Improve lactic-acid clearance
- Slow down the aging process

Research physiologist, Alfred Morris, at the University of Illinois in Urbana-Champaign, reviewed the research literature in Melvin Williams' excellence test, *Anabolic Steroids in Sport* (Human Kinetic Publishers, 1983). He found contradictory results throughout the literature but was still able to make some suggestions regarding use of oxygen by athletes that I agree with.

Interestingly, the research literature seems clear that using oxygen (in a 60-100 percent mixture) before and after exercise or competition did not improve performance for long term, however good for short term competitive results.

In sports that engage in bouts of exertion, like interval training or power lifting, oxygen inhalation was effective in the removal of debilitating lactic acid concentrations from the working muscles; by slowing its production; improving VO₂ max (the rate of oxygen utilization); and improving ventilatory rate (lowering breathing rate).

I have put together a simple protocol using a pulse oximeter and Applied Kinesiology. I suggest setting up an entire visit checking the heart.

Bilateral blood pressure followed by a raglands test and finally pulse oxymeter.
An Applied Kinesiology test using homocysteine and dl Arginine oral nutrient challenge, and then testing subscapularis muscle for changes.

Lastly, testing both subscapularis and supraspinatus muscles and then having the patient hop on one leg for 30 seconds followed by the next leg for another 30 seconds and then retesting all four muscles for changes. At thus point test five factors or any other relationships like concentrated oxygen for 2-3 second inhalation. Observe and record your results.

The following oral substances have been found to be key corrections: glandular heart tissue both b and g complex, vitamin e especially the E2 variety, Ginkgo Biloba, Vinceptine, CoQ10.

Applied Kinesiology test:

1. Test for strong subscapularis (if weak, correct first)
2. Test for strong supraspinatus
3. Test oral challenge for both homocysteine and DL Arginine
4. Fix what you find per basic 100 hour Applied Kinesiology
5. Now, test for cardiac and brain sufficiency by having patient hop on one leg (best they can) for 30 seconds the. Switch legs and continuing for another 30 seconds.
6. Challenge any muscles that weakened with nutrient suggestions above.
7. Supplement with any that help
8. Temporal tap or re-jump (without nutrients in mouth) to bring back weakness.
9. Test for correction with concentrated oxygen taking three 2-3 deep inhalations of oxygen.
10. If strengthens advise my EWOT protocol described in case study.

Three days a week - 3(10 minute) aerobic with burst to estimated anaerobic number (20 points higher than upper limit aerobic zone read Maffetone's work). Right after each of the three bursts take 3-3 second measured inhalations.

On non work out days, take 3-3 second inhalations first thing in the AM and last thing PM. Retest, for need in four weeks.

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Detailed Preparation Procedure Technique Review
John Erdmann, D.C., DIBAK, D.C.B.C.N.

A Case of Childhood Asthma

Thomas R. Heath, D.C.

Abstract

Objective: To describe the use of applied kinesiology in the management and elimination of childhood asthma.

Clinical Features: A 5 year old girl, brought in by her mother presents with asthma, headaches, abdominal pain, and neck pain. Medications were as follows singulair; 4mg, albuterol inhaler, xopenex inhaler.

Intervention and Outcome: Applied Kinesiology methods were utilized to diagnose and treat this patient with a successful outcome.

Conclusion: Applied Kinesiology methods and dietary changes were successful in eliminating asthma and the need for medication in this patient.

Key Indexing Terms

Applied Kinesiology, Asthma, Food hypersensitivities

Introduction

The Center for Disease Control and Prevention tells us that there are currently 7.1 million children with asthma. (While rarely fatal in children with 187 asthma deaths reported in 2002 in children under the age of 18. It is the third leading cause of hospitalization in children under the age of 15).

MedlinePlus states that asthma is a leading cause of hospital stays and school absences.

The list of common asthma triggers include:

- Animals (hair or dander)
- Aspirin or other medications
- Changes in the weather (most often in cold weather)
- Chemicals in the air or the food
- Dust
- Exercise
- Mold
- Pollen
- Strong emotions
- Tobacco smoke
- Viral infections, such as the common cold

Discussion

A 5 year old girl, 44 and $\frac{3}{4}$ inches tall weighing 45 and $\frac{1}{4}$ pounds was diagnosed with asthma at age 18 months. This was present year round and was aggravated with physical activity and change in the winter and spring seasons.

She also complained of abdominal pain, neck pain and headaches 6 months prior to presenting in my office, which coincided with the family getting a pet dog. She is “up to date” with all her vaccines. She is a fraternal twin born via c-section and had problems with bilirubin at birth.

The examination revealed her lungs were clear and her heart had no murmurs. She had full dorsal-lumbar and full cervical range of motion with no pain. The cervical posterior lymphatic chain had multiple swollen lymph nodes bilaterally.

Manual muscle testing revealed bilateral quadriceps inhibition, the large intestine visceral referred pain area was inhibited with skin pinching. Bilateral infraspinatus inhibition. Mild whiteness on the tongue.

I corrected the infraspinatus inhibition with neural lymphatic stimulation as well as adjusting the cervical and thoracic spines. I recommended a food sensitivity test (IGg) #6. and encouraged her to eat no dairy products for the next two weeks.

During the two weeks while off dairy products, the patient had no headaches, asthma, or breathing problems. She showed a severe sensitivity to barley, egg white, egg yolk, gluten, cow’s milk, mustard, peanut, brown rice, wheat, indicating definite immune mucosal barrier compromise. Her mother also felt she was “more robust and full of life” since her diet changes and her chiropractic visit.

At the following visit, the bilateral quadriceps inhibition was found again. This was corrected along with cervical and thoracic adjustments. I recommended Aqueous Multiple vitamins and Biomega 3 from Biotics Research .

The following visit two weeks later, her mom reported that no breathing treatments were necessary. She did have a couple of stomach aches after cheating on her no-dairy diet. The bilateral quadriceps inhibition returned. This was corrected with neuro-- lymphatic stimulation. The patient was given instructions to give more diligence to adhering to the diet. Her mom said that her moods were better and she was less “cranky” in general at this stage.

The following visits showed no more quadriceps weakness and no more need for breathing treatments for the past 8 weeks.

Four months after the dietary restrictions and the beginning of her chiropractic and applied kinesiology care we began to reintroduce foods that were originally restricted.

The only time she had a problem with breathing again was when she had a cold. The family was able to keep their dog with no breathing problems for the girl.

Conclusion

In a nation that is concerned about escalating disease management costs, we truly need to evaluate if we are trying to get our patients to manage their symptoms, or are we trying to get them to recover their health and no longer have the disease process.

Asthma is a very common problem in both adults and children. Instead of choosing medications and expecting people to be on these for a lifetime, we need to guide the United States population to understand the importance of lifestyle changes and proper health management, including chiropractic care, applied kinesiology and nutritional guidance.

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A Case of Childhood Asthma
Thomas R. Heath, D.C.

An Interesting Case of Food Causing the Flu

Thomas R. Heath, D.C.

Abstract

Objective: To describe the use of applied kinesiology in demonstrating a common cause for the “flu”.

Clinical Features: 70 year old woman presents with the flu.

Intervention and Outcome: Applied Kinesiology methods were utilized to diagnose and treat this patient with a successful outcome.

Conclusion: Applied Kinesiology methods and lifestyle recommendations have been helpful in reducing this patient’s likelihood of developing the “flu”.

Key Indexing Terms

Applied Kinesiology, Bilateral Biceps Brachii Inhibition, “The Flu”, IRT (Injury Recall Technique)

Introduction

We all have had the experience of a patient calling and saying they could not make it in because they were sick with the flu. We know that when we can get them into the office we can often help them regain their health. This paper takes a look at one potential cause for them having the “flu” and treating with applied kinesiology methods and chiropractic.

Discussion

A 70 year old woman called to cancel her appointment because she had the “flu”. After discussing the benefits of applied kinesiology and chiropractic with her, she chose to keep her appointment.

Her history was positive for benign essential hypertension. She was taking Evista for hormone replacement therapy and one aspirin per day. She had chronic constipation, and had sinus problems “forever”. She also had sciatica in the left leg.

When questioned about when her flu symptoms started, she replied “Oh it started right after supper last night.” I questioned her about her meal choices and she reported her supper consisted of pork sausage and green beans. She said she had also been eating a lot of candy as well.

Examination

The day of this particular visit, she complained of being sore and achy, with vomiting in the morning, prior to her visit. Pain radiated across the sacral base and in the hip area with her pointing to the acetabulum.

Applied kinesiology evaluation found bilateral K27 (inhibition), and a category I pelvis.

Manual muscle testing showed bilateral inhibition of the popliteus, tensor fascia lata, quadriceps, and the biceps brachii. Therapy localization to the right and left temporal mandibular joints were both inhibited.

During this visit, I stimulated the thymus and the spleen neuro-lymphatic reflexes; this facilitated bilaterally the popliteus, the tensor fascia lata, the quadriceps and the biceps brachii. During this visit, I also corrected the category I pelvis, cervical and lumbar subluxations.

Post treatment, she reported that she no longer felt sore and achy, and no longer felt like she had the flu.

In a future visit she found herself in left antalgia with pain in the right hip that was aggravated with walking and dancing. I asked her if she had recently eaten any pork products. She denied having eaten any pork products; however she mentioned that she had a BLT the day before.

Manual muscle testing demonstrated left quadratus lumborum inhibited, left sartorius inhibited, bilateral biceps brachii inhibited, large intestine visceral referred pain area inhibited with therapy localization, bilateral tensor fascia lata inhibition. L5 spinous process was painful on palpation. Category III pelvis. An upper cervical fix was also present.

Treatment included correction of the upper cervical fix, category III pelvic correction, 5th lumbar manual adjustment, and pancreas neuro-lymphatic stimulation and IRT (Injury Recall Technique) to the pancreas VRP (Visceral Referred Pain area).

On post treatment, she was no longer antalgic, L5 spinous process was no longer painful on palpation. She had no more hip pain.

Discussion

Since the two visits with this patient, I began to look for any patterns with patients complaining of sudden onset of a new ailment. Not always, but frequently there has been a correlation with the consumption of scavenger foods (pork, shrimp, crab, lobster, etc.) and some new ailment. During the visit, I often find it is necessary to correct something that has to do with the pancreas, the meridian, the spine, IRT to the visceral referred pain area.

Based on the work of Dr. William Donald Kelly with pancreatic cancer and his use of pancreatin to help his patients regain their health, I wonder if disrupting the function of the pancreas via food may contribute to the development of cancer in many of the general population, and if our correction of these dysfunctions inhibits the development of cancer.

Conclusion

We frequently discuss with our patients the importance of avoiding and certainly improving on the Standard American Diet. I think it behooves us to look at the “foods” that are looked at as delicacies to see if these are a cause or a contributing factor to our patient’s lack of well being, especially related to scavenger “foods”.

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An Interesting Case of Food Causing the Flu
Thomas R. Heath, D.C.

Food Toxins and Their Health Implications

Michael P. Lebowitz, D.C. and Ami D. Kapadia, M.D.

Abstract

It is well known in the holistic medicine world that food intolerances/sensitivities can contribute a great deal to patient symptomatology. Unfortunately, all of the current methods used for food sensitivity testing (including laboratory testing) can result in many false negatives, as well as false positives at times. While elimination diets are helpful in diagnosis, they are also not perfect and can be very challenging if multiple food sensitivities are present. Through applied kinesiology testing with the use of specific “food toxins”, we have been able to increase the accuracy of food sensitivity detection. We have found that using these specific food toxins, rather than testing with the actual food substance, has yielded many more positive findings with subsequent amelioration of symptomatology in patients who follow the prescribed diet. The specific food toxins that will be discussed include: alpha-solanine, methylxanthines (caffeine family), gluten/gliadin, casein/lactose, ovalbumin (egg protein) and zein (corn protein).

Key Indexing Terms

Food Toxin, Food Allergy, Methylxanthine(S), Caffeine, Theobromine, Theophylline, Paraxanthine, Dimethylxanthine, Trimethylxanthine, Green Tea, Tea, Coffee, Cola, Chocolate, Cocoa Solanine, Alpha Solanine, Glycoalkaloid, Solanaceae, Nightshade(S), Norman Childers, Arthritis, Dairy, Casein, Lactose, Wheat, Wheat Flour, Gluten, Gliadin, Ovalbumin, Egg, Corn, Zein

Introduction

Identifying food sensitivities/intolerances can be very challenging as well as inaccurate with currently available methods. Applied kinesiology, using whole food substances, can give some helpful findings. However, often patients know that they are intolerant of certain foods, but kinesiology testing does not show that the food is a problem. We have attempted to improve the accuracy and decrease the number of false negative tests with applied kinesiology testing for food sensitivities. In order to do this, we have isolated certain “food toxins” that represent many of the major known food allergens.

In Part 1 of this paper, we will discuss these common “toxic components of food.” The following food toxins will be discussed: alpha-solanine, methylxanthines (caffeine family), gluten/gliadin, casein/lactose, ovalbumin, and zein. The potential allergenicity and aberrant reactions of these food toxins will also be reviewed.

In Part 2 of this paper, we will discuss two surveys. The purpose of the first survey was to see, on a randomized group of 50 patients, how often we would get a positive muscle test

on the following substances: alpha-solanine, gliadin, casein, lactose, and/or at least one of the four methylxanthines (caffeine, paraxanthine, theobromine and theophylline). A positive test consisted of either the “weakening” of a strong indicator muscle or an indicator muscle becoming “hypertonic” (spindle cell approximation does not “turn it off”). We also checked to see how often the positive test was negated by takesumi (carbonized bamboo which is an effective toxin, chemical, and metal chelator). The second survey uses a different group of 50 patients (some overlap) and compares testing some of these food toxins biomagnetically with testing the foods themselves both biomagnetically and orally. We will also discuss some clinical observations and results.

PART 1: FOOD TOXINS

ALPHA-SOLANINE

Alpha-solanine is classified as a neuro-toxin. The members of the plant family that contain alpha-solanine that might practically affect us (much of this family is not consumed by humans) are tomatoes, potatoes, eggplant, peppers (all except black pepper), paprika, tobacco, gogi berries and ashwagandha. The amount of solanine present in the above foods varies tremendously depending on growing conditions, time harvested, storage conditions, cooking techniques, etc.

Solanines are not water soluble, are for the most part not destroyed by cooking, and are not broken down inside the body but must be excreted as alpha-solanine. (1) (2) Different people have different degrees of sensitivity to solanines, and different efficiencies in being able to excrete them. How or in what way they will affect you will be a matter of genetics, as well as ones lifestyle and nutritional status. If you test positive for this problem, the probability is very high that at least one of your parents will have the same condition. The average daily intake of alpha-solanine is approximately 13mg and the average daily excretion is 5% the first day and 1-2% daily thereafter with a half-life of approximately 1-2 months. (2) Considering that is for one day’s dose, it is estimated that the average body burden is at least 50mg. (2) It can be much higher in people who consume large amounts of these foods on a daily basis. There has been no definite established “safe” or “toxic” level of solanine consumption because of the variations in individual sensitivity and capability to excrete this chemical. (1) Alpha-solanine is stored in most organs (with a special affinity for the thyroid gland) as well as most soft tissue, including skeletal muscle. (1) (2)

Most “foods” that contain alpha-solanine also contain at least 5 other neurotoxins including atropine and nicotine. Acute solanine poisoning can result from ingesting green or sprouted potatoes, or green tomatoes, with symptoms including: cramps, nausea, diarrhea, headache, dizziness and sleepiness. In severe cases, partial paralysis and coma can result. (1) (2)

Solanine acts as an acetylcholinesterase (AChE) inhibitor (similar to Malathion, Parathion and other “nerve gases” and pesticides), allowing acetylcholine (Ach) to build up in the synapses. (2) Ach is a chemical neurotransmitter that is released from a pre-synaptic neuron and attaches to a receptor site on a post-synaptic neuron resulting in transmission of a nerve impulse. AChE is an enzyme that breaks down ACh resulting in the subsequent detachment of this neurotransmitter from the post-synaptic neuron.

However, solanine inhibits AChE, which effectively results in continued attachment of ACh to the post-synaptic neuron, and a disruption of normal nerve impulse transmission. (2)

As with all other food toxins discussed in this paper, testing with alpha-solanine via applied kinesiology yields many more positive tests than testing with the food itself. We have found that avoidance (based on a positive alpha-solanine test) yields many positive clinical outcomes, and as a result we have come to prefer this method of testing.

For a more complete discussion with references, see our 2010 ICAK paper or view our website paper: Solanine Toxicity Syndrome.

<http://www.michaellebowitzdc.com/html/Solanine.html>

METHYLYXANTHINES: CAFFEINE, PARAXANTHINE, THEOBROMINE AND THEOPHYLLINE

Caffeine is the most consumed, socially-acceptable stimulant in the world.

Approximately 90% of adults in the world consume caffeine in their daily diet. More than 150 million people in the US drink coffee on a regular basis, averaging 2 cups a day, which is the equivalent of up to 280 mg/day of caffeine. (3)

Caffeine, as well as theobromine, paraxanthine and theophylline, are part of the methylxanthine family and can be labeled as psychoactive stimulants. These substances are found in varying amounts in coffee, tea, chocolate, cola, yerba mate, acai, and guarana. (4)

Coffee contains caffeine and theophylline, but no theobromine, while tea and chocolate are higher in theobromine. Tea actually contains more caffeine than coffee, but since it is brewed weaker, the average cup of tea has less caffeine than the average cup of coffee.

Caffeine Biochemistry and Pharmacokinetics

Caffeine is metabolized in phase 1 liver detoxification by the cytochrome P450 oxidase enzyme system (the 1A2 isozyme) into the following compounds (along with their approximate percentages): paraxanthine (84%), theobromine (12%) and theophylline (4%).

Caffeine is readily absorbed in the GI tract after oral administration. Its bioavailability is almost 100% through oral administration. (5) The average half life of caffeine is 5 hours, with a range of 3-7 hours. (6) Defects in the CYP1A2 enzyme can be associated with impaired caffeine metabolism and a prolonged half life. (7) There are also genetic polymorphisms in the CYP1A2 pathway that could explain some of the varying effects of caffeine on certain individuals. (4) For example, a study of 120 healthy volunteers found that CYP1A2 activity, gender, and smoking influenced whether or not individuals experiences toxic effects of caffeine. Females and nonsmokers who had experienced toxic effects of caffeine were found to have lower CYP1A2 activity compared to females and nonsmokers who did not experience toxicity symptoms. (8)

Once it is absorbed through the GI tract, and enters the bloodstream, caffeine's main effects occur through its action as an antagonist of adenosine receptors (blocks adenosine

receptors) in the central and peripheral nervous systems. The caffeine molecule is structurally similar to adenosine, and binds to adenosine receptors on the surface of cells without activating them (thus, acting through an antagonist mechanism of action at the adenosine receptor site). Therefore, caffeine acts as a competitive inhibitor. This results in stimulation of excitatory neurotransmitters. (6)

Symptoms associated with too much caffeine (too much ingested or impaired breakdown of it) include: headache, anxiety (including generalized anxiety disorder), depression, panic attacks, tremors, insomnia, nervousness, irritability, muscle twitching, recurrent subluxation patterns, and GERD. (4) (9) Both acute and chronic ingestion of caffeine influences mood and cognition. (4) (9) In addition, heavy coffee (>2 cups/day) intake may trigger coronary and arrhythmic events in susceptible individuals. (10) (11) Finally, it has been shown that excess caffeine consumption (>200 mg/day) during pregnancy may increase the risk of miscarriage. (12)

Theobromine

While theobromine and caffeine are similar, theobromine is weaker in both its inhibition of cyclic nucleotide phosphodiesterases and its antagonism of adenosine receptors. Therefore, it can be postulated that theobromine may have a lesser, but still significant, impact on the human central nervous system. While theobromine is not as addictive as caffeine, it has been cited as possibly contributing to chocolate addiction.

Theophylline

In susceptible individuals, theophylline can cause nausea, diarrhea, an increase in heart rate, arrhythmias, and CNS excitation with resultant headaches, insomnia, irritability, dizziness and lightheadedness.

Paraxanthine

Paraxanthine is not produced by plants and is only observed as a metabolite of caffeine in animals and humans. After caffeine intake, approximately 84% of the original compound is demethylated at the 3-position to yield paraxanthine, making paraxanthine the chief metabolite of caffeine.

For a more complete discussion with references, see our 2010 ICAK paper or view our website paper Methylxanthine Toxicity Syndrome.

<http://www.michaellebowitzdc.com/html/Methylxanthine.html>

GLUTEN/GLIADIN

One of the most common food allergens is gluten. Sensitivity to gluten can cause a wide range of symptoms that can affect almost any organ system. While most would think primarily of Celiac Disease and symptom manifestations in the gastrointestinal tract, the nervous system is actually the most commonly affected system outside of the gastrointestinal tract and is often involved in sensitive individuals. (13) Some of the symptoms/diagnoses that can be involved with gluten sensitivity include: headaches, behavior changes, seizures, muscle cramps, neuropathy, malnutrition, fatigue, malaise, depression, chronic digestive problems (abdominal pain, diarrhea, constipation, IBS, difficulty gaining/losing weight, reflux, nausea, vomiting, etc.), aphthous ulcers, Sjogren's

Syndrome, osteoporosis, infertility, miscarriage, thyroid disorders, schizophrenia, autism and dermatitis herpetiformis. (14-16)

If gluten sensitivity is found, it is necessary to avoid all gluten containing grains, including: barley, rye, oats (unless certified gluten-free), wheat and spelt. Oats do not contain gluten but do contain a similar prolamine and many gluten-sensitive people cannot tolerate oats. You may want to have them avoid oats in the beginning and then add them in after a few weeks (certified gluten-free types). At that time, you can check them with applied kinesiology and look for symptomatic changes.

There are a few proposed mechanisms involving how gluten can affect various organ systems. One theory involves a peptidase enzyme called DPP4. If there is a failure or insufficiency of DPP4, the body cannot efficiently break down the proteins in gluten. DPP4 activity can be low or absent for several reasons including: effects of toxins such as mercury, hypochlorhydria (HCl is needed to activate enzyme), poor pancreatic function, or zinc deficiency (zinc is also needed to “turn on” these enzymes). A poorly functioning DPP4 enzyme results in an undigested fragment of protein from gluten. The immune system can be fooled by a sort of molecular mimicry as the undigested protein fragment can be mistaken for a virus. As a result of this, antibodies are aimed at the protein and can cause damage to tissues in an autoimmune type of reaction. (14) Another mechanism by which gluten can cause problems involves the theory that the undigested gluten peptide can resemble an opiate-like molecule called gluteomorphin, that can alter brain chemistry. Gluteomorphins can cause cognitive symptoms acting like opioids in the body. These undigested peptides can be found in the urine of some individuals with autism and schizophrenia. (14, 16)

Interestingly enough, applied kinesiology testing for gluten yields a very high percentage of false negatives as we will present at the end of this study. Gluten is composed of a combination of glutenins and gliadins, and testing with gliadin yields positive tests much more frequently than does testing gluten. We know these are not false positives due to the clinical improvement that results from avoidance, following a positive test. As a result, we use gliadin for our testing.

CASEIN AND LACTOSE

Casein is the predominant phosphoprotein that accounts for nearly 80% of the proteins in cow’s milk. There is casein in the milk of other species- goat, sheep etc. of a slightly different nature, but the intolerance can carry over in many sensitive people. Therefore, when casein is positive, we avoid all dairy products of all species except human (many people react to supposedly casein free foods like ghee so we avoid these too). Like gluten, casein sensitivity can also cause symptoms in just about any organ system. Specifically, casein sensitivity can contribute to: ear infections, sinus conditions, asthma, eczema, headaches, arthritis, chronic digestive problems, rhinitis, hay fever, depression, mood swings, ADHD, bedwetting and eczema. (14-16) Similar to how gluten derived peptides cause trouble if the DPP4 enzyme is not sufficient, casein derived peptides can also cause problems when this enzyme does not break it down properly. Undigested casein peptides can pass into the bloodstream and provoke similar autoimmune type

reactions as well as mimic opiates (called “caseomorphins”) just like gluten. (14, 16) Besides having a casein sensitivity, an individual can have a lactose intolerance in which only the gastrointestinal tract is involved (whereas with a casein sensitivity, any organ system can be involved). The main symptoms of lactose intolerance can include bloating, gas, diarrhea, and even vomiting. If this is the case, it is much simpler to address as the patient can simply use lactose free milk or take a lactase enzyme when consuming dairy products. (14) Remember, a lactase enzyme may be a fungal derivative that is not well tolerated.

OVALBUMIN

Ovalbumin is the major protein in egg (comprising approximately 54% of egg protein). Just like the other foods discussed in this paper, just testing egg yields many false negatives and ovalbumin is the preferred test. In sensitive people, ovalbumin can cause villous atrophy, depletion of mucosal oligosaccharidases, impaired absorption of xylose and depressed serum complement levels. Asthma, as well as most other common symptoms of food intolerance, has been linked in some cases to ovalbumin sensitivity. There have been documented cases of nephropathy that have reversed with egg avoidance.

ZEIN

Zein is a class of prolamine protein found in corn. It is also known as corn gluten and even though it too is a prolamine, zein is not chemically identical to wheat or other glutes. Therefore, it can have its own unique effects on the body. As you will see in our statistics, zein will test positive much more than corn with applied kinesiology and is the preferred method of testing. Symptoms associated with corn sensitivity can include: headaches, asthma, facial inflammation, rashes, hives, most gastro-intestinal symptoms, fatigue, joint pains and sinus congestion.

PERSONAL OBSERVATIONS

From the clinical testing results and improvement in patients as you will see below, we feel this (testing with the isolated food fragment) is a very helpful way to test for these sensitivities. There may be other additions in the future; soy and rice come to mind as possible substances where isolated protein fragments may need to be tested. For now, we have been sticking with these vials, as the diets involved can be quite challenging for the average patient. Most patients with long term chronic symptoms have been willing to give it a trial period of a month or two. As stated in previous papers, these are most often not the type of sensitivities for which we can do a desensitization technique and re-introduce the food quickly. Our hypothesis is that by helping the patient become dysbiosis free and avoiding these foods, we will have significant restoration of gastro-intestinal integrity making the person more immune to dysbiotic microbes in the future and allowing them to re-introduce some if not many of these foods. When trying to answer the question: which came first- the dysbiosis or the food toxin intolerances, it can go in either direction and for optimal results both should be comprehensively addressed.

PART 2: FOOD SURVEYS

Survey 1:

The purpose of the first survey was to see, on a random group of 50 patients, how often they would test positive on various “food toxins”. A positive test was either a weakening of a “strong” indicator muscle or an indicator muscle becoming hypertonic and to see if Takesumi (carbonized bamboo- a popular generic detoxification product from Japan) negated a positive test.

Results are as follows (Fig. 1 and 2):

56% + on alpha solanine (S) with 65% of these negated by Takesumi
62% + on methylxanthine (M) with 68% of these negated by Takesumi
66% + on gliadin (G) with 76% of these negated by Takesumi
54% + on casein (C) with 56% of these negated by Takesumi
18% + on lactose (L) with 56% of these negated by Takesumi

Most people were positive on a combination of various “toxins”. The breakdown is listed below (Fig.3).

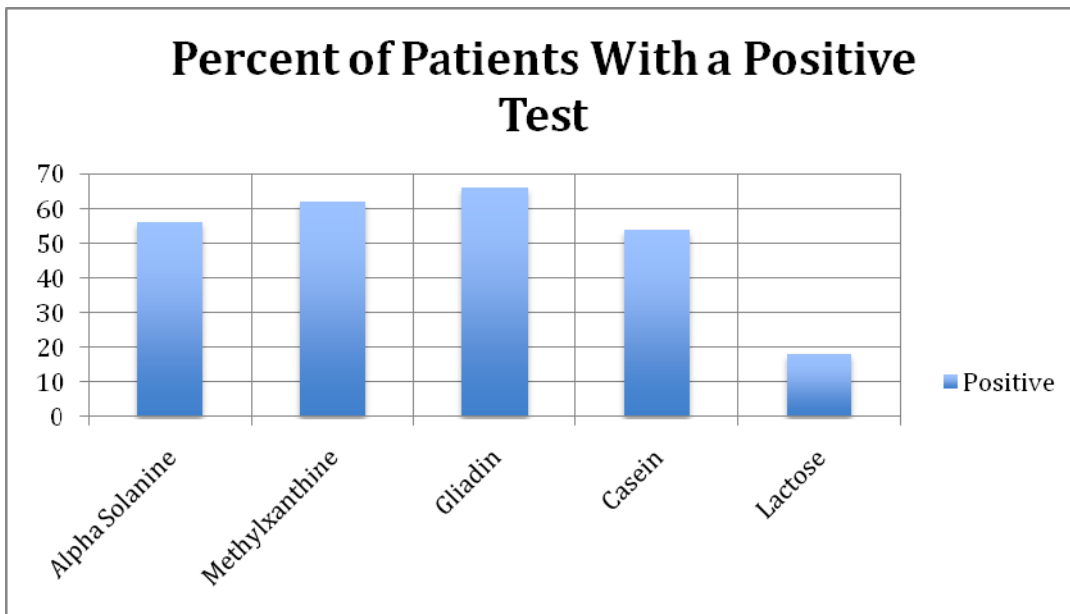


Figure 1: patients “weakening” or becoming “over facilitated” on each substance

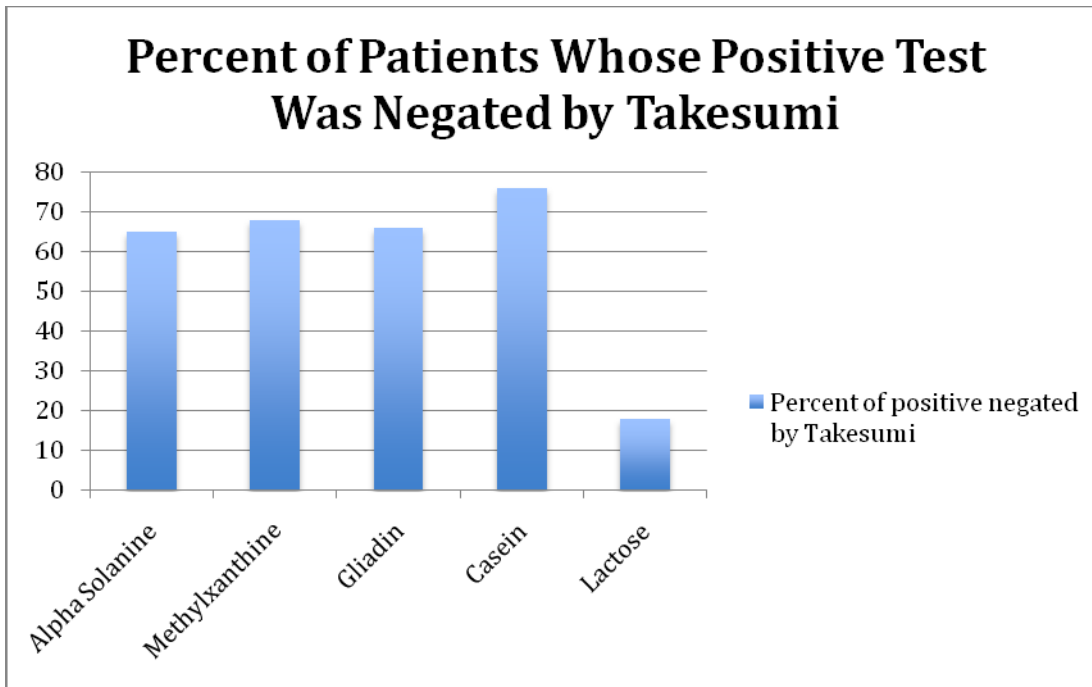


Figure 2: Percent of the positive patients from figure 1 whose test was negated by takesumi

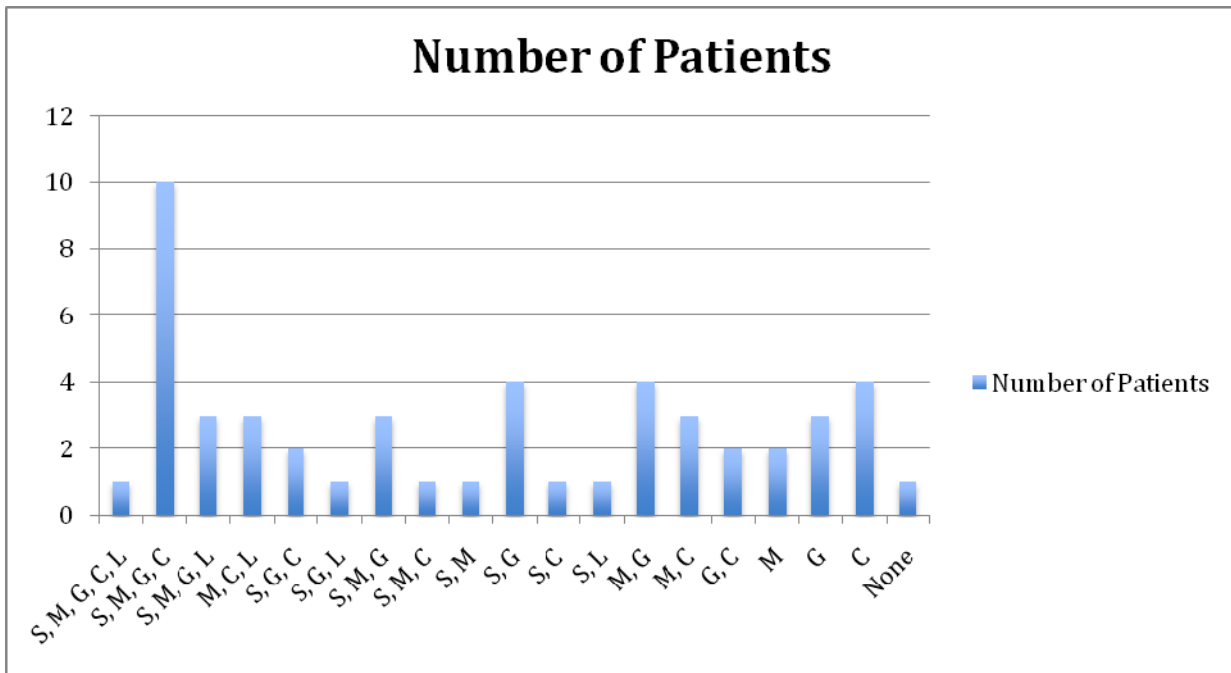


Figure 3: Number of patients positive on various combinations of substances:
 + on all 5- 1; + on S,M,G,C-10; + on S,M,G,L 3; + on M,C,L-3; + on S,G,C-2; + on S,G,L-1; + on S,M,G-3; + on S,M,C-1; + on S,M-1; + on S,G-4 ; + on S,C-1; + on S,L-1; + on M,G-4; + on M,C-3; + on G, C-2; + on M only-2; + on G only-3; + on C only-4; + on none of them-1

PERSONAL OBSERVATIONS

1. The one person that was positive on all 5 substances (solanine, methylxanthine, gliadin, casein and lactose) and the 10 people positive on the following 4: solanine, methylxanthine, gliadin, and casein – are all chronic patients with significant health problems. These include environmentally ill patients with migraines—3, chronic GI problems with recurrent dysbiosis -2, chronic pain/disabled- 1, rheumatoid arthritis-1, multiple sclerosis-2, pain and depression 1, alopecia and environmental illness-1, chronic pain not disabled -1. These “food toxin sensitivities or intolerances,” in my opinion, are major contributors to their chronic conditions and if they had been found earlier the patient may have avoided some of these conditions. Present avoidance of the “toxins” may help alleviate their symptomatology and allow healing to occur.

2. On multi-generational families I tested, if both parents were positive on a given “toxin”, so was the child (in 100% of cases in this survey). If the child was positive, at least one parent was.

3. Only two patients were relatively asymptomatic (if you exclude acne and PMS) that had both positive solanine and gliadin tests, though they were college age and could easily develop symptoms later.

Survey 2:

The purpose of the second survey was to compare testing foods in 3 different fashions. We were checking for weakening of a “strong” indicator muscle (we did not check “hyper facilitation”) when checked in one of three ways:

- 1-** substance placed orally on the tongue
- 2-** same substance placed under the south pole of a magnet over GV-20
- 3-** “food toxin” vial placed under the south pole of a magnet over GV-20

4 different categories were tested:

- 1-** a piece of popcorn and the zein vial
- 2-** gluten flour, wheat flour, and the gliadin vial
- 3-** granular coffee, dried green tea and the caffeine and theobromine vials
- 4-** ground red pepper and the solanine vial

People were also asked what symptoms they experienced from eating any of these substances, if they were aware of any.

Below are the results from 50 random consecutive patients (Figures 4, 5, 6, 7):

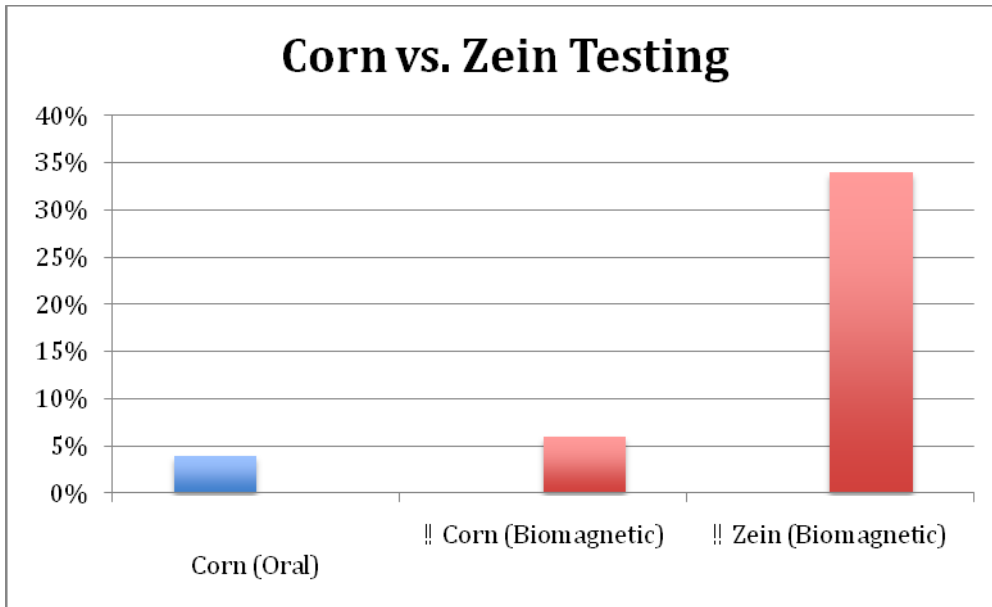


Figure 4: 2+ on oral testing of corn (4%), 3+ on biomagnetic testing of corn (6%), 17 + on biomagnetic testing of zein (34%)

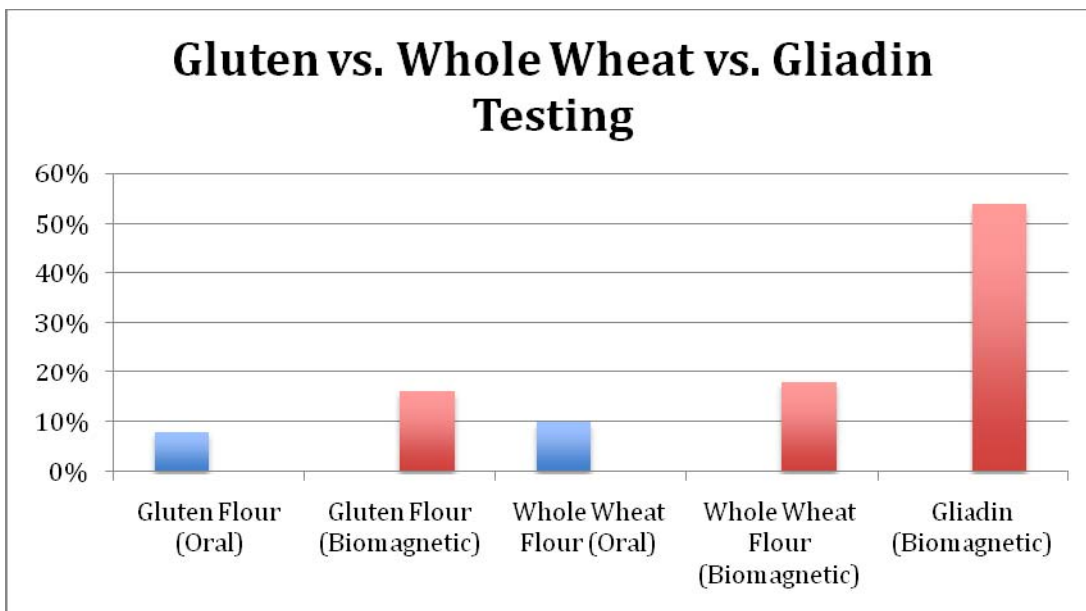


Figure 5: 5+ on oral testing of whole wheat flour (10%), 4+ on oral testing of gluten flour (8%), 9+ of biomagnetic testing of whole wheat flour (18%), 8 + on biomagnetic testing of gluten flour (16%), 26+ on biomagnetic testing of gliadin (54%)

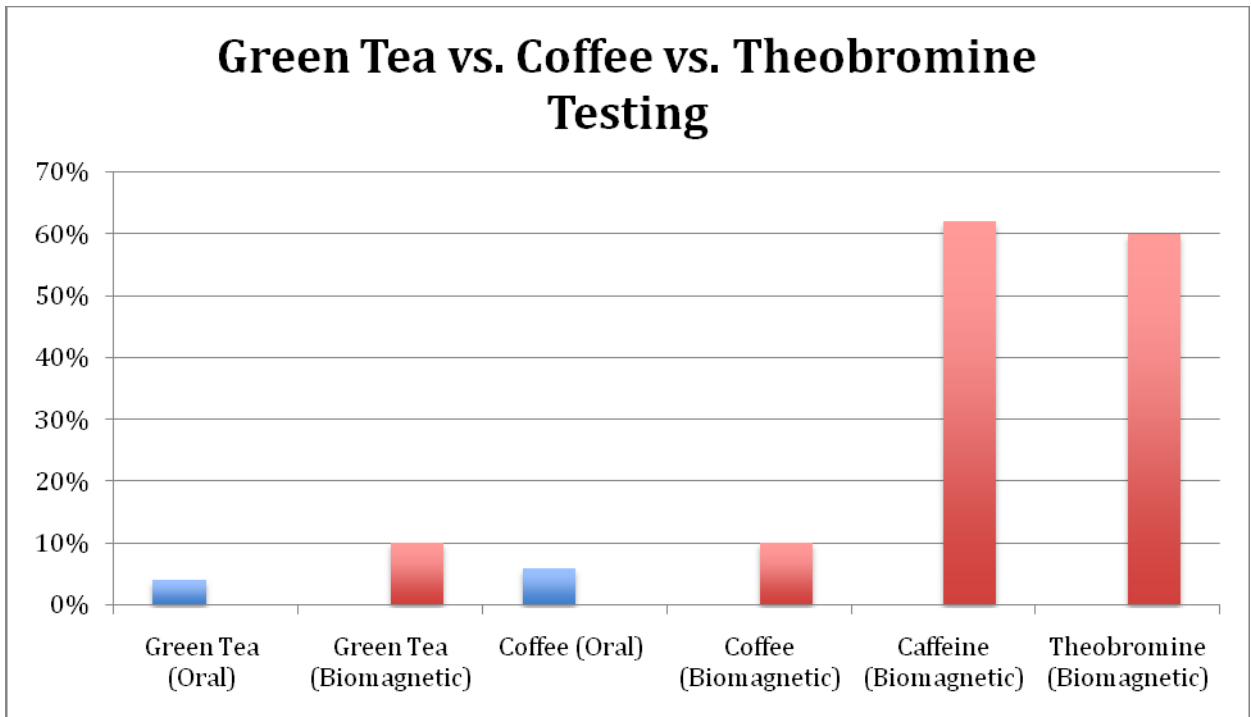


Figure 6: 3+ on oral testing of coffee (6%), 2+ on oral testing of green tea (4%), 5+ on biomagnetic testing of coffee (10%), 5+ on biomagnetic testing of green tea (10%), 31+ on biomagnetic testing of caffeine (62%), 30+ on biomagnetic testing of theobromine (60%)

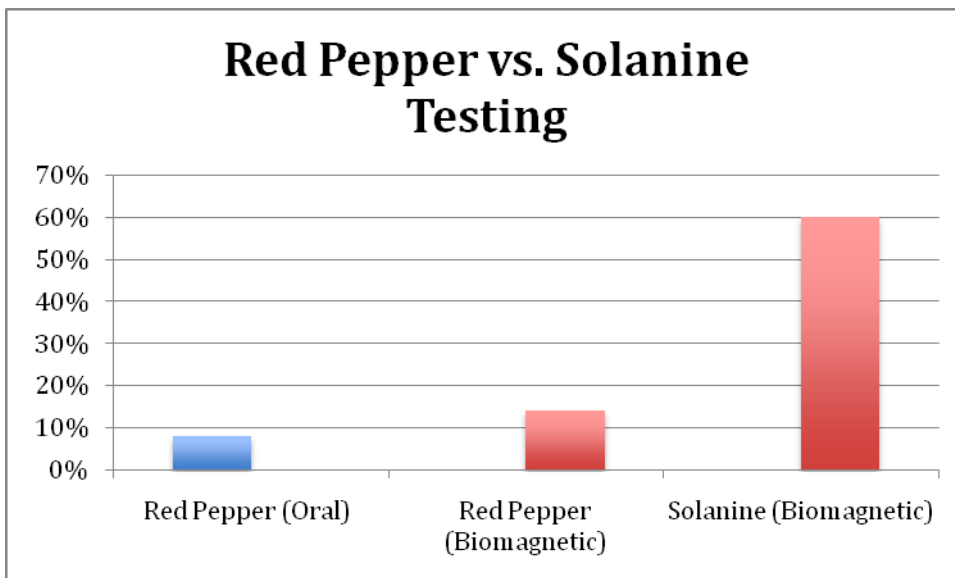


Figure 7: 4+ on oral testing of red pepper (8%), 7+ on biomagnetic testing of red pepper (14%), 30+ on biomagnetic testing of solanine (60%)

There was a strong correlation between oral testing of the food with biomagnetic testing of the food, though in each case, positive biomagnetic tests outnumbered positive oral challenges. In almost every case in which the food tested positive orally, it also tested positive biomagnetically. There were more cases where the biomagnetic test was positive but the oral test was negative. The most significant difference was between testing the whole food versus the “food toxin component”. In all the tests performed, there were only two times when the whole food tested positive and the food toxin was negative. Both times were on the same patient where coffee and tea were positive (positive biomagnetically but negative orally) but caffeine and theobromine were negative. There were many times the food toxin was positive while the food was negative; in fact, this was the case with the vast majority of findings. A few, but certainly not all, of the differences between the whole food and food toxin results could be due to the fact that I have a well informed patient load and many of them do restrict their intake of methylxanthines, solanines and gluten to some extent. Perhaps this decreases the number of positive tests on the food itself but not the isolated “toxin”, though not to the degree shown in the results. Many of these patients still eat the foods in limited quantities and report symptoms from eating the whole foods though they still test negative on them. Often avoidance for as little as 24 hours can turn a positive whole food test to a negative one thus perhaps accounting for some of the false negatives.

To make sure the food toxin testing was not just getting false positives, we had the patients report back on symptoms they experienced that improved significantly on avoidance of the related food.

The following is what was reported:

1-Patients that had positive solanine tests but negative on the food itself (some reported by one patient, some by multiple) found alleviation of: headaches, spitting up (infant when mother avoided it), overall pain level, stiff joints, fibromyalgia pain, crohns disease, intestinal pain and ankylosing spondylitis. Also reported were: cessation of acute soft tissue inflammation to the point of disability, cessation of wrist pain, enhanced ability to play the cello, cessation of shoulder pain of 7 year duration and cessation of rectal bleeding.

2- Patients that had positive gliadin tests, but negative on whole wheat and gluten, reported significant decreases in: (some reported by one patient, some by multiple) fatigue, depression, anxiety, baby spitting up (if mom ate gluten), exhaustion, acute intestinal pain, need for chiropractic adjustments (by 50%), burning bowels and headaches. Also reported were: cessation of intestinal pain and swelling of 30 years duration, ability to eat raw food without pain was restored, and being much easier to adjust (chiropractically).

3- Patients that had positive caffeine/theobromine tests, but negative on the food itself, (some reported by one patient, some by multiple) found a decrease in: insomnia, subluxations, tenseness, throat pain, headaches, moodiness, anxiety, itching, diarrhea, baby spitting up (if mom had it), nausea, low back pain, and overall feeling “lousy”. Also reported were: cessation of chronic foot and axilla pain, and a cessation of thumb pain.

One husband thanked me profusely for the change in disposition of his wife. I noted there was much less recidivism in terms of subluxations, muscle weakness and muscle hypertonicity in many patients.

4- Patients that had positive zein tests but negative on the food itself (some reported by one patient, some by multiple) found a decrease in: fatigue, joint pain, stomachaches, baby spitting up, sacro-iliac pain, headaches, brain fog and sinus congestion/hay fever.

Conclusion

1. Traditional food challenges with applied kinesiology can yield false negative tests.
2. Using isolated food substances such as alpha-solanine, theobromine, caffeine, theophylline, paraxanthine, casein, lactose, zein, ovalbumin and gliadin can yield many more positive results.
3. Eliminating these foods can bring improvement or elimination of various chronic and acute problems.
4. Re-introduction of the foods without recurrence of symptomatology may or may not be possible.
5. Taking takesumi if the patient will not avoid the positive substance may lessen the negative effects of ingesting the substance to varying degrees.

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Products

1. Food Toxin Kit from AK Test Kits 1-888-323-0625
2. Takesumi Supreme 1-800-922-1744

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Food Toxins and Their Health Implications
Michael P. Lebowitz, D.C. and Ami D. Kapadia, M.D.

Case Study: Reduction of Blood Pressure Using Miasmatic Homeopathic Correlations with the Divergent Meridians in a Woman with Renal Artery Stenosis

Anthony G. Murczek, N.D., M.Ac.O.M.

Abstract

Objective: To describe the reduction in blood pressure of a chronically hypertensive 71 year-old female, using a miasmatic homeopathic nosode to clear the Confluent/Divergent Meridian pattern as described by Timothy D. Francis.

Clinical Features: The patient has had a diagnosis of renal artery stenosis, discovered with Doppler imaging. The left artery was over 90% occluded and the right artery is 40-50% occluded. The patient came into the office with a blood pressure reading of 162/90 LAS and 198/100 RAS.

Intervention and Outcome: Using the protocol developed by Dr. Timothy Francis on the Divergent Meridian Correlations, a single dose of the homeopathic remedy Tuberculinum Bovinum 10M was administered. The patient's blood pressure reduced to 150/84 LAS and 160/88 RAS in office.

Conclusion: This case study is evidence that the homeopathic correlations with the Divergent Meridians as described by Timothy D. Francis, DC can be a powerful tool in helping patients get the best applied kinesiology healthcare. More patient studies need to be conducted to show the effectiveness of this procedure.

Key Indexing Terms

Homeopathy, Confluent/Divergent Meridians

Introduction

In homeopathy there are three types of remedies: acute, constitutional, & miasmatic. In Chinese Medicine there are three internal meridian systems: the 12 basic meridians, the extra-ordinary meridians, and the 6 Confluent/Divergent meridians. Francis (1) has a theory that these energetic disciplines are related and has developed an applied kinesiology protocol to discover imbalances at the deepest levels of miasm and Confluent/Divergent meridians. This protocol and the corresponding homeopathic remedy were used in a case of poorly controlled chronic hypertension in a 71 year-old

woman with renal artery stenosis. This case study is one documented positive outcome using this protocol.

Discussion

The patient, a 71 year-old female, had a history of renal artery stenosis and poorly controlled hypertension. Previous medical history reveals an appendectomy in 1995 and the placement of a stent for an abdominal aneurysm in 2009. She was on the following medications: Cozaar (HTN), Atenolol (HTN), Zocor (Cholesterol), Ambien (Sleep), CoQ10, Glucosamine Sulfate/Chondroitin, Baby Aspirin, Vitamin D, and a multi-vitamin with iron. She had a history of 20 pack years of smoking, but quit completely in 1985. She also complains of chronic edema in her left ankle.

In office vitals revealed a blood pressure LAS of 162/90 and 198/100 RAS. Pulse was 70 beats/second and respirations were 14 per minute. Manual muscle testing revealed bilateral weakness of psoas muscles. Patient claims to drink 4-5 12 oz. glasses of water per day. She drinks one 12 oz. decaf latte per day. AK pulse point evaluation revealed her weakest link being Kidney. The right psoas strengthened to the Kidney alarm point on her right side. Further applied kinesiology examination using the pulse points with head turn procedure proposed by Francis (2) revealed an energetic imbalance in the KD/BL Confluent/Divergent meridians. The correlation for this meridian is a miasmatic homeopathic remedy called Tuberculinum bovinum 10M. A single dose was administered in the office and her blood pressure was taken approximately 5 minutes later. The blood pressure reading LAS was 150/84 and the RAS was 160/88. Her right psoas muscle tested intact and there were no longer any AK pulse points testing positive in the clear or with head turn. She reported feeling an immediate increase in energy, a reduction of left ankle edema, and her blood pressure continued to normalize and was recorded in office 152/80 LAS and 158/84 RAS, one week later. Ten months later she still has a 150/84 LAS BP reading and has been able to discontinue the following medications: Atenolol, Zocor, Ambien, Baby Aspirin. She has also reduced her medications of Cozaar and Lasix.

Conclusion

This case study is evidence that the homeopathic correlations with the Divergent Meridians as described by Timothy D. Francis, DC can be a powerful tool in helping patients get the best applied kinesiology healthcare. More patient studies need to be conducted to show the effectiveness of this procedure.

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**Case Study: Reduction of Blood Pressure Using Miasmatic Homeopathic
Correlations with the Divergent Meridians in a Woman with Renal Artery Stenosis**
Anthony G. Murczek, N.D., M.Ac.O.M.

Applied Kinesiology Management of Acute Epistaxis

Todd L. Overdorf, D.C.

Abstract

Objective: To describe the use of Applied Kinesiology in the management of a 48 year old male with acute epistaxis.

Clinical Features: The patient presented with nose bleed of acute onset.

Intervention and Outcome: Applied Kinesiology methods were successful in the treatment of acute epistaxis secondary to subclinical kidney infection with no resulting hypertension.

Key Indexing Terms

Applied Kinesiology, Epistaxis, Nasopharynx

Introduction

Epistaxis is defined as acute hemorrhage from the nostril, nasal cavity, or nasopharynx, usually due to rupture of small vessels that are over the anterior part of the cartilaginous nasal septum (1). Local causes of epistaxis include trauma (especially nose picking), inflammation, drying and crusting of the nasal mucosa, tumors, and foreign bodies (2). Other predisposing factors include infection, trauma, allergic and non-allergic rhinitis, hypertension, alcohol abuse, and inherited bleeding problems (2). Stable patients should be instructed to grasp and pinch their entire nose, maintaining continuous pressure for at least 10 minutes, making sure to compress the soft nose tissues against the nasal septum. Pinching the hard, incompressible nasal bones will not aide hemorrhage control.

Discussion

A 48 year old male patient presented with the chief complaint of nosebleed. The patient stated that the nosebleeds started three days prior and this was atypical. Episodes lasting for more than a half hour were common and occurred every couple hours. He also said that he had been taking extra Vitamin E.

Examination revealed the following: Blood pressure 130/80 sitting, 136/84 standing, and 128/70 supine. Temporal-Sphenoidal (TS) line indicated left psoas and right neck flexor. Postural examination revealed a high right occiput and level shoulders, elevated left hip and bilateral foot pronation. Manual muscle testing revealed a grade 4/5 (3) right scalene and left psoas major. The scalene muscle is of primary importance because it is related to the sinuses (4); this is part of the primary differential diagnosis of nosebleeds. Therapy

localization revealed positive to the anterior and posterior neurolymphatic (4), as well as positive respiratory challenge of a half breath out, indicating a parietal bone descent (5). Conditional facilitation was also found with lingual insalivation of chlorophyll complex perles (6). Because the temporalis muscle is commonly found to be overactive on the side of parietal descent, examination revealed a positive stretch weakness. Fascial flush was performed on the right temporalis along with activation of the neurolymphatic and neurovascular reflexes. After the temporalis was corrected, facilitation of the scalenes was obtained. The scalenes were retested with a half breath in to be sure the parietal bone was not subluxated. This test was negative. Upon facilitation of the scalenes, the left psoas was tested at a grade 5 of 5. The patient mentioned his head instantly felt clearer and lighter and also noticed it was easier to breathe.

Postural evaluation revealed correction of both occipital and hip imbalance. The arches of both feet were elevated and with this simple correction and correlating postural changes; treatment was rendered complete and an instruction to avoid all grain foods was given. The patient was also given instructions to take two capsules of chlorophyll complex morning and evening. He was told to schedule a follow-up appointment in one week, with instructions to call sooner if the symptoms returned.

The patient returned eight days later and reported no nose bleeds for two days post treatment. Slight nose bleeds were noticed three days post treatment and approximately every other day and lasting a duration of around ten minutes. He said he did the best he could to not eat grain foods. Postural evaluation revealed level occiput, elevated right shoulder with arm internal rotation, elevated left hip, and left foot pronation. TS line revealed only left psoas. Manual muscle testing was performed on the left psoas and right infraspinatus both revealing grade 4 of 5. Testing of the right teres minor was 5 of 5. No recidivism of the right scalene was noticed. Psoas testing was negated only by neurolymphatic reflex. Infraspinatus testing was also negated by the psoas neurolymphatic reflex. Lingual insalivation of Thymex (6), ADP (7), and Hobon Virus (8) was also positive. Treatment to the anterior and posterior neurolymphatic reflexes for the psoas was performed until all pain was alleviated. This immediately facilitated the right infraspinatus and left psoas. Postural evaluation revealed level occiput, shoulders, hips, and no left foot pronation. The patient was instructed to take Thymex at three tablets three times per day, ADP at two tablets three times per day on an empty stomach, and Hobon Virus at one capful morning and evening. He was then told to call for a follow-up in one and a half to two weeks.

Results

The patient called with an update saying that the nose bleeds were completely gone and wanted to know if he should continue on the prescribed nutrition. Instructions were given to continue taking the one small bottle of ADP and to call if anything is needed. The patient returned three months later due to an injury to his lower back. He was asked about his nose bleeds and said not one had been noticed since his last visit.

Conclusion

Management of a case of epistaxis in 48 year old male utilizing Applied Kinesiology methods is presented. It should be noted that only two muscles were corrected directly; the right temporalis and left psoas major. After these corrections, all postural deviations were balanced and the patient quickly returned to homeostasis. The causes of nosebleed can be varied; however, using Applied Kinesiology allows the practitioner to go beneath the surface of symptoms and get to the cause of the imbalance.

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Applied Kinesiology Management of Acute Epistaxis
Todd L. Overdorf, D.C.

The Role of the Serratus Posterior Inferior with a Thoracolumbar Fixation

Todd L. Overdorf, D.C.

Abstract

Objective: To describe the use of Applied Kinesiology in the management of 27 year old male patient with a left shoulder injury and headache.

Clinical Features: The patient presented with two day acute shoulder injury with headache after playing dodge ball.

Intervention and Outcome: Diagnosis and treatment utilizing Applied Kinesiology (AK) was successful with immediate resolution of all symptoms.

Conclusion: This case study affirms the necessity of assessing the function of the serratus posterior inferior muscle with chronic thoracolumbar fixations (TLF).

Key Indexing Terms

Serratus Posterior Inferior, Applied Kinesiology, Headache

Introduction

The serratus posterior inferior (SPI) has its origin at the spinous processes of T11 to L2 and has its insertion at the lower border of the lower three or four ribs (1). Its action is to lower the attached ribs during inspiration. There is currently no way to directly “test” this muscle, so analysis is dependent on palpation or Therapy Localization (TL) and testing an intact muscle. When using TL to analyze the SPI, care should be taken to differentiate between this muscle and other structures in the area including ribs, vertebrae, and other muscles. There is no AK correlation to organs or meridians; however, with its function being to depress the ribs for breathing, one could rationalize that the SPI is related to the lung on both accounts.

Discussion

A 27 year old left-handed male patient presented with a left shoulder injury and headache with concomitant sinus pressure. This began after a game of dodge ball two days prior to presentation and had continually worsened. The patient is in good physical health and takes no medication. He has been a patient for roughly ten years and consistently comes in for regular health maintenance, utilizing AK for most, if not all, of his health related issues.

Postural evaluation revealed level occiput, iliac crests, elevated left shoulder, anterior head translation, and bilateral internal rotation of the arms at the shoulder. Initial palpation revealed tenderness at the insertion of the trapezius on the spine of the scapula and in the belly of the pectoralis minor, both bilaterally. Manual muscle testing (MMT) revealed weak left subscapularis and left psoas major. Origin/insertion technique (2) was performed on the subscapularis at its attachment on the humerus where it fuses with the capsule of the shoulder just medial to the tendon of the long head of the biceps brachii (3). After this correction, the left psoas major tested grade 5/5 and his shoulder pain was markedly reduced. In the many years of treating this patient, a TLF is very common with him after sports related activity and or injuries. After the initial correction of the subscapularis, the bilateral lower trapezius (LT) tested grade 4/5 indicating a TLF (4). Motion palpation revealed a right anterior fixation (5).

To determine other possible causes of this chronic fixation the latissimus dorsi (LD), quadratus lumborum (QL), internal and external abdominal obliques were tested because of their direct attachment to the spine or to the ribs that attach to the area (6). All of these were tested for strain and counter strain (7), RMAPI (8), and fascial release (9); all showing grade 5/5 strength. Palpation of the SPI revealed sharp tenderness bilaterally. Starting with the right side, approximation of the insertion to the origin by squeezing with one hand completely nullified all pain to palpation. After letting go, all the pain returned. Strain and counter strain technique was performed on the right SPI until all tenderness was abolished. After this correction, retest of the bilateral LT was still grade 4/5. Strain and counter strain was performed on the left SPI until all tenderness was eliminated. After the correction of the left SPI, the bilateral LT immediately tested grade 5/5. Motion palpation to the vertebral area revealed no fixation and no pain.

Results

After the correction, the posture immediately returned to a balanced position and complete relief of all head symptoms was noted. The following day the patient reported that his headache had not returned.

Conclusion

The SPI muscle can be easily overlooked as a root cause of recurrent TLF. AK is a very specific tool that can be used to verify the effectiveness of a treatment modality. In this case, strain and counter strain to the bilateral SPI, via AK diagnostic procedures, had a tremendous effect on the symptoms and objective findings.

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The Role of the Serratus Posterior Inferior with a Thoracolumbar Fixation
Todd L. Overdorf, D.C.

Case History: Reactive Muscles Caused by Venipuncture

Robert Ozello, D.C., DIABK

Abstract

A case history of diaphragm dysfunction resulting from reactive muscles caused by venipuncture. The venipuncture was caused by an extended stay in the hospital with multiple puncture sites used.

Introduction

Reactive muscles have long been an excellent therapeutic avenue to balancing body structure. (1) The impact of reactive muscles is extensive and unpredictable.

Discussion

A forty seven year old woman presented with fatigue, chest tightness and gastric reflux. She was a regular patient of mine who had responded well to care in the past. She was prone to diaphragm dysfunction so that was my first avenue of investigation. She denied any trauma such as heavy lifting, slips and catches or slips and falls. Her diet was good with good quality home cooked food. There was no diaphragm dysfunction showing sitting, standing or lying down. When she walked the sternum became very tender to the touch and the diaphragm dysfunction therapy localized.

I then proceeded to isolate the various muscle groups by having her roll her head, shrug shoulders, etc. When she rolled her hands and activated the wrist flexors, the diaphragm dysfunction again showed. I then palpated and therapy localized and challenged the muscles spindle cells and golgi tendon organs of the wrist flexors. There were multiple very tender proprioceptors that required correction. As I was correcting the proprioceptors she stated that she had been in the hospital for 5 days and had multiple points of venipuncture and an IV drip. She also had a left kidney biopsy.

Over the course of three visits I meticulously investigated the proprioceptors on her arms and hands. I had her show me where the venipuncture occurred and I carefully corrected them all. She also needed proprioceptor work on her left quadratus lumborum and sacrospinalis where the kidney biopsy pierced the muscle. There also were multiple strain/counterstrains of these muscles and well as numerous spinal fixations and subluxations.

When all muscle and spinal dysfunctions were corrected the diaphragm dysfunction was corrected.

Conclusion

I had not thought of venipuncture as trauma before this patient. Piercing muscles with a needle is certainly trauma as much as heavy lifting or a slip and fall. By following the patient I was able help this patient and the patient educated me to “see” another avenue of injury and sickness.

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Case History: Reactive Muscles Caused by Venipuncture
Robert Ozello, D.C., DIABK

Case History: Sciatica Caused by Ingestion of Cold Liquid and Ice

Robert Ozello, D.C., DIABK

Abstract

A case history of sciatica and ingestion of cold liquid and ice is presented.

Introduction

It has been recognized that exposure to various substances including heat and cold can cause an adverse reaction in a patient. Often when a patient reacts there is a category I pelvic fault along with a temporal bulge cranial fault. Usually there is a piriformis muscle involvement. (1)

Discussion

A forty five year old woman presented with severe left buttock pain, leg pain and foot pain. She was limping and had a severe right antalgic hip position.

This particular patient had been coming to me for various problems over a five year period. Each time she responded well except for this complaint. She had seen an orthopedic surgeon and a neurologist. They had diagnosed a left L5-S1 disc bulge and recommended surgery. The patient was adamant that she did not want surgery and asked me to do everything I could.

I found and corrected multiple muscle imbalances with proprioceptive techniques. Multiple spinal and pelvic subluxations and fixations were corrected.

Applied kinesiology examination revealed a left PI category I pelvic fault with a right temporal bulge. I corrected these faults and corrected a left piriformis imbalance with NL technique.

The patient had some slight improvement. The category 1 imbalance kept returning.

I then investigated further. I questioned the patient in depth about diet. She rarely ate out and was on a low carbohydrate diet to lose weight. She ate little dairy, no teas, coffee or soda and no sugar. I then asked if she consumed a lot of hot or cold temperature food. She stated that she drank a lot of ice water and loved it. I tested her for a cold sensitivity by having her hold a finger in ice water. There was a weakness in several muscles.

She was instructed to eat only room temperature liquids and foods. She then confessed that she was an “ice freak” and chewed ice cubes all day long. She recovered quickly and did not need surgery.

Conclusion

Previous to this patient I had only viewed heat/cold sensitivities as exposure to the ambient air temperature not by ingestion. By being persistent and open to new possibilities a patient was assisted to health and avoided surgery

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Case History: Sciatica Caused by Ingestion of Cold Liquid and Ice
Robert Ozello, D.C., DIABK

Case Study: The Role of a Breast Feeding Mother's Digestion and ICV on Infant Colic and Reflux

Luke Pietrantone, D.C.

Abstract

Objective: To illustrate the significance of a breastfeeding mother's digestion can have on an infant's colic and reflux symptoms. A case study is performed where the only intervention is food avoidance and supplementation based on oral challenge and manual muscle testing.

Clinical Features: A 26 year old exclusively breast feeding mother with digestive trouble is concerned that her 15 day old infant that has progressively worsening symptoms of colic and reflux is seeking intervention.

Intervention and Outcome: The patient was manual muscle tested against while tasting a series of foods and for ileocecal valve disturbance. Dietary recommendations and supplements were given as indicated based on those results. The patient reported resolution of her indigestion and significant improvement of her infant's colic and reflux symptoms. Difficulty with compliance resulted in recidivism of indigestion and her infant's symptoms of colic and reflux.

Conclusion: Addressing the digestion of a breast feeding mother can improve her infant's symptoms of colic and reflux.

Key Indexing Terms

Applied Kinesiology, Colic, Reflux, Digestion, Breast feeding, Breast Milk, Infant, Ileocecal Valve, Dysbiosis, Hypochlorydria

Introduction

A local pediatrician began referring breast-fed infants with colic and symptoms of reflux to a doctor in our office for chiropractic and craniosacral. Some of the cases met with limited improvement while others showed rapid resolution of the infant's colic and reflux with just chiropractic and craniosacral therapy. Most of these patients were already experimenting with eliminating foods from their diet trying to affect the colic and reflux. I offered to test the mothers in the resistant cases with applied kinesiology (AK) on the chance that the foods that tested positive may be the same foods contributing to the colic and reflux in the infant. Patients were instructed to bring in the most commonly eaten foods and drinks in their diet. The patient would then taste each food individually and be checked for global muscle inhibition or inhibition of a muscle associated with the

digestive tract. Mothers were told to avoid eating the foods that caused muscle inhibition. General AK examination of these mothers consistently showed inhibition in muscles associated with the digestive tract and ileocecal valve (ICV) disturbances. Nutrients were tested and given as indicated to improve digestion such as HCL and enzymes or to help fight gut dysbiosis such as probiotics and anti-microbials. If the mothers were compliant with their diet and nutrients while the infant was getting adjustments and craniosacral therapy, most saw a significant reduction in their infant's colic and reflux symptoms.

In an effort to determine just how significant a factor a mother's digestive ability and diet can be in infant suffering from symptoms of colic and reflux, it was decided to perform a case study. The case study would need an exclusively breast feeding mother of an infant who has symptoms of colic and reflux and was receiving no other therapies for herself or the infant.

Patient and Methods

The criteria for this case study was that the mother had to be exclusively breast feeding, the infant had symptoms of colic and reflux, both the patient and her infant were not on any medications for indigestion, the patient had to be compliant with dietary changes and be compliant with taking any supplements.

A patient for the case study was recruited from a local lactation specialist. The patient was 26 years old with a 15 day old infant son. A medical history of the patient revealed a past episode of hyperthyroidism, migraine headaches, seasonal allergies to mold and tree and grass pollen, a latex and betadine allergy, a tonsillectomy in 1999, and sinus surgery in 2006. When questioned about her digestive symptoms the patient revealed daily nausea, gas, acid reflux, stomach pains, and vomiting 7-8 times a month. The patient rated the severity of her initial digestive symptoms at 8/10. The patient's diet consisted of eggs or cereal for breakfast, sandwich, pizza, or soup for lunch and for dinner baked chicken, green vegetables or pasta. She also consumes one cup of half caffeinated coffee per day. A medical history of the pregnancy revealed acid reflux, dehydration, constant nausea, lung infection, sinus infection, gum swelling and possible infection and 3-4 weeks of left sided trigeminal neuralgia. The patient took 3 courses of antibiotics for the infection of the lung, sinuses, and gums as well as intravenous antibiotics during the birthing process because she had tested Strep B positive. During the birth process the patient was also given pitocin, pain medication and had an epidural. The baby was delivered vaginally and began breast feeding 30 minutes after being born. No formula was given.

At the age of one week the infant started to experience symptoms of colic and reflux including gurgling, coughing, hiccups, an inability to be soothed and inability to lay flat without crying. Over the course of the week the patient noted the infant's symptoms were increasing. The patient rated the severity of her infant's symptoms as 6/10. The patient also related that her 19 month old son followed the same progression of symptoms and had severe colic and reflux that did not stop until he was weaned.

Initial manual muscle testing was performed bilaterally on the patient including the pectoralis major clavicular, pectoralis major sternal, quadriceps as a group, abdominals, popliteus, tensor fascia lata and quadratus lumborum. Muscles were chosen for their organ correlation to the digestive tract. The procedure for testing foods was having the patient taste and chew the individual food and then testing the muscles associated with the digestive tract. (1) All foods were organic when possible and were prepared as simply as possible by boiling, heating in a pan or leaving in their natural state when indicated. Foods, listed in Table 1, were chosen based on common foods mothers are told to avoid by lactation specialists and past experience in the office. If after tasting and chewing a food any muscle associated with the digestive tract became inhibited, the patient was told to avoid eating that food as much as possible. If a muscle became inhibited while tasting, the food the patient then tasted various digestive supports including betaine HCL and broad spectrum enzyme products to see if one negated the muscle inhibition. If a supplement negated the muscle inhibition, the patient was instructed to take that digestive aid when they were eating similar foods to the one that caused the inhibition. For example, if beef caused muscle inhibition and betaine HCL negated it, then the patient would be instructed to avoid beef but take the betaine HCL if the patient was eating other dense proteins. The patient was to return weekly until it could be determined if progress was being made. All initially positive tests were repeated for the duration of the case study. If a food tested negative initially it was not repeated due to time constraints.

The patient was also tested for ileocecal valve disturbances. If positive the ileocecal valve was tested against broad spectrum anti-microbial and antifungals that would be allowed during breast feeding (2) and various types of probiotics.

Outcomes were measured by reduction in the patient's symptoms and reduction in the infant's colic symptoms as measured on a scale of 0-10 and answering the same initial symptom questions as the first day.

Results

Initial muscle testing on 4/24/10 showed inhibition of the bilateral pec claviculars and the right pec sternal with all other muscles facilitated. Foods that caused inhibition of one or more of the other muscles associated with the digestive tract were wheat berries, oats, white flour, garbanzo bean, almonds, pecans, beef, egg, plain Greek yogurt and tomato. The muscle inhibition induced by these foods was negated by either betaine HCL with pepsin or broad spectrum enzymes and are listed in Table 1. The only exception to this was tomato, which did not respond to either supplement. In addition to tomato, the patient was told to avoid all nightshades on the chance that solanine toxicity was present. (3) The bilateral pectoralis clavicular weakness responded to betaine HCL with pepsin as well as zinc picolinate. The patient was tested 4 times over the course of 3 weeks. During those three weeks, the number of foods that caused inhibition gradually reduced. At the fourth testing the only food that caused muscle inhibition was beef which was negated by betaine HCL with pepsin.

The patient had positive therapy localization and challenge for an open ileocecal valve. This was negated by raw noni fruit, as a broad spectrum anti-fungal and antimicrobial and *Lactobacillus acidophilus* and *Bifidobacterium lactis* as a probiotic.

At the 5/15/10 testing the patient reported that she tried to be as compliant as possible and that her digestive health had greatly improved over the first 3 weeks. She reported no vomiting, nausea, gas, acid reflux or stomach pains as long as she was compliant. She reported the severity of her digestive symptoms to be a 0/10. This was the first time the patient could remember being free of indigestion in her adult life. The patient reported there was a significant reduction in her infant's colic and reflux symptoms. The infant showed less back arching, could now lie flat, was no longer throwing up whole feedings but rather just a very small quantity of spit-up of the feeding, was easier to soothe and was not crying as regularly. The patient noted more crying and gas in the infant at night during the last week but admitted it was when her husband was using frozen breast milk from before she altered her diet. The patient reported the infant's colic and reflux symptoms at a 2/10.

On 5/23/10 the patient was worried her infant had a fever and took him to the pediatrician who admitted the infant to the hospital because he was under 2 months of age with a fever. While at the hospital the infant would not eat and was crying nonstop. He was placed on Pepcid to treat the reflux and given antibiotics for 2 days and released from the hospital. Upon being released from the hospital the infant continued to have worsening colic, reflux and eating issues. Prilosec was tried for a week to reduce the infant's stomach acid with no success. The patient began altering her diet again and taking her supplements and noticed improvement in the colic and reflux symptoms. The patient again had trouble with compliance and was confused about which foods to avoid so another testing was performed on 8/14/10. Nearly every food that tested positive initially, tested positive again, with the same supplements indicated. In communication with the patient on 9/7/10 she reported great improvement of the colic and reflux symptoms. The patient returned to work and her husband had a health crisis that again made it very difficult to be compliant. Solid foods were introduced during 10/10 and the baby began having symptoms of reflux so he was switched to oatmeal as a staple food. The baby began having ear infections at the beginning of 12/10 and has had 3 rounds of antibiotics as of this writing.

Discussion

The lactating breast is a gland whose function is to synthesize, secrete, and release milk for removal by the infant. The mammary gland has alveolar lobes which are lined with cells called lactocytes that synthesize the breast milk. Lactocytes are responsible for pulling nutrients from the rich blood supply around the alveoli and either transporting those nutrients to the breast milk directly or synthesizing those nutrients into the proteins, carbohydrates, fats and immune related components of breast milk. (4)

Human milk fat is 98% triacylglycerols. Fatty acids make up approximately 85% of the triacylglycerols and are directly dependent on the maternal diet. Fatty acids taken in by

diet peak in the milk after 6 hours and may effect the fatty acid composition for as long as 3 days. Fatty acids come to the mammary gland as chylomicrons from digestion, very low density lipoproteins released from the liver, or fatty acids released from adipose tissue. (5)

Whole proteins can move from the blood stream to the lumen of the alveoli through the lactocyte or be synthesized from free amino acids in the lactocyte and then be moved into the lumen of the alveoli. (6)

Lactose, which makes up 98% of the carbohydrate in breast milk, is synthesized in the lactocyte from glucose and galactose. Human milk also contains small amounts of glucose, galactose, and over 130 different oligosaccharides. (7)

Understanding the physiology of breast milk production shows it is under constant production and will largely use what is in the blood supply at the time of production to make the milk. If for example, larger than normal proteins are circulating because the mother has hypochlorhydria and cannot break them down completely, these proteins could make it into the breast milk. The infant may not have the digestive capacity to break them down the rest of the way. If a mother cannot break down her food completely this seems to cause a greater stress on the baby's digestive system.

In this case study there was a clear relationship between the mother's digestion and the level of colic and reflux symptoms suffered by the infant. In this case, supporting digestion and addressing the ICV was enough to make a positive change. This was not a case study in an AK approach because the entire triad of health was not addressed. The structural and emotional sides of the triangle were left out to see how significant the chemical side of the triad can be in cases of colic and reflux. The major weakness of the case study was the level of compliance of the patient and near constant medical interventions. Further improvements were likely if the patient was able to keep to the dietary changes and regularly take the supplements.

The patient had a clear case of hypochlorhydria which was addressed using zinc picolinate to help facilitate normal production of stomach acid.(8)The betaine HCL with pepsin was given to give her digestive support while her own acid level could rise. Low zinc and hypochlorhydria is consistent with what presents in other lactating mothers 1-2 weeks postpartum. It is possible that zinc is being used to heal the body from the birth and levels can become lowered during this time. This is usually around the same time mothers start reporting symptoms of colic and reflux in their infants. Just like in the case study, almost every breast feeding mother presenting to the office with an infant with colic has hypochlorhydria.

Addressing the open ICV in this case was critical because the patient's history of antibiotic use was extraordinary. The antibiotics combined with the hypochlorhydria likely set the stage for dysbiosis in the gut and a very toxic ICV. (9) Dysbiosis is an imbalance in the symbiotic microorganisms living in the human gut where less beneficial microorganisms begin to overgrow and can become pathogenic. The ICV, made worse by

dysbiosis, can be a source of toxins that inflame disc herniations, cause toxic headaches, or cause joint pain. (10) There is no reason that these same toxins would not make it into the milk supply and ultimately affect the infant in some negative way. Though the ICV was not manipulated and only treated chemically in the patient, it no longer therapy localized after the first testing.

Food avoidance to improve colic symptoms is common practice and through trial and error mothers often are able to improve symptoms. The mothers who present to the office are often frustrated and have a fear of eating because they are unsure which foods trigger colic. AK is an excellent tool to see which foods a mother is reacting to and at least gives a likely list of foods to avoid to improve colic symptoms. Through AK we can do more by supporting the body's normal metabolic processes. Sometimes whole categories of foods are a problem such as proteins, grains, milk products, cruciferous vegetables or nightshades. We can think of groups of foods showing up like therapy localization. It tells us there is a problem there but not what the problem is. When a mother tests positively to a food, it does not necessarily mean there is an allergy or even a sensitivity. It may only mean their digestion of that kind of food needs to be supported. For example if wheat tests positive maybe it is not the gluten but the starch, if when you test other gluten free grain they are positive as well.

Conclusion

Treating a breast feeding mother's digestion can significantly improve an infant's colic and reflux symptoms. A breast feeding mother must be at least eating, digesting and absorbing quality protein, fat and carbohydrate to produce milk that is digestible by her infant. Any metabolic faults in that process can result in milk that is poorly digested by the infant contributing to, if not being solely responsible for, colic and reflux symptoms. A post-partum mother is under tremendous physical and emotional stress both of which contribute to impaired digestion even if their food choices are perfect. Common practices in pre-natal care such as intra-venous antibiotics for women who test positive for Strep-B, can compound impaired digestion by promoting dysbiosis. Dysbiosis can cause a disturbance in the integrity of the gut lining which can lead to malabsorption or absorption of incompletely digested proteins, fats and carbohydrates and is a potential source of toxins that can be passed through the milk.

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Foods that Caused Inhibition and Nutrients that Negated that Inhibition

	4/24/10	5/3/10	5/8/10	5/15/10	8/14/10
Grains					
Pearl Barley					
Kamut					
Wheat Berries	Pos-Betaine/HCL	Neg	Neg	Neg	Neg
Med. Brown Rice					
Oats	Pos-Enzymes	Pos-Enzymes	Neg	Neg	Pos-Enzymes
Aramath					
Millet					
Quinoa					
Bulgar					
Corn					
White Flour	Pos-Betaine/HCL, Enzymes	Pos-Betaine/HCL, Enzymes	Pos-Betaine/HCL, Enzymes	Neg	Pos-Betaine/HCL, Enzymes
Seeds					
Pumpkin					
Sunflower					
Beans					
Kidney					
Garbanzo	Pos-Betaine/HCL	Pos-Betaine/HCL	Neg	Neg	Pos-Betaine
Soy					
Lentils, Brown					

Nuts					
Brazil					
Almond	Pos-Betaine/HCL	Pos-Betaine/HCL	Pos-Betaine/HCL	Neg	Pos-Enzymes
Cashew					
Peanut					
Hazelnut					
Pecan	Pos-Betaine/HCL	Neg	Neg	Neg	
Walnut					
Sunflower					
Meat					
Beef	Pos-Betaine/HCL	Pos-Betaine/HCL	Pos-Betaine/HCL	Pos-Betaine/HCL	Pos-Betaine/HCL
Chicken					
Egg	Pos-Betaine/HCL	Pos-Betaine/HCL	Neg	Neg	Neg
Pork					
Dairy					
Milk, pasteurized					
Cheddar					
Butter					
Plain Greek Yogurt	Pos-Betaine/HCL, Enzymes	Pos-Betaine/HCL, Enzymes	Neg	Neg	Pos-Enzymes
Chocolate					
Citrus					
Orange					
Lemon					
Lime					
Vegetables					
Broccoli					
Tomato	Pos	Pos	Neg	Neg	Pos
Onion					
Garlic					
Coffee-<u>Regular</u>					

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Case Study: The Role of a Breast Feeding Mother's Digestion and ICV on Infant Colic and Reflux
Luke Pietrantone, D.C.

Hologramic Memory and the Design of the Human Nervous System

Paul T. Sprieser, B.S., D.C., DIBAK

Abstract

The theoretical application of hologramic memory theory as a plausible explanation for the layout of the human nervous system: Why the right side of the brain controls the left side of the body and why the left side of the brain controls the right side of the body.

Introduction

The question has gone around in my mind ever since my undergraduate day at New York University. I had been studying to be a Physical Education Teacher and one of the course requirements was a basic course in Neurology. The textbook required for the course was Fundamentals of Neurology, Ernest Gardner, M.D. a brand new book at the time 1963.¹ The reading and studying for this course and its requirements got my interest in this subject matter.

One of many the questions that had been interesting scientist for more then hundred years is in what part of the brain is memory located. In the early 1900's the concept that memory was a stimulus impression was put forth by Richard Semon, a German zoologist and evolutionary biologist who coined the word for this idea as an engram.²

This became the life long work of the psychologist Karl S. Lashley who in 1908 used the term engram to mean a hypothetical change in nerve tissues that accounted for the persistence of memory.^{3,4}

While working towards his Ph.D. in genetics at John Hopkins University, John B. Watson a psychologist influenced him to study memory.⁵ His postdoctoral work he formulated is theory on memory that remained his goal for this entire lifetime.

His work took him to great teaching institutes of Universities of Chicago (1920-35), Minnesota (1920-34) and finally Harvard (1935-55) and to the director of Yerkes Laboratories of Primate Biology, Orange Park, Florida from 1942 to 1955. His experiments with rats that he trained to seek a food reward and then creating surgical lesion in all different regions of the animals brain showed that the location of cortex removal did not effect the rats memory to run the maze. Only the amount of cortex removed (principle of mass action) or about 20% could effect the retention of memory knowledge to run the maze. These observations lead Lashley to the conclusion that

memories are not stored in one region but rather widely distributed across the cerebral cortex, and all areas of the cortex were equally important.^{6,7}

This led Lashley in 1950 to formulate two theories. The first of what he called “mass action” meaning the cerebral cortex acts as one or a whole in many types of learned actions therefore holographic memory. His second theory he called “equipotentiality” if certain brain regions are damaged other part of the brain will take over that function.⁸ Today we know that the idea of engrams does actually exist but might not be equally distributed over all cortical areas as originally believed.

The next noted scientist who believed memory to be diffused throughout the cerebral cortex came up with the holographic paradigm was Karl H. Pribram a professor at Georgetown University, and an emeritus professor of psychology and psychiatry at Stanford University and a board-certified neurosurgeon. He pioneered work in the limbic system and its relationship to the frontal cortex.⁹

His work paralleled that of Lashley in training primates to open complicated latch boxes to retrieve a food treat and the surgically damaging all different regions of the brain. This too showed that it would not make the monkey forget how to open the box and unless too much of a specific area about 20% or greater was destroyed. Pribram in 1971 in a book titled *Languages of the Brain*, theorized a two-dimensional model of an interference pattern or hologram that was the foundation of all thinking. This represented the brain's mechanism of memory recall and storage.^{10,11}

A physicist David Bohm theorized the concept that all organisms and forms are holograms embedded within the universal hologram and this became known as the Pribram-Bohm Holographic model. He believed the brain operates in a manner similar to a hologram, in accordance with quantum mathematical principles in reference to the wave characteristic patterns. Since waveforms are necessary components of holographic formation Bohm suggested this could be based on his application of Fourier analysis.¹²

This did not have the scientific proof in 1973, so a Seattle thinktank known as (OAK) Organization for the Advancement of Knowledge, led by Richard Alan Miller and Burt Webb were able to synthesize the work of Northrup and Burr. This was on the electromagnetic nature of the human body with the optical hologram of Dennis Gabor to form the holographic paradigm.

The next research in the matter of memory was Sir John C. Eccles, a neurophysiologist who won the 1963 Nobel Prize in Physiology for his work on synapses. He has been tied to this area of holographic memory, but his work seems to stem more at the spinal cord and the peripheral nervous system. In the AAAS Symposium from December 30, 1972, *Physiological Basis of Learning and Memory Storage-Some Properties of a Neural Model for Memory*, two statements stand out which seem to apply to Eccles' research work.

First is that the synaptic junctions arose in the course of evolution as part of the solution to the problem of establishing communication between one portion of an animal and another. The second being “although much is known about the structure and function of individual neurons, almost nothing is known about how memory is stored and retrieved.”¹³

Paul A. Pietsch, Ph.D., in anatomy and a professor at Indiana University who was interested in regeneration and in the relationship between the brain and the mind. In his book “Shuffle Brain” explained the idea of hologramic memory in a way for the non-scientific public to understand.¹⁴

Wilder G. Penfield and Theodore B. Rasmussen did extensive research on what part of the brain controlled what part of the body. They did what would be consider brain mapping. During surgeries on the brain they would stimulate with a small electric current different areas and see what effect it would have then eventually became know as the homuncular concepts or homunculus nucleus (small man). What they noted in some case was memories of different event and experiences would occur that did not related to that specific area of the brain being stimulated. This too pointed out the idea of hologramic distribution of memory.^{15,16,17}

Finally Dr. George J. Goodheart, D.C. who founded Applied Kinesiology, a diagnostic and therapeutic system of complementary medicine that uses manual muscle testing as a functional neurologic tool to derive information directly from the patient nervous system. Goodheart was pick as one of the notables in Time Magazine April 16, 2001, article titled “A New Breed of Healers-The Man With Magic Fingers” Applied Kinesiology.¹⁸ He had published every year from 1964 through 1998 the Applied Kinesiology Workshop Procedural Manual and a book in 2000 “You’ll Be Better”-The Story of Applied Kinesiology.¹⁹ He was also asked to contribute to a book titled “Healer on Healing”, published by Jeremy P. Tarcher, Inc., Los Angles 1998. His section was titled “Innate Intelligence Is The Healer.”²⁰

Dr. Goodheart was my mentor and friend from the time of my graduation from the Chiropractic Institute of New York in August of 1968, till his passing on March 5, 2008. What I learned from him to be observant and to measure, measure, measure what ever you can and learn from these observations.

In his 1982 Workshop Procedure Manual he introduced on page one “Holographic Concepts of Nerve system Function”, he mentions all the individuals that I have written about in the hologramic theory of memory.²¹

Dr. Goodheart added one addition factor to tie together the idea of hologramic memory and the nervous system. He postulated that the bony structure of the skull and the bony framework of the spine are the mirrors that are necessary to form a hologram. If one mirror were out of focus it would effect the clarity of the memory or image.

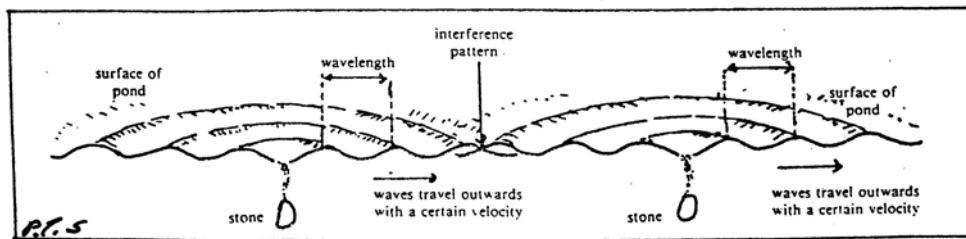
Discussion

I took these concepts one step further by looking at the most common dominator in this equation and that was the interference pattern or interferometer that is required to form a hologram and the Fourier transform. In physics, interference is the addition of two or more wave that results in a new wave pattern.

In the human central nervous system this exists in both the motor and sensory systems layout. It is stated in Gardner's "Fundamentals of Neurology"-"Just before the medulla oblongata joins the spinal cord, many of the fibers in each pyramid cross to the opposite side, interlacing as they cross. About 75 % cross at this level of both ascending and descending tracts leaving about 25% that do not cross but go to the same side of the brain."²² These facts are what are necessary to create interference patterns and form the holographic storage system.

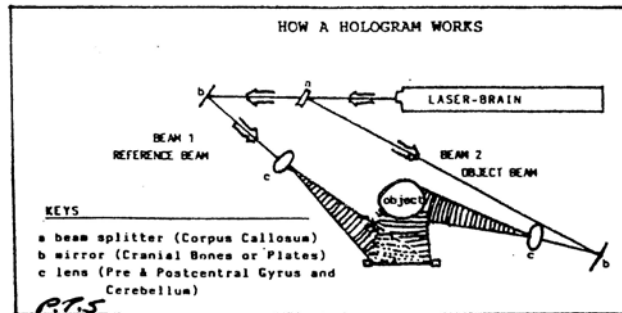
I will give some simple illustrations of this principle first in the sense of physics and then in neurophysiology of the nervous system layout.

FIGURE 1



In figure #1 we see two stones drop simultaneously in to a calm body of water the resultant effect is the ripple outward and where both wave front meet you have the interference pattern formed. This would appear as moiré pattern, which would be how the holographic information would be stored in the proper medium. This also means that any energy that travels in a wave form patterns can form holograms. It also means that electrical, magnetic, sound, and liquids as well as light energies will allow holographic formation.

When it comes to light energies and photographic holographic storage, Dr. Goodheart like to say that we should be rename photography ("halfography"). Because when film is used to take a picture the negative if cut in half we get a right or left half or a top and bottom half of the image. However, when a holographic plate is cut no matter how many pieces the full image would still be seen with a slight loss of definition.



This illustration shows the simple principle of photographic holography with the analogy of the nervous system anatomy being used to show the possible theory of memory storage. The idea that Dr. Goodheart had put forth that the cranial bone were the mirrors of the hologram. We might want to call them parabolic mirrors that amplify the image as used in catadioptrics telescopes.

Let us return to the concept of light holography and our nervous system. I will use the diagram showing the coherent light source in this case a laser beam will pass through a prism or splitter lens creating two separate beams of light which are in turn directed by mirrors from two different directions. One beam falls on the object called aptly the “object beam”. The other goes directly to the photographic plate called the “reference beam”.

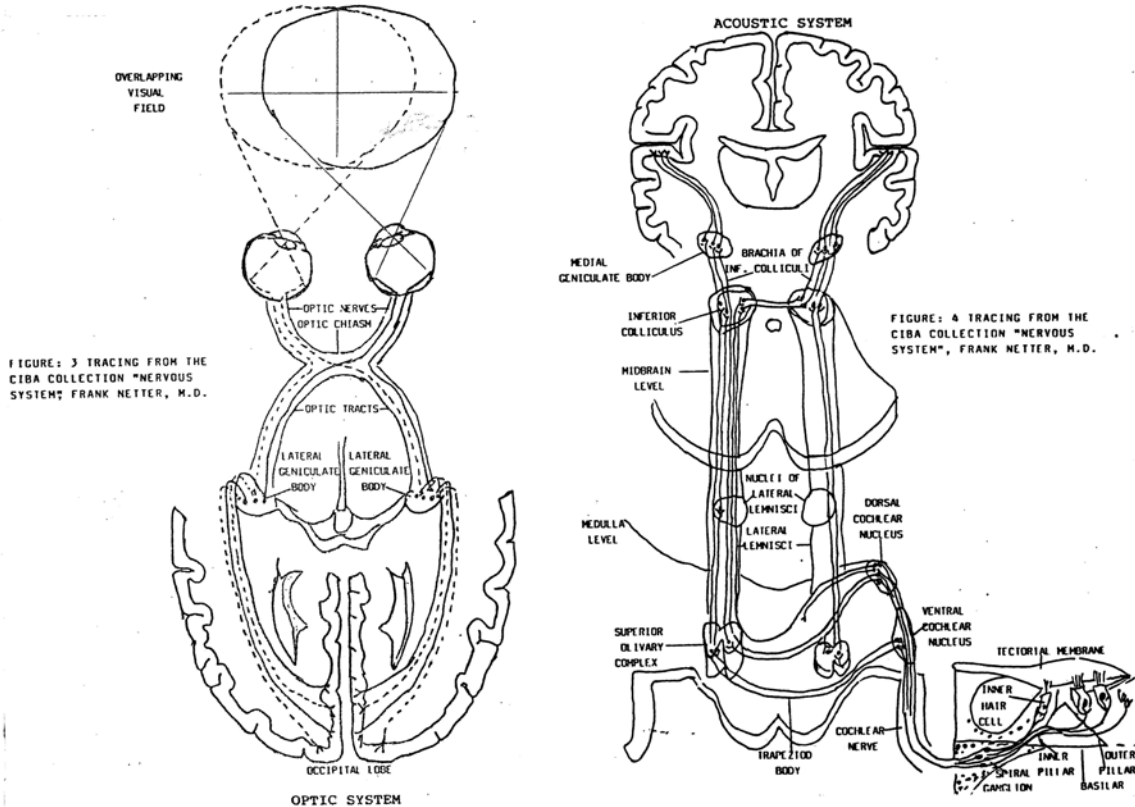
The calvarium or brain case is made of eight bones, 2- parietal, 2-temporal, occipital, frontal, sphenoid, and ethmoid bone. These bone that make up the cranial walls varies in thickness from 3mm to 5mm this allows for some pliability and microscopic motion due to the respiratory action due to the skeletal motion and pull on the dura mater and additional factor is the build up and reabsorption of CSF. William G. Sutherland, an osteopathic physician, developed this study and treatment method. This work became known as Crainoapathy and was privately published as a book “The Cranial Bowl”, in 1939,²³ it conceptualized the importance of the micromotions of the skull and the circulation of the cerebral spinal fluid, and its effects on the working of the CNS. This idea was further developed by the research of John Upledger, D.O.²⁴

The CSF acts as a protection agent by allowing the brain to float in the cranial vault it does this by reducing its mass weight of 1500 mg to about 25 mg. It probably acts as a lubricant, an electrolyte bath and helps in removal of waist products of the brain metabolism. It could also function to allow the production of hologramic storage of information in the brain.

This idea that the cranial bone that form the brain case and protect the brain itself, could act as a parabolic mirror to bounce electrical signals is not so far fetched as it may seem. The diagnostic test of Electroencephalograms or EEG is measuring the bounced electrical or neural energies that the brain produces. These are translated onto graph paper as

various wavelengths and frequencies that we know as Alpha, Beta, Delta and Theta waves.^{25,26}

Now we will look at two of the sensory systems first is figure #3 Optic and the second is Figure #4 Acoustic.



(These diagrams I traced with the permission of Curtis Publishing Co., Illustration are by Frank Netter, M.D., as they appear in “The CIBA Collection of Medical Illustrations”, Vol. I, 1983. Plate #38, “Optic System”, p. 63., and Plate #39, “Acoustic System”, p. 64)

How does the holographic memory theory relate to the design of the nervous system? It relates because of the need to create interference waveforms and that requires wave energies come from two different directions and colliding to give us the interferometry necessary to form the hologram.

If you look at the visual field shown in Figure #3 that both eyes are split, this can be compared splitter lens used to form an optical hologram. The visual fields of both eyes are divided into two domains: the outer or lateral, called the “Temporal Field”, and inner or medial, known as the “Nasal Field”. The lateral visual fields from both eyes go directly back through the optic nerve to its same side of the brain. This could be considered the mirror to form the “reference beam”. The medial visual fields of both eyes go back through the optic nerve and then cross to the opposite side of the brain by way of the optic chiasm. This could be likened to the second mirror forming the “object beam” of the optical hologram.²⁷

A second possibility for this scenario is the retina of the eye is the object beam and the nerve pathways or first order neurons go back and make a synaptic connection at the Lateral Geniculate Body that acts as reference beam. As an example the second order neurons from the right eye lateral field and the left eye medial field cause the interference wave pattern that goes back to the occipital lobe of the brain. Here it is recorded as the waveform interference pattern creating the visual image we see in the right eye visual field.

This would give the visual apparatus the ability to record images similar to that of the photographic holograms with height, width, depth and the (parallax) view from two different points not on a straight line with the object.

In figure #4 illustration of the acoustical nervous system layout the hologram is slightly more abstract idea. Because we are more familiar with the optical variety, and probably have seen them many times. The generation of the wave form starts with sound moving the air currents to the external acoustic meatus of the ear and this cause the eardrum to oscillate. This is translated into movement that vibrates the three ossicles of the inner ear and the stapes attaches in the membrane of the cochlea, and energy become amplified through the endolymph and perilymph stimulating the hair like cells of the organ of Corti. This become the neural signal of sound this is transmitted over the cochlea nerve to the brain stem some tracts go up the same and opposite side through the lateral lemniscus. This travels upward to where the two synaptic connection meet in the medical geniculate nucleus were the interference pattern will be formed and the final hologramic storage is made and interpreted in the superior temporal gyrus region.²⁸

Again the intermixing of the two signals one from the ear on the same side of the brain will form our “object beam”, the one crossing over will form our “reference beam”. In turn, our neurological signal clash forming the interference patterns to give us the hologramic representation.

Sound has a number of different qualities of pitch, timber, intensity (loudness). Quality or frequency is pitch, purity is timer, and intensity is loudness.

As you can note the three qualities of sound are similar to those of light formed hologram, with the three dimensional qualities of height-intensity, width-frequency, and depth-pitch. Again giving us the ability to store information in the hologramic record (memory).

This concept that the nervous system is laid out to facilitate hologramic recording seems to follow through for all our senses and also for all our motor function since the tracts cross over and travel to the opposite side of the body, with some tracts going to the same side.

In chiropractic one of our tenets is that structure and function go hand and hand; that the way the nervous system is laid out will influence the way it will function. The function of the nervous system has created the need for the way it is structured (wired).

The last part of this theory of Hologramic memory it carried over to the muscle and skeletal system for movement, and the sensory feed back system and how the interference pattern is formed. Sandra Blakeslee, an award-winning science writer, pointed this out in a New York Times Article, "Clues Hint at Brain's 2 Memory Maps", demonstrates that the idea of memory is hologramic and resistant to destruction, and that there are two distinct regions of memory. The first is "fact knowledge" or "declarative knowledge"- name, dates, faces and golf scores. The second system involve with "skill knowledge", or "procedural knowledge," this includes learned habits such as riding a bike, or solving a puzzles and expertly swinging a golf club.²⁹

The feature of this article was a man named Harold appears to be a brilliant golfer. He seems to have learned to play the game perfectly. His swing and follow thorough and putting made him a par or better golfer. If you were viewing from this from the outside as an observer would be quite different when you accompanying him on the course you would be aware of startling incongruities. Even though he can immediately size up the shot and hit the ball exactly where it should go, he will not remember where it had just landed. At the finished of each hole, he cannot remember the score.

This is an example of severe memory loss due to Alzheimer's disease, but it also demonstrates that some type of memory such as "skill or procedural knowledge" are likely found in different region then "fact or declarative knowledge". But it seems to point out the idea of diffuse or universal storage that is consistent with hologramic memory theory. So the layout of having the crossing of neural pathways for at least 75% going to the opposite side of the brain and also the 25% going to the same side serves the function required to form the interference wave form patterns need to form a hologram.

Hologramic data storage (memory) captures information using an optical interference pattern that could be stored on a photosensitive optical material can be carried forward to our nervous system in vast ability to store information. This system has a theoretical limits for storage of several tens of Terabytes (1 terabyte=1024 gigabytes) per cubic centimeter. This applied to the human brain with it convoluted structure of gyrus and sulcus which allows a greater mass to be store in the cranium.³⁰

The human brain has been estimated to contain 50 to 100 billion neurons, of which about 100 billion are cortical pyramidal cells. These cells pass signals to each other via as many as 1000 trillion synaptic connections. The human brain weight on average about 3 pound and size (volume) averaging 1130 cubic centimeters (cm³) in females and about 1260 cm³ in males. If we go back to hologramic storage (memory) this would mean the average human brain of 1200 cm³ x 1024 gigabytes =1,228,800 gigabytes of memory. I guess this goes to prove that we only use 8 or 10 percent of our brain learning capacity.

It could be said that the capacity of the human brain is effectively infinite if the memory or information is stored proper way. What separates the human brain storage of information or what we call memory from that of a computer's memory, is the brains selectivity. Items of high interest or survival will be retained easily. If the information is meaningful to you these facts can be stored as permanent memory in the billions, but dry

facts such as learned in school are quickly forgotten. This formation besides the neuronal pathways that carry the information are dependant on chemicals or neurotransmitters that help bind to storage (engrams or holograms) know as long term potentiation or LTP.³¹

There are two types of long term memory. Episodic memory is information about specific event with other events, and semantic memory, which is permanent knowledge of the world. This information has come by way of neurosurgical intervention for seizure such as epilepsy, which shows hemispheric difference in memory. Unilateral removal of tissue from the temporal lobe has lead to difficulty in learning and retention of general information whether the material was present visually or through auditory means.³²

If right temporal lobectomy would led to difficulties with nonverbal materials whether visually or auditorily presented.³³ It was also shown this causes difficulty with maze learning, whether by visual or proprioceptive (exploratory touching) means, and cause loss in specific semantic memory skills.³⁴

Other information about memory comes from research on Alzheimer's Disease. Memory formation seems to have a protein base molecule, amyloid precursor protein, know as (APP). It is believed that a defect in this chemical pathway leads to an insoluble protein build up of beta amyloid, which form a plaque that block synaptic connections.^{35,36}

Other information's about memory and how the brain stores it, and in what region that interplay in its recall also come from injuries to this structure. What we currently know about the function of each hemisphere comes from the connection link for the right and left brain and that is the corpus callosum. This relatively small region that is located at the bottom longitudinal cerebral fissure, is about four inches long and about ½ inch thick and contains about an inch wide. It is the largest white matter structure in the brain consisting of 200-250 million contralateral axonal projections. Because of the dominance of one hemisphere the capability of receiving sensory information from both hemispheres and also capable of controlling motor activities in both hemispheres, utilizing mainly fiber pathways in the corpus callosum for communication between the two hemispheres. This unitary, cross-feeding organization prevents interference between the two sides of the brain; such interference, obviously, could create havoc with both thoughts and motor responses.^{37,38}

Other information about the hemispheric differences of the right and left brain again come from injury or surgery that cut or split the corpus callosum. The left hemisphere which, controls the right side of the body, is predominantly involved with analytic, logical thinking, especially in verbal and mathematical functions. It is primarily linear and time oriented and process information sequentially. Its function is logical thought and is concerned with language and mathematics, which depends on sequence and order.

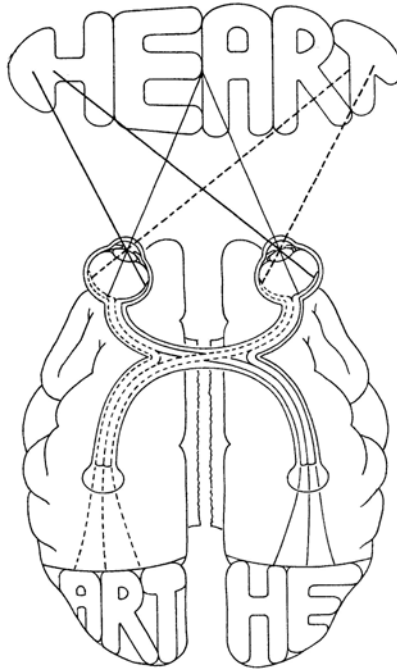


FIGURE 3.2
 A simplified diagram of visual input to the two hemispheres of the brain. Images in the left visual field are projected to the right hemisphere, images in the right visual field to the left hemisphere. This schematic drawing illustrates one experiment performed on split-brain patients: note that the corpus callosum is cut. The "HE" and "ART" projections are, of course, fanciful, not anatomically correct.

This illustration is by permission of Elsevier & Viking Press from page 56, *The Psychology of Consciousness*

Whereas the right hemisphere is more holistic in its mentation and its language ability is quite limited. This hemisphere is primarily responsible for our orientation in space, artistic endeavor, body image, facial recognition, and musical and tonal abilities. It is ready to integration of many inputs at once, know as multitasking which has become so popular in our current society.^{39,40,41,42,43}

Much of this information about the brain and it method of storing information (memory) has come observation of patient with brain injuries. In Richard Restak, M.D., "The Brain", this is a direct quote "It is known from observation of head-injured patients that a critical period is required to switch from short- to long-term memory. For example, a concussive blow to the head wipes out memory for events immediately preceding it. Such findings are consistent with a view that memory must involve some alteration of neuronal connections."⁴⁴

This paper has talked about the ideas of memory storage in the form of (engrams) where it is stored. The possibility that memory is a form of hologramic imprint that maybe synaptic, neurotransmitter, or neuronal pathway in nature and that it seem to be resistance to loss unless too much damage had occurred to one area. One of the ideas that was the effect of concussion on the brain structure, but one factor being over looked is the effect

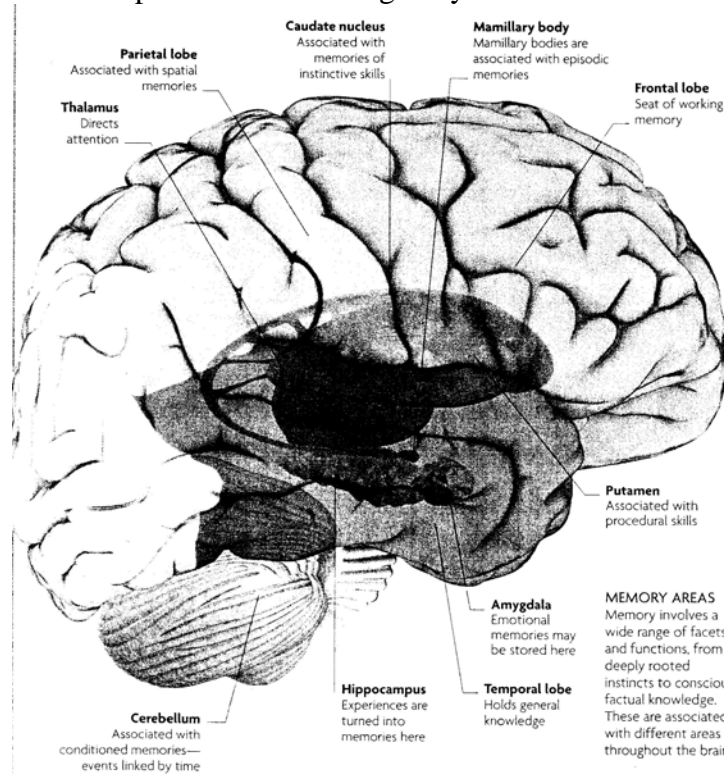
on the cranial bone and cranial vault. Assuming no fracture had occurred due to the concussive force. Microscopic shift in the cranial vault plates could act to effect the

mirror like effect and there by change the hologramic storage creating amnesia a memory loss.⁴⁵

The effects of head trauma have been know for more the 100 years due to injuries, war and contact sport such as football. These changes in brain function have come to light in two recent, New York Times articles by Alan Schwartz. The first appeared on 10/1/09, Players Face Head Injury Risk Before the NFL, and the second on 11/24/09, NFL Head Injury Study showing the importance of preventing concussion in this sport. Other scientific study that corroborate these find appeared in the New England Journal of Medicine and The Journal of the American Medical Association.^{46,47,48}

Conclusion

My theory or hypothesis is that the over all design of the central nervous system that of the brain and spinal cord has developed to intermix two different signals that of wave forms or interference patterns that are required to form holograms. I have shown through anatomy that both sensory afferent or in coming and motor efferent or out going depend on specific regions of the cerebral cortex for the origins. However, the nerve center have 25% originating on the same side and 75% crossing over the opposite side, this coupled with the interconnection of both cerebral hemispheres by way of the corpus callosum is required to from the storage of interferometry as hologramic memory. In the above illustration taken from The Psychology of Consciousness Figure 3.2 shows what the visual appear when the corpus callosum is surgically cut.



(The above illustration with the permission of DK Publishing, p. 154.)

I want to use a quote from science writer Rita Carter, "The Human Brain Book," under memory: "Most of our moment-to-moment experiences pass rapidly into oblivion, but a tiny few are encoded in the brain as memories. When we remember an event, the neurons involved in generating the original experience are reactivated. However, recollections are not replays of the past, but reconstructions of it. The primary purpose of memory is to provide information to guide our actions in the present, and to do this efficiently we generally on those experiences that are in some way useful."⁴⁹

In this section of this book was a section titled "The Principles of Memory", which is broad overview of different CNS functions. This area has to do with learning and storage of information and the synchronized firing of neurons, that are need to create what is know as memory. Here Ms. Carter has given five types of memory: 1.) Episodic-past experiences, 2.) Semantic-non-personal facts, 3.)Working to hold information in the mind, 4.) Procedural "body" walking, swimming, bike riding, 5.)Implicit that which we don't know we have gut feeling.

If you look at the above illustration from "The Human Brain Book", from page 154 you can see the diversity of the memory centers seem to follow the idea of hologramic memory being diffuse through the whole brain. This concept go along with my theory that the nervous system had to be laid out with the right brain running the left side and the left brain running the right side in order to form hologramic information storage. This is way 75% cross over and 25% go to the same side, because the need for interference patterns formation. This might be due to divine intervention or evolutionary need depending on your beliefs.

I sometime wonder how I could be so bold to believe this concept to be true, but this makes me think of Sir Isaac Newton's quote "If I have seen further then others it is by standing upon the shoulders of giants." These giants were the researchers such as Lashley, Pribram, Bohm, Eccles, Pietsch, Penfield, Rasmussen, and Goodheart, who believed the ideas of hologramic storage of memory made sense.⁵⁰

My mentor Dr. George Goodheart while lecturing would make one of the most profound quotations that still to this day give me goose bumps when I hear it. The quote comes from the 1937 Nobel Laureate in Physiology and Medicine, Albert Szent-Györgyi, Ph.D.,

"Discovery is see what everyone else has seen, but think what no one else has ever thought."⁵¹ This come back to the discovery of penicillin by Alexander Fleming, M.D., that was seen by most of his contemporaries as a failed bacteriological experiment to grown a pathogen.

This quotation had just came to light again, when one of my patient's, a female teacher who has multiple sclerosis asked me about a surgery that could help or cure this problem.

I said at that point I had never heard about this and I did see how a surgical procedure would help this autoimmune disease. To my surprise on June 28, 2010 a few days later

in The New York Times Science section, what do I find but an article by Denise Grady, “From M.S. Patients, Outcry for Unproved Treatment”? These are the observations and research work of Paolo Zamboni, M.D. a vascular surgeon from Italy with an unorthodox theory about MS.

What Dr. Zamboni had been studying the medical literature on multiple sclerosis since 1995, when his wife was diagnosed with this disease. He discovered report of vein abnormalities and of brain lesions forming around the veins. He been studying these vein disordered for 25 years and he used ultrasound and other imaging technique, he found a consisting narrowing in the neck and chest veins in people with the disease, but this was not present in healthy ones. This would slow the reabsorption of CSF and case a leakage of blood in to the brain tissue and could lead to an immune reaction and inflammation that is seen in this disease.⁵²

The final conclusions come from the question, why does the right brain controls the left side of the body and left brain controls the right side of the body? As Albert Szent-Györgyi “Discovery is to see what everyone else has seen”, that information is stored diffusely through the brain as a hologramic system. “But to think what no one else has ever thought”, that the nervous system design of crossing 75 % to the opposite side and 25 % to the same side is necessary to from the interference pattern to make hologramic storage possible.

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Hologramic Memory and the Design of the Human Nervous System
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Reviewing the Pathways of Therapy Localization

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Abstract

The review of the original 1979 research paper with the exploration of the possible pathways of the therapy localization phenomena, with the emphasis on the new and more current research that would corroborate the original explanation.

Introduction

The introduction of the unusual phenomena came about through the observation of Dr. George Goodheart and appeared for the first time in his 1974 Research Manual. In the introduction to this manual he states that the “new research on the role of the patient himself being the source of diagnosis of the location or locations of the problem areas.” He goes on to say that, “the ability of the patient to be the source of the diagnostic information for proper therapy cannot be overemphasized.”¹

Therapy Localization (TL) is described in the following manner: when a patient touches with the palm surface of the hand or hands an area of the body which is not functioning correctly, there will be a change in muscle strength observed on manual muscle testing (MMT). The phenomenon has gone on to prove its self over the past 36 years and has made a significant contribution to the improved understanding of body function.^{2,3,4,5}

Although valuable as a tool, therapy localization is not the end in itself. It tells only where a problem is: it does not tell what the problem is, unless combined with other testing procedures. Therapy localization can be used to lead an examination, but it requires confirmation from other diagnostic criteria.^{6,7}

When the patient touches the symptomatic area, there will be muscle function changes as observed by manual muscle testing. Either a strong indicator muscle will weaken, or a muscle that is weak because of the dysfunction will strengthen. This was proven in a research study done at the New York Chiropractic College in 1989. This study used the evoked potential that employed percutaneous electrical stimuli to activate mixed nerves such as the median nerve at the wrist, or sensory nerves, such as the digital nerves at the fingers. This was recorded on an electroencephalogram during manual muscle testing.

A strong muscle was one that “locked” properly and held its position during MMT and a weak muscle was one that did not “lock” properly or hold its position of shortest length against applied pressure. What this study pointed out was that there are statistically significant changes shown and that the amplitude changes in this cited research was attributed to muscle spindle cells. These amplitude changes were measured and averaged over a

period of 10-milliseconds and 1 microvolt of electrical change. This effect is likely due to interaction taking place in the brain. These findings support the hypothesis that the central sulcus of the contralateral hemisphere is the causative region.⁸

The use of muscle testing and therapy localization would suggest a neurological basis for the reaction that takes place during this procedure rather than operator prejudice. This was shown in this cited study by the fact that of the voltage changes detected on the recording instrument recorded as a muscle weakness were known without watching the actual testing being performed.

Back to the original paper examples, if a subluxation of spine is touched, a muscle that is weak because of the subluxation will test strong on MMT, while a previously strong muscle (indicator muscle) will weaken. Either of these situations is known as positive TL. After the subluxation has been corrected, touching the same area of subluxation will no longer cause a change of muscle strength as observed by MMT. The same basic effect is observed when an active reflex point, extremity subluxation, cranial fault, or active acupuncture points are touched. Basically, any therapeutic area will react as described. A diseased location will also show positive therapy localization. For example, when a patient touches over an infected sinus, a previously strong indicator muscle will weaken. The involvement could be trauma, such as a fracture or a sprained ligament, which will also cause a positive TL. Nearly all pathologies or traumatized areas will TL. Walther described this description of therapy localization phenomena.⁹

Dr. Goodheart stated that therapy localization functions over the Melzack-Wall spinal gate. Your body thinks that whenever you hurt yourself you do so through your skin and therefore all these factors may apply.¹⁰

In the Puzzle of Pain, Melzack chapter entitled Response Mechanism states that sudden and unexpected damage of the skin is followed by: 1.) Startle response, 2.) Flexion reflex, 3.) Postural readjustment, 4.) Localization, 5.) Orientation of head and eyes to examine the damaged area, 6.) Automatic responses, 7.) Evocation of past experience in a similar situation.¹¹

I still did not understand how therapy localization worked so I started to review all my physiology and anatomy texts to see where the pathways were that allowed this phenomenon to occur.

Since any intact muscle could be used as the indicator muscle when therapy localization is done, and the areas being examined were many dermatome levels away, it seemed reasonable that the synaptic connection for this phenomenon must be some place in the brain. This area where both sensory and motor areas are in close association and this region is the pre and post central gyrus.

In Guyton's Physiology section on nerve function titled Sensory Feedback Control of Motor Function states. "Anatomically, the characteristic pyramidal cells of the motor cortex extend backward into the anterior lip and anterior surface of the postcentral gyrus

where they intermingle with the large number of granule cells of the somatic sensory cortex. Likewise the granule cells of the sensory cortex extend anteriorly in the precentral gyrus; the area normally called the motor cortex. Thus, the two areas fade into each other. Furthermore, electrical stimulation of the somatic sensory area in the postcentral gyrus frequently causes motor contractions that are characteristic of stimulation in the precentral motor cortex, and on the contrary, electrical stimulation in the motor cortex often induces a sensory experience rather than causing muscular contraction.¹²

Now that I had found the region of the brain where the motor and sensory stimuli mix and affect one another, I now had to find the pathways that travel from and to the pre and postcentral gyrus region of the anterior horn cells of the spinal chord. Guyton states “In addition to the feedback pathways through the cerebellum, more slowly acting feedback pathways also pass from most proprioceptors first to the sensory are of the cerebral cortex. Each of these feedback pathways is capable of modifying the motor response.”¹³

Starting at the sensory region in the spinal chord, where the touch and pain fibers meet, is the spinal gate or substantia gelatinosa. In Gray’s Anatomy neurology section titled Nuclei or Columns of cells of the dorsal horn states: “The substantia gelatinosa of Orlando extends the entire length of the cord and into the medulla oblongata where it becomes the spinal nucleus of the fifth cranial nerve (V) or trigeminal nerve. It contains numerous small cells whose axons end in adjacent columns, both gray and white. The fibers entering it are from the lateral bundle of the dorsal rootlets by way of the dorsal lateral tract or tract of Lissauer.”¹⁴

Touch pressure travels by way of the ventral spinothalamic tract through the medulla over the medial lemniscus to the thalamus to the cerebral cortex.

Pain and temperature travel through the dorsal root by way of the spinal ganglion cell to Lissauer synapse at the level of the cord, by way of the dorsal gray column to the lateral spinothalamic tracts, to the thalamus to the cerebral cortex.

On entering the cord through the posterior roots, the pain and temperature fibers travel upward I the tract of Lissauer for one to three segments and then terminate on the second order neurons in the gray matter of the dorsal horns. The fiber from these then form the lateral spinothalamic tract that passes all the way to the thalamus, then by third-order neurons to the sensory cortex.

The postcentral area receives exteroceptive impulses from the motor area of the cerebrum and is essential to voluntary muscular activity. It is the nerve cell of the motor cortex with its process, which passes through the internal capsule, brain stem, and spinal cord by way of the corticobulbar or corticospinal tract to the lower motor neurons.

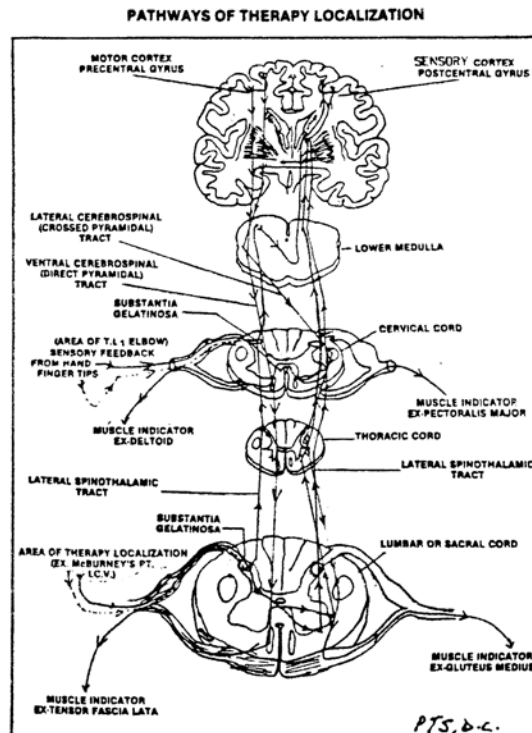
Pyramidal tract: Voluntary control of muscle is conveyed by axons of the pyramidal cells in the precentral gyrus and adjacent cortex, and pass through the spine as the lateral corticospinal or crossed pyramidal tract, ventral corticospinal or direct tract.¹⁵

Gray's states; "Suppressor zone two, which is the superior portion of the postcentral gyrus on Brodmann chart, in studies in monkeys and other animals. When electrical stimulation is applied to one of these areas, electrical evidence of cortical activity is suppressed in the area and gradually spread throughout the cortex. Stimulation of area eight many cause cessation of muscular contractions and suppress further motor response while the stimulus is applied."¹⁶

The neurological basis of muscle tone states that maintenance and control of muscle tone is dependent upon normal function at six levels. 1) precentral motor cortex Brodmann area four and six, 2) the basal ganglia, 3) the midbrain, 4) the vestibulum, 5) the spine, 6) the neuromuscular system.¹⁷

The corticospinal tract extends throughout the cord and is the principal pathway for voluntary movement. Note: the reticular formation of the brain stem contains an inhibitory area caudad and inferior to facilitatory area one. Renshaw cells, which lie in the medial portion of the anterior horns, send axons to the adjacent motor neurons to inhibit their activity, which could cause temporary muscle weakness as seen in a positive therapy localization response.

The following illustration shows the pathways taken in the Therapy Localization.



Discussion

To simply restate all that has been presented is that therapy localization takes place in the following manner.

- 1.) Touch fibers of the and skin, in the area that is therapy localized, send information back to the dorsal root of the cord called the substantia gelatinosa of Rolando. These messages travel by way of the ventral spinothalamic tract through the medulla to the medial lemniscus to the thalamus, and from the thalamus to the postcentral gyrus of the cerebral cortex.
- 2.) The area of therapy localization represents the skin's pain memory area, which is a slower transmission of impulses. These impulses are transmitted through the dorsal root by way of the spinal ganglion cell to the tract of Lissauer; synapse at the level of cord and go by way of the dorsal column to the lateral spinothalamic tract to the thalamus to the postcentral gyrus of the cerebral cortex.
- 3.) The muscle enervation comes by way of the precentral gyrus on the motor cortex and is connected by way of the ventral corticospinal (direct pyramidal tract) or by the lateral corticospinal (crossed pyramidal tract) to the anterior horn cells of the spine to the indicator muscle being tested.
- 4.) The weakening or inhibitory signal can take place directly in the superior central gyrus region of Brodmann are two or further out in the cerebral cortex are eight, or at the Renshaw cell of the anterior horn cells that cause inhibition of muscle.

I believe these are the pathways and mechanisms upon which therapy localization works. There may be other pathways and mechanisms that exist, such as therapy localization being a more intuitive or right brain function, but this will have to wait for further investigation. With the information I could obtain at the time I originally wrote this paper, these are proven pathways and mechanism that do exist and have a good possibility of working in the manner described. This was confirmed by research study done at the New York Chiropractic College in 1989 using somatosensory evoked potential changes during muscle testing show region of the pre and post central gyrus region as registering electrical changes when a muscle weakened.¹⁸

Conclusion

- 1.) The phenomenon of therapy localization must be one of brain synaptic connections rather than spinal cord in nature. This conclusion was arrived at because of the wide areas of neurological connection involved and the observation that any intact muscle can be used to test with.
- 2.) In order for therapy localization to take place there must be relatively direct pathways for both sensory and motor connections to take place. These direct pathways should be present in the sensory area in the lateral spinothalamic tracts, and ventral

spinothalamic tracts. In the motor areas the direct pathways are in the pyramidal tracts, crossed pyramidal or lateral corticospinal tract, and the ventral corticospinal or direct pyramidal tract.

3.) A central area in the brain where the intermixture of both motor and sensory fiber could have effects on either function. This area was found in the pre and post central gyrus, and thalamic regions.

4.) This follows Dr. Goodheart's idea that therapy localization worked over the Melzack-Wall spinal gate. The pain and touch fiber of the area therapy localized, then send information to the postcentral gyrus, this causes muscle inhibitory signal causing the indicator muscle to weaken. The motor neurons from the brain stimulate the Renshaw motor cells in the anterior horn of the cord and weakens the indicator muscle.

Therapy Localization is one of the most important discoveries in chiropractic in the 20th Century. This discovery and its uses will bring to our profession one of its first Nobel Prize in the not too distant future. Along with other giant of the chiropractic profession who were teacher, researcher and innovators, such as David D. Palmer, Major De Jarnette, Hugu Logan, George Goodheart, and James Parker. The things that I have learned and discovered during my 41 years in practice I would have to use a quote from

The Father of Modern Science, Isaac Newton: "If I have seen further than others, it is by standing upon the shoulder of giants."¹⁹

Since it was first appeared and was introduced in the Applied Kinesiology Research Manual of 1974, Dr. Goodheart observation have proven to true. I have used TL along with MMT for the past 36 years and like (GPS) in my car this device give me the correct directions and lead me to my destination, similar TL and MMT will always lead me to the source of the patient problem.

The discovery of TL is one of the greatest in chiropractic. Followed by the correction of the subluxation with manual adjustment, which is the first in my mind. When it come to discoveries in research Dr. Goodheart always gave this quote from The Nobel Prize in Physiology or Medicine 1937, Albert Szent-Györgyi. "Discovery is see what everyone else has seen, but thinking what no one else has ever thought."

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Reviewing the Pathways of Therapy Localization
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Soft Tissue Manipulation of the Appendix Region for Correction of Persistent Bilateral Quadratus Lumborum Muscle Facilitation Error (Weakness)

William H. Tolhurst, D.C., DIBAK

Abstract

The Quadratus Lumborum (Q.L.) muscle resides in the posterior region of the visceral compartment. A clinical relationship exists between the Q.L. and the large intestine acupuncture meridian and more specifically the vermiform appendix. If established applied kinesiology corrective procedures fail to correct a bilateral Q.L. facilitation error (weakness) a visceral correction similar to an ileocecal valve correction may be indicated.

Key Indexing Terms

Viscerosomatic Reflex, Manual Muscle Test, Lower Back Pain, Lower Back Ache, Appendix

Introduction

In clinical practice a very common condition is an open or closed Ileocecal valve (I.C.V.).(1) Most anyone using Applied Kinesiology (A.K.) has observed this condition repeatedly. A soft tissue manipulation of the I.C.V. area is usually used to correct this finding. The appendix manipulation reflex procedure is quite similar. Located approximately two inches below the ileocecal valve reflex (lower right quadrant of the abdomen) is a separate region that can be effectively manipulated to reset a viscerosomatic reflex to re-establish normal facilitation and contraction of the Q.L.

Discussion

As outlined in Dr. David Walther's Synopsis II (2) and other A.K. literature, the Quadratus Lumborum muscle is a core lower back stabilizing muscle. If this muscle has a facilitation error on both left and right sides there are accepted treatment protocols of Origin- Insertion, Fascial Flush, Golgi tendon organ, Neurolymphatic, Neurovascular, Stress receptor, vertebral manipulation, meridian therapy, and nutritional therapy. If none of these therapies creates a lasting correction there may be the need of moving latent contents out of the appendix and ascending colon cul-de-sac. Of absolute and utmost importance is to confirm that there is no active appendix inflammation or

pathology. A clinical test called “McBurney’s Sign” (3) is a simple way to determine if the procedure outlined in this paper is contraindicated.

The author has successfully used this treatment protocol for over six years on dozens of patients without repercussions.

Protocol: Test individually each Q.L. muscle. If both sides have a facilitation error (weakness) have the patient therapy localize (T.L.) McBurney’s point (3cm below I.C.V.) and then test the Q.L. again while the patient touches this point. If the T.L. strengthens (induced facilitation) or if a strong (normal contraction) indicator muscle weakens (induced facilitation error) this point, soft tissue correction is indicated.

Correction: First inform the patient (or parent if treating a child) that you will be placing your hand slightly superior to the right inguinal ligament (place the patient’s hand there first if there is any need for clarification). Then, with a mild fingertip pressure manipulate the soft tissue region from inferior to superior approximately in a 3 cm. linear direction as the patient slowly exhales. The patient must make a reasonable effort to keep their abdominal muscles relaxed. If there is any pain, stop immediately. If no pain, repeat the technique three times total. Of note: even if the patient has had their appendix removed, the reflex can still be active and influencing the Q.L. Lastly, retest the Q.L. muscles.

Patients should also be consulted about proper nutrition and bowel habits and also the appendix role with the immune system.

Additionally, if there is a persistent unilateral weakness of the Q.L., the author has found treatment of LI 11 acupuncture meridian point on the side of weakness is effective. LI 11 is located on the lateral aspect in the fold of a flexed elbow.

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Soft Tissue Manipulation of the Appendix Region for Correction of Persistent Bilateral Quadratus Lumborum Muscle Facilitation Error (Weakness)
William H. Tolhurst, D.C., DIBAK

The Use of a Modified Ober Position for Deep Facial Therapy to Assist in the Treatment of the Iliolumbar Ligament and Lumbosacral Disc Decompression

William H. Tolhurst, D.C., DIBAK

Abstract

The Ober orthopedic test (1) places the patient in a unique position for accessing the lateral aspects of the lumbosacral region and hip abductors. A modification of this position slightly abducts the iliac crest from the lower lumbar spine. Use of percussion therapy and deep facial release therapy enhances iliolumbar ligament technique and is a very effective adjunctive therapy for lumbar disc decompression.

Key Indexing Terms

Iliolumbar Ligament, Lumbosacral Disc Degeneration, Ober Orthopedic Test, Percussion Therapy

History: One of the most degenerative areas of the human body is the intervertebral disc between the fifth lumbar vertebral (L5) and the sacral base (S1). Over the course of a human lifetime this area is subjected to continued static stress in biomechanical positions that are not consistent with the design of this region. Sitting incorrectly or for protracted periods of time is not what humans were designed to do. Active aberrant stress (lifting and twisting) also plays a significant role in breaking down both disc fibers and creating very ridged surrounding structures including muscles and ligaments. Traditional therapies for this region include traction, disc decompression (a newer form of traction), physical therapy, chiropractic adjustments, and balancing muscle function through the use of applied kinesiology. All contribute to the management of lumbosacral degeneration and dysfunction. Newer forms of fascial release therapy, like percussion therapy, exist to help increase mobility and flexibility of rigid ligaments and myofascial structures. Just as the use of heat can transform rigid soft tissue structure in a general way there are now tools to greatly assist in the mobility of the lumbosacral region.

The iliolumbar technique (2) as outlined by Dr. George Goodheart in 1975 describes a lumbo-sacro-iliac mechanism that is flexible enough to allow a gyrating movement of the pelvis while walking. A unique gait analysis of having a patient take a step rearward allows for accurate assessment of this condition. Treatment involves a strain/counter strain technique of the gluteus maximus muscle followed by a prone patient position with

an assisted hyper extended thigh to allow the physician to forcefully approximate the iliolumbar ligament for thirty to forty seconds.

Protocol: A patient is asked to assume a side lying position on a flat therapy table. The inferior arm should be comfortably behind the torso and the superior leg should be in extension hanging comfortably off the therapy table to the posterior. This will naturally allow a mild rotation of the spine and a balanced and stable position of the patient. Most important is the weight of the hanging leg will traction the superior ilium away from the lumbar region with a slight abduction of the iliac crest allowing access to the deep lateral structures of the lumbosacral region. The portion of the iliolumbar ligament that connects the fourth lumbar transverse process to the posterior ilium is readily accessible for manual or any fascial release tool including percussion therapy. This therapy in the described modified Ober position, along with proper hydration and release of any psoas muscle contraction will greatly augment any effort to reverse the effects of lumbar and lumbosacral disc compression and degeneration.

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The Use of a Modified Ober Position for Deep Facial Therapy to Assist in the Treatment of the Iliolumbar Ligament and Lumbosacral Disc Decompression
William H. Tolhurst, D.C., DIBAK

Division II

Critical Review

The Pectineus Muscle as an Indicator of TMJ and Gait Imbalances

James P. Blumenthal, D.C., D.A.C.B.N., F.A.C.F.N.

Abstract

Objective: To describe the use of the pectineus muscle as a screen for a variety of physiological and structural imbalances, including temporal-mandibular joint and gait disturbances.

Clinical Features: Beyond the five factors of the intervertebral foramen, ipsilateral pectineus weakness may indicate a referred muscle weakness affecting TMJ dynamics, gait dynamics, or cervical muscle tonicity.

Intervention and Outcome: Through the use of manual muscle testing and other Professional Applied Kinesiology tools, we have been able to correlate ipsilateral pectineus weakness with a limited number of causative factors. This has enhanced our ability to identify and treat underlying causes of patients' problems, accelerated healing times, decreased pain and suffering, and reduced costs.

Conclusion: Consideration of ipsilateral pectineus weakness as an indicator of dysfunction and imbalance in the temporal-mandibular joints and/or the gaits can improve physicians' efficacy and their patients' lives.

Key Indexing Terms

Pectineus, TMJ, Temporal-Mandibular Joint Dysfunction, Gait Imbalance, Headache, Neck Pain, Referred Pain, Reactive Muscle, Soft Tissue Manipulation, Chiropractic / Methods, Professional Applied Kinesiology™, AK, PAK®, Blumenthal

Discussion

In October 1997, Dr Goodheart referred a patient to our office with an inguinal hernia. When I called George to thank him and ask for advice, he encouraged me to check the pectineus muscle and to vigorously rub its origin to eliminate the inguinal hernia pain. (1) In retrospect, this may have had some of the same effect as stubbing one's toe to relieve a headache, as the patient found that it felt very good when I stopped providing the therapy. It also caused me to begin considering the pectineus as a regular part of my muscle scan on each patient.

The pectineus is a quadrilateral fan-shaped muscle which, at its origin, attaches to the lateral aspect of the pubic bone and then inserts into the

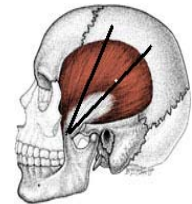


medial proximal third of the femur. Formally, it arises from the pectineal line of the pubis and, to a slight extent from the surface of bone in front of it between the iliopectineal eminence and tubercle of the pubis, and from the fascia covering the anterior surface of the muscle; the fibers pass downward, backward, and laterally, to be inserted into the pectineal line of the femur which leads from the lesser trochanter to the linea aspera (2).

It assists the femur in adduction and lateral rotation and is innervated by the femoral nerve arising from its L2 and L3 segments (3) and occasionally by the obturator nerve. To test the pectineus in a supine patient, laterally rotate the leg with the knee straight and the leg fully adducted, then elevate the leg off the table (4). While blocking against the ASIS, test the muscle's ability to withstand downward (posterior) pressure. Different divisions of the pectineus can be tested depending on the height to which the leg is raised up off the table.

When I started checking it routinely, this relatively obscure muscle was neurologically inhibited ("weak") on a significant number of patients. I began trying to correct it by using the 'five factor' fixes listed in Alan Beardall's Clinical Kinesiology books (5). These facilitated or "strengthened" a number of the previously weak pectinei, however there were several cases which did not respond to the more common CK and AK corrections including Bennett's and Chapman's reflexes, origin/insertion, fascial flush, strain/counterstrain, muscle acupuncture points, etc.

As luck would have it, one of the refractive patients was also rather loquacious and I happened to test her pectineus with mouth opened and closed. Her pectineus strengthened in the mouth-open position, which then cross-therapy localized to the ipsilateral temporal-mandibular joint (TMJ) and middle temporalis muscle. Given the fan shape of both pectineus and temporalis muscles, the similarity of the pectineus' origin at the pubic bone to the temporalis insertion into the mandible, and the Lovett relationship of mandible to pubic bone, this should probably have come as less of a surprise.

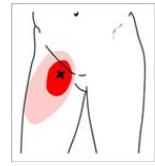


Upon clearing the middle temporalis using its posterior neurolymphatic, the jaw-open muscle inhibition cleared and the pectineus strengthened. Repeated testing has shown that a weak pectineus will most often cross-TL to a TMJ dysfunction. The most common cause for this appears to be a middle temporalis muscle dysfunction ipsilateral to the weak pectineus and the two most common fixes appear to be 1) the temporalis' posterior neurolymphatic reflex and 2) low amplitude percussion to either the Golgi tendon organs or spindle cells of the affected middle temporalis, either manually or with a Vibracussor.

Contralateral temporalis shows up a little less often than ipsilateral and either masseter less frequently still. Although I have not yet seen either of the internal or lateral pterygoids cross-TL to a pectineus, the problem frequently appears to be a fixated temporal bone which can often be easily treated with a 'temporal tug' adjustment. Much less often, corrections have run the full gamut, including 5 factors and fascial release.

The other primary connection with the pectineus, as GJG instructed me, has been in the inguinal fossa. The pectineus will often cross-TL to the origin of the iliacus muscle and will most commonly be nodular or ropy on palpation.

Deep massage to release the muscle knots is highly effective, although uncomfortable for some patients. The most common discomfort responses which this elicits range from extreme ticklishness to moderate pain.



Alternatively, using a Vibracussor at a very low setting with Goodheart's myofascial gelosis technique (6) will usually release the muscle and restore facilitation to the pectineus with little or no discomfort to the patient. This also results in significant improvement to the gaits, since an iliacus fault will also show up as weakness in the bilateral thigh abductors or adductors.

We routinely check ipsilateral and contralateral gaits and bilateral adductors and abductors at the beginning and end of each treatment session. While many gait patterns respond to simply adjusting the toes, suggesting that they may be symptomatic of a cortical hemisphericity or a lateral cerebellar imbalance (7), those which do not will usually cross-TL to the iliacus origin on one side or the other and will resolve when the iliacus correction is performed as described above.

If the upper trapezius muscles still do not respond as expected (strong in cervical extension, weak in cervical flexion) after completing most of a treatment session, then rechecking the pectineus muscles may uncover the hidden faults which are causing the body to provide this aberrant indicator message. Likewise, a persistent Category I may be due to any number of problems. Some of their causes may be uncovered by testing the pectineus and finding its cross therapy localization.

All in all, the relatively obscure pectineus muscle can be a significant indicator muscle and a boon to completing the process of clearing our patients' hidden faults.

Acknowledgements

I would like to thank those who have helped me prepare this article and those who have helped prepare me to be able to recognize the significance of this indicator. In particular, I am indebted to Jonathan Herbert, DC who helped me confirm these observations and to Rebecca Rothrock, MD who encouraged me to publish them. As are we all who practice Applied Kinesiology, I am indebted to George Goodheart for igniting the inquisitive spark which led me to ask Why and created a framework for understanding How.

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The Pectineus Muscle as an Indicator of TMJ and Gait Imbalances
James P. Blumenthal, D.C., D.A.C.B.N., F.A.C.F.N.

Finding the Hidden Upper Cervical Fixation, Testing the Gluteus Maximus with Abduction

Richard M. Burger, D.C., C.C.T.P., DIBAK

Abstract

Adding approximately 30 degrees of hip abduction during the set-up for the gluteus maximus test may reveal otherwise hidden weaknesses, and when bilateral are typically related to an otherwise undetected upper cervical fixation. This method may also detect otherwise hidden unilateral weaknesses as well.

Key Indexing Terms

Upper Cervical Fixation, Gluteus Maximus, Abduction Test

Introduction

The standard gluteus maximus test is described and illustrated by Kendall, McCreary and Provance (1); Stoner (2), Walther (3, 4, 5) & Leaf (6). In each of these references, the set-up for the test is with hip extension in the neutral position. The presence of an upper cervical fixation associated with a bilateral gluteus maximus weakness, while not pathognomonic, is very well established in the literature of Applied Kinesiology (7, 8). When dealing with difficult or recurring cases of lower back pain, hip and thigh pain or piriformis syndrome where the presence of gluteus maximus weakness is suspected but not found while testing with the standard approach, the “hidden” weakness may be found by adding approximately 30 degrees of hip abduction to the positioning of the gluteus maximus test.

Method

The test method is simply to add 30 degrees of hip abduction in the set-up to the gluteus maximus test. This test appears to recruit more of the superior fibers of the gluteus maximus. The usual need for proper isolation of the gluteus maximus by preventing pelvic rotation and maintaining knee flexion applies. The flexed leg should be vertical on testing to assure no internal or external hip rotation.

Discussion

The method I am recommending is not a substitute for the standard test, but rather an additional approach to testing in those cases where the weakness is suspected due to the symptomatic picture, gait or postural analysis or other diagnostic indicators but not found with the standard test.

Once found using this procedure, the upper cervical fixation demonstrates the usual attributes of therapy localization, e.g. only with motion, and other qualities that are typical of fixations in general and the upper cervical fixation specifically (8). This testing method has revealed a number of suspected, but otherwise hidden upper cervical fixations, which when corrected by the usual means provides good results for the doctor and the patient. It should be noted that a “hidden” weakness of the gluteus maximus, usually unilateral, not associated with an upper cervical fixation may also be found with the addition of abduction, in which case the usual approach at isolating the cause would apply (Five Factors, etc.).

This is a simple and effective addition to our already extensive armamentarium in dealing with the pain and dysfunction of our patients. I would encourage others to try this simple addition with the hope that they will have the same degree of success in aiding their patients that I have found.

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**Finding the Hidden Upper Cervical Fixation,
Testing the Gluteus Maximus with Abduction**
Richard M. Burger, D.C., C.C.T.P., DIBAK

The Hyoid-Masked Ileocecal Valve Syndrome, Open-Mouth ICV Testing

Richard M. Burger, D.C., C.C.T.P., DIABK

Abstract

A specific pattern of masking of the ileocecal valve syndrome has been found which involves the mouth opening muscles, primarily the right anterior digastric. When this pattern is present, the ileocecal valve syndrome will not therapy localize or challenge unless tested with the patient's mouth in the open position. Similarly, the anterior digastric reactivity will not challenge unless there is simultaneous therapy localization to the ileocecal valve. Once the correction has been made to the anterior digastric, the dysfunctional ileocecal valve will therapy localize in the clear and can then be corrected in the usual manner.

Key Indexing Terms

Hidden Ileocecal Valve Syndrome, Masked Ileocecal Valve Syndrome, Hyoid Muscles, Anterior Digastric, Open-Mouth Testing

Introduction

Dr. Goodheart discussed the Ileocecal Valve Syndrome in great detail early in the history of Applied Kinesiology (1, 2, 3). The usefulness of his insights into this condition have proven invaluable over nearly half a century of clinical application. The ileocecal valve syndrome has been referred to as the "great mimicker" because of the number of seemingly unrelated symptoms that may occur and its diagnosis and treatment have also been covered in the standard texts of Applied Kinesiology and most exhaustively by Walther (4, 5, 6, 7, 8).

Dr. Goodheart also described how a "limbic" fixation could mask the presence of a dysfunctional ileocecal valve which could be detected by simultaneous therapy localization to the ileocecal valve and the bridge of the nose (9), and how once the cervico-thoracic fixation was corrected, the body would display the ileocecal valve (ICV) problem in the expected manner, at which time the appropriate corrections could be made to resolve the problem.

Dr. Goodheart presented a detailed description of "The Hyoid Bone" and its relationship to other structures and functions in the jaw, head and neck and in the central nervous system in his 1977 Research Manual (10) and again in the 1979 Research Manual (11). Other Applied Kinesiology authors have also covered the apparent functional importance

of the hyoid and its musculature, once again with the most exhaustive treatment by Walther (12, 13, 14).

A patient, who had classic ileocecal valve syndrome symptoms of headache and nausea which would only briefly respond to treatment, would show recurrence of symptoms after eating, but there was no longer an indication for ileocecal valve dysfunction by therapy localization or challenge. It occurred to me that there might be some type of functional relationship between the various “sphincters” in the gastrointestinal tract, the mouth being the first in line, and since eating seemed to trigger symptoms, I tested the patient with the mouth open while she therapy localized the ileocecal valve. To my pleasant surprise, the TL was now positive. Recalling that the ICV could be masked by a limbic fixation, I reasoned that there may be some other factor related to mouth opening which might also be masking the presence of the ICV. While having the patient continue therapy localizing the ICV, I challenged the hyoid muscles since they are involved in mouth opening and found a positive challenge for the right anterior digastric, which would not show up unless the ICV TL was held. I applied muscle spindle technic to the reactive anterior digastric muscle after which I found that the ICV would TL in the clear. Appropriate treatment was directed to the now apparent ICV with lasting results and satisfactory improvement in the patient’s symptoms.

Since that initial observation, I have found this hyoid-masking of the ICV to be a fairly common pattern which when addressed has allowed effective treatment of otherwise difficult and recurring cases.

Method

The testing method is to have the patient therapy localize with an open hand over their right lower quadrant in the area of McBurnie’s point overlying the ileocecal valve. If the TL is negative then it is a good idea to have the patient hold simultaneous TL to the bridge of the patient’s nose with the other hand (ruling out a limbic fixation masking the ICV). If that test is negative then have the patient open the mouth while simultaneously holding only the ICV TL. If the test is then positive, the doctor challenges the hyoid to identify the presence of the reactive hyoid muscle while the patient maintains the ICV TL. After many applications of this procedure, I have only found the right anterior digastric to be involved. The hyoid challenge will not show up without the patient simultaneously therapy localizing the ICV and there will not be a satisfactory correction unless the ICV TL is held during the muscle spindle correction to the anterior digastric muscle.

In most cases, after treatment to the hyoid muscle, the ICV will now TL in the clear and can be corrected in the usual manner. However, I have seen a significant number of cases which will show positive indications of a limbic fixation masking the ICV only after the hyoid masking has been resolved. In those cases, the ICV will TL with simultaneous TL to the bridge of the nose. Once the offending cervico-thoracic fixation is corrected, then the ICV will TL in the clear and can be treated.

Discussion

Since hyoid involvement can be a factor in neurologic disorganization or “switching”, I have tested patients with this pattern for the usual switching indicators and found them to be negative, so that does not appear to be a factor in these cases. I have also tested against mouth closing and found no correlation. It appears that this pattern will only show up with the mouth open, although it may show up with a chewing motion, but even then, it is the opening of the mouth during chewing that seems to be the factor involved.

It is only necessary to have the mouth partially opened for this pattern to be seen, if present. Since the hyoid muscles are active in head turning, I have also tested these patients with head turning and found no correlation with ICV TL, so it appears to be a distinct masking pattern not directly related to the limbic fixation at least in this sense. The hyoid is also involved in the swallowing mechanism, but once again, there has been no correlation found with swallowing and simultaneous ICV therapy localization in these patients. It appears that there is a reactive muscle association between the anterior digastric and the ileocecal valve.

I would encourage others to look for this ileocecal valve syndrome hyoid masking pattern in those patients who do not show the problem in the clear, but who suffer from the common symptoms of this great mimicker and also those patients who show recurring ICV indicators. Once unmasked, proper treatment can be applied to the ileocecal valve, resulting in a satisfactory outcome and the gratitude of the otherwise intractable patient.

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The Hyoid-Masked Ileocecal Valve Syndrome, Open-Mouth ICV Testing
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The Divergent Meridians and Miasmatic Nosodes

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Abstract

Meridians were first correlated to muscles in 1970 by Dr. George Goodheart. Therapy Localization was likewise discovered by the aforementioned researcher in 1974. Therapy localization to the pulse points allows access into the primary channel system. Therapy localization to the pulse points combined with cervical spine rotation allows entrance into the divergent channel system.

Miasm is both a hereditary and/or acquired predisposition to disease and was first correlated by Samuel Hahnemann, M.D. He stated that miasms were the cause of chronic disease.

The divergent meridians were correlated to the miasms via Applied Kinesiology protocol by this author utilizing the specific miasmatic-nosode remedies. A seventh divergent meridian was discovered via the fourth pulse point which was added by Dr. Goodheart.

Introduction

Meridians are channels of energy discovered in the orient and form the foundation of acupuncture. The divergent meridians are deeper than the main meridians. They balance yin/yang in the interior and internal organs as well as strengthening the connection between yin and yang. The classical twelve divergent channels are paired to form what is known as the six confluences.

Therapy localization (T.L.) to the pulse points while turning the head will allow communication with the divergent meridians since they all emerge at the cervical spine where they join their associated main channel.

Miasms are the hereditary and/or acquired predisposition to disease requiring a specific trigger to initiate a chronic or acute disease. They form the foundation of homeopathy which was discovered in the occident. Dr. Hahnemann originally described three miasms; currently they have been expanded to seven. These seven miasms have specific nosode remedy correlations. Nosodes are homeopathically prepared remedies from diseased products. The pulse point therapy localization with head turn will be negated by the appropriate miasmatic-nosode remedy.

Discussion

ACUPUNCTURE

Oriental medicine dates to the origins of human history. China entered the clan commune period approximately 100,000 years ago. This primitive period may be divided into the Old Stone Age (antiquity to 10,000 years ago) and the New Stone Age (10,000 to 4,000 years ago). A bian needle has been found in Mongolia and Shandong province dating to the New Stone Age period. Hieroglyphs of acupuncture appeared on tortoise shells during the Shang Dynasty (three thousand years ago). Bronze needles appeared during this time as well as yin/yang philosophy and the five elements. During the feudal age (475B.C. to 24 B.C.) iron, silver, and gold needles were developed of nine different shapes and uses. During the Warring States Period (475B.C. to 221 B.C.) meridians were recorded on silk scrolls. Emperor Huangdi's book Internal Classic (which includes the Miraculous Pivot and Plain Questions) summarizes the theory of acupuncture from previous history. In the Three Kingdom Period (220-265 A.D.), Dr. HuangFi Mi compiles one of the most influential books entitled Systematic Classic of Acupuncture and Moxibustion. The Ming Dynasty (1368-1644A.D.) showed tremendous development and organization of acupuncture including an extensive collection and revision of available literature, summarization of manipulation methods, formation of warm moxibustion, and development of new categories of extra points away from the fourteen basic channels. It was during the Qing Dynasty (1644-1840 A.D.) that an official order was given (1822) to permanently abolish acupuncture from the Imperial Medical College; herbs were considered superior. The revolution of 1911 further depressed the development and teaching of acupuncture. However a book on electro-acupuncture in 1934 appeared written by Tang Shicheng. In 1945 the first acupuncture clinic was established in a hospital. The first official government sponsored course was in 1948. The first institute of acupuncture affiliated with the ministry of public health was in 1951. The 1970's demonstrated the rapid correlation of acupuncture with neuroanatomy, histology, biochemistry, anesthesiology and surgery. Acupuncture was disseminated to Korea, Japan, and India in the sixth century, and later to Europe in the sixteenth century. In 1975 by request of the World Health Organization international courses have been given in various locations throughout China.

Qi is the fundamental substance constituting the entire universe. It denotes both the essence of the human body and its function via the Zang-fu organs. Qi permeates all parts and is the root of the human body. Qi promotes function, warms, defends, regulates, is transforming and nourishing. The source of Qi may be considered congenital and acquired. Qualitatively Qi may be differentiated into Primary Qi; Pectoral Qi; Nutrient Qi; and Defensive Qi. Primary Qi (Yang) is from congenital essence, takes root in the kidney and promotes functional activities. Pectoral Qi (Zung Qi) is a combination of inhalation and food essence. It involves both the heart and lung functions. Nutrient Qi (Ying Qi) is derived from food essence involving both stomach and spleen. It functions to make blood and provide nourishment. Defensive Qi (Wei Qi) is from food essence and it circulates outside the blood vessels. It defends the body against exogenous factors. According to Manaka, "Qi does work, is the result of work done, and is the medium of regulation." Qi therefore equals information!

Qi and blood are the foundation for the function of the body. Qi is Yang while blood is Yin. Blood is the mother of Qi and Qi is the commander of blood. Both originate from essential Qi in kidney and acquired Qi from food. Qi provides motive force and is warming. Blood provides nourishment and is moisturizing. Body fluid and blood arise from the same origin. Both are Yin, designed to nourish and moisten. Qi differs from body fluid in form, nature, and function. Formation, distribution, and excretion depend on the circulation of Qi.

“Yin and Yang reflect all the forms and characteristics existing in the universe.” according to the Book of Changes. This theory was formed in ancient China. Yin and Yang are applied to express dual and opposite properties and based on the properties of water (Yin) and fire (Yang) everything may be classified. The Qi of the body is either Yang (moving and warming) or Yin (nourishing and moistening). Yin and Yang are both opposite and interdependent. Physiologic balance is maintained through the opposition of Yin and Yang. Yin is related to nourishment while Yang to function; therefore Yin remains inside and Yang remains outside. If the balance between Yin/Yang is not maintained resulting in excess or deficiency then disease is produced. Yin and Yang may be divided into three subdivisions each. The Zang organs are Yin and the Fu organs are Yang. The Zang-Fu organs transform food and water into nutrients acting together to protect and support the organism maintaining a balance within the body. The occurrence of disease results from a loss of this balance. Yin/Yang is the basis of differentiating syndromes by the eight principles. Yin is interior, cold, and deficiency. Yang is exterior, hot, and excess. Therefore the basic function of acupuncture is to balance this Qi between Yin and Yang.

There are six Zang and six Fu organs. The six Zang organs are the heart, lung, spleen, liver, kidney, and pericardium. The six Fu organs are the small intestine, large intestine, stomach, gall bladder, bladder, and triple burner. The Zang organs manufacture and store vital essence, Qi, blood, and body fluids. The Fu organs digest food, transmit and excrete waste. There is a structural, functional, and energetic connection by the meridians. This was known as Zang Xiang in ancient Chinese. The Zang-Fu organs are located on the inside of the body; however their physiology and pathology are reflected on the exterior. This is based on anatomy, physiology, pathology, and clinical experience dating back to antiquity in China.

Meridians are pathways which circulate Qi and blood. They run longitudinally and internally to the Zang-Fu organs while the collaterals run transversely and superficially. In Chinese they are termed Jingluo (meridians and collaterals). These pathways include (from deepest to superficial) the divergent, extraordinary, primary, luo-connecting, sinew or musculo-tendinous, minute collaterals and cutaneous. These channels are distributed internally and externally transmitting Qi and blood to nourish the organs, skin, muscles, tendons and bones. According to the Miraculous Pivot, “so important are the meridians and collaterals which determine life and death in the treatment of all diseases and the regulation of deficiency and excess conditions that one must gain a thorough understanding of them.” The channels form the physiological interconnections that render the body an integrated whole. Furthermore the Miraculous Pivot states, “Nutrient

Qi flows inside the meridians and defensive Qi flows outside the meridians, making the interior/exterior, upper/lower, right/left sides of the body in harmony and equilibrium. Therefore the entire meridian system serves as a series of barriers to prevent penetration of pathogenic factors. “The key point in acupuncture treatment is to know how to regulate Yin and Yang “and “acupuncture treatment must aim at regulating the flow of Qi,” Miraculous Pivot. According to Plain Questions, “A good Doctor will observe the patient’s complexion and feel the pulse, and thus take the first step in determining if it is a Yin or a Yang disease.” The basic function of needling is to adjust the Qi of Yin and Yang.

The divergent meridians run deeper than the primary channels and govern the inside of the body. The Yang divergent meridians depart from their respective primary channel, enter the Yang organ (and sometimes the associated Yin organ) after which they emerge at the neck joining their related primary channel. The Yin divergent meridians, separate from their respective Yin primary channel with half connecting to their associated Zang organ, and then joining the related Yang primary channel at the neck. Therefore all divergent meridians connect with the Yang primary channels and emerge at the neck. (Figure 1) The divergent meridians have meeting points on the face and neck. (Figure 2)

The Bladder divergent meridian branches from the primary Bladder meridian in the popliteal fossa, goes to the rectum, ascending along the spine and connecting to the bladder and kidneys, disperses in the heart and then emerges at the neck to join the primary meridian. (Figure 3) The meeting point is Bladder 10. (Figure 2)

The Kidney divergent meridian separates from the primary channel in the popliteal fossa ascending to the kidneys and emerging at the neck joining the Bladder primary channel. (Figure 4) The meeting point is Bladder 10. (Figure 2)

The Gall Bladder divergent meridian separates from the primary channel on the thigh, it then enters the pubes converging with the Liver divergent meridian ascending to the liver, gall bladder and crossing the heart. It connects with the Gall Bladder primary meridian at the neck and then to the outer canthus of the eye. (Figure 5) The meeting point is Gall Bladder 1. (Figure 2)

The Liver divergent meridian separates from the primary channel of the foot ascending to the pubes converging with the Gall Bladder primary channel. (Figure 6) The meeting point is Gall Bladder 1. (Figure 2)

The Stomach divergent meridian separates from the primary channel on the thigh ascending to the abdomen entering the stomach, spleen and heart. It emerges at the neck uniting with the stomach primary channel and enters the eye. (Figure 7) The meeting point is either Stomach 1 or Stomach 9. (Figure 2)

The Spleen divergent meridian separates from the primary channel in the thigh and emerges at the neck joining the primary channel and enters the tongue. (Figure 8) The meeting point is either Stomach 1 or Stomach 9. (Figure 2)

The Small Intestine divergent meridian separates from the primary channel at the shoulder and enters the axilla crossing the heart it then ascends to the small intestine. (Figure 9) The meeting point is Bladder 1. (Figure 2)

The Heart divergent meridian separates from the primary channel in the axilla entering the heart; it ascends upward across the throat emerging at the face joining the Small Intestine divergent meridian at the inner canthus of the eye. (Figure 10) The meeting point is Bladder 1. (Figure 2)

The Triple Burner divergent meridian separates from the primary channel at the vertex of the head descending to the clavicle and joining the Three Burners dispersing in the chest. (Figure 11) The meeting point is Triple Burner 16. (Figure 2)

The Pericardium divergent meridian separates from the primary channel below the axilla entering the chest and joins the Three Burners. It ascends across the throat to the neck joining the Triple Burner divergent channel behind the ear. (Figure 12) The meeting point is Triple Burner 16. (Figure 2)

The Large Intestine divergent meridian separates from the primary channel at the shoulder entering the spine. It ascends to the throat and neck joining the primary channel. A branch descends from the supra-clavicular fossa connecting with the lung and runs downwards along the large intestine. (Figure 13) The meeting point is Large Intestine 18. (Figure 2)

The Lung divergent meridian separates from the primary channel at the axilla passing into the chest connecting with the lung and ascends to the throat joining the Large Intestine channel in the neck. (Figure 14) The meeting point is Large Intestine 18. (Figure 2)

In classical acupuncture, there are six pulse points and twelve divergent meridians. However, Dr. Goodheart added a fourth pulse point on the proximal thenar eminence. Therapy localization to this point accesses the Conception Vessel/Governing Vessel meridians. As with all the pulse points, therapy localization with head rotation accesses the divergent meridians. In classical acupuncture there are no divergent Conception/Governing Vessel meridians; as well as no distal fourth pulse point. However research conducted in the past by Dr. Goodheart as well as many others and currently by this author confirms the existence of this fourth pulse point. The meeting point for the Conception/Governing Vessel divergent meridians is Conception Vessel 24. (Figure 2)

In summary from the fifth chapter of Plain Questions, “A good Doctor will...feel the pulse, and thus take the first step in determining if this is a Yin or a Yang disease.” Therefore utilizing current technology, the pulse points are therapy localized with head rotation. The one pulse point that therapy localizes is the most deficient meridian. The muscle/meridian associations are identical to the original descriptions by Dr. Goodheart except that most of the time the muscles will not test weak in the clear but will exhibit

repeated muscle activation patient induced (RMAPi) weakness, that is, they will test weak after the patient contracts the muscle ten times. In addition, all the muscles related to both the Yin/Yang meridians will display this weakness pattern based on the particular pulse point therapy localization. For example, if the left classic distal pulse point therapy localizes with head turn, then all the small intestine and heart related muscles will demonstrate RMAPi pattern weakness, (abdominals, quadriceps, and subscapularis). This weakness pattern will be negated by the appropriate homeopathic miasmatic-nosode remedy in the 1M or 10M potency.

These pulse points are numbered and are related homeopathically and structurally as follows: the left proximal pulse point is number one and related to tuberculinum and the first rib, the right middle pulse point is number two and corresponds to medorrhinum and the second rib, the left middle pulse point is number three relating to carnosin and the third rib, the left classic distal pulse point is number four relating to psorinum and the fourth rib, the right classic distal pulse point is number five corresponding to syphylinum and the fifth rib, the right proximal pulse point is number six relating to vaccinum and the sixth rib, and finally the fourth pulse point on the proximal thenar eminences is number seven relating to schirrhinum and the seventh rib. (Figure 15)

The divergent meridians run deep in the interior of the body and internal organs. They function to balance Yin/Yang in the interior of the body and in the internal organs. They also strengthen the connection between Yin/Yang organs. Another function is to balance Yin/Yang in the head. This is achieved by the upper meeting points of the divergent meridians. Four of the six meeting points are also window of heaven points. These points help to regulate the ascension and descent of Qi to and from the neck. (Figure 2) Additionally in Chinese medicine there are seven energetic layers. These run from superficial to deep as follows: skin, the space between the skin and muscles, muscles, membranes and fat tissue, sinews, blood vessels and bones. The relationship between these energetic layers and meridians are as follows: (from superficial to deep) superficial luo, luo, musculo-tendinous, primary, deep luo, and finally the divergent meridians. (Figure 16) Except for these meeting points the divergent meridians do not have points of their own. If the patient is dosed with the appropriate homeopathic miasmatic-nosode at the appropriate potency and the meeting point is manually tapped several times, a strong indicator muscle will not weaken.

HOMEOPATHY

The concepts of homeopathy date to the dawn of western medicine itself. Hippocrates who is considered the father of medicine said; “By similar things a disease is produced and through the application of the like, it is cured.” The word itself, homeopathy, origins from classical Greek meaning equal suffering. The great Greek physician Galen who was considered the authority in medicine for over one thousand years wrote of “natural cure by likes.” The famous Swiss physician Paracelsus (Theophrastus Bombastus von Hohenheim) stated that “sames must be cured by sames,” and that diseased organs had its corresponding remedy in nature. Again in the seventeenth century, the Danish physician Dr. George Stahl said, “...I am convinced that disease will yield to, and be cured by remedies that produce similar affections.”

Dr. Samuel Hahnemann studied chemistry, botany, and languages before entering medical school in 1775 at Leipzig. He became disenchanted there and transferred to a hospital in Vienna to gain some practical experience. He received his medical degree in 1779 from the University of Erlangen. A book he had written in 1784 entitled *Directions for Curing Old Diseases* was published. In it he stressed proper hygiene, fresh air, sleep, regular exercise, and diet. In 1790, while translating a book by the Scottish physician, William Cullen, he read about Peruvian bark (*Cinchona*) used for treating malaria. He ingested this drug and immediately took on the symptoms of malaria; his feet and hands became cold, heart palpitations, drowsiness, thirstiness, trembling and a fast pulse. The symptoms abated when he stopped ingesting the drug. Thus he established the basic premise of homeopathy, *Similia Similibus Curentur* or let likes be cured by likes. In 1796 his essay *New Principles for Ascertaining the Curative Power of Drugs* was published. In it he stated, "...every effective remedy incites in the human body an illness peculiar to itself...one should apply in the disease to be healed,...that remedy which is liable to stimulate another artificial disease as similar as possible, and the former will be healed." In this same year; Dr. Edward Jenner introduced the concept of immunization to smallpox by transferring the infection of cowpox to an infected boy. Over the next year Hahnemann continued his observations and publications of same. The quintessential book of homeopathy entitled *The Organon of Rational Medicine* was published in 1810. It is still considered the authoritative statement on homeopathy. It has six editions and has been translated into many languages. In this he states that, "The only calling of the physician is to cure rapidly, gently, and permanently." After the battle of Leipzig between Napoleon and the allies, a breakout of typhus occurred. The mortality rate for conventional treatment was 50%, while under homeopathic treatment out of 180 patients, only 2 had succumbed. These results were published and Hahnemann's practice started to flourish as well as attracting other physicians interested in studying with him. These physicians carried out provings on themselves (ingesting toxic doses of drugs and noting very carefully all the symptom manifestations). These were published between 1811 and 1821 in six volumes entitled *Materia Medica Pura*. In it he stated, "It is the duty of physicians to distinguish subtle variations of every individual case - that is to specialize and individualize in each personal case, instead of treating the disease." This is very similar to what Dr. Goodheart (the father of Applied Kinesiology) stated, "Diagnose the need, supply the need, and observe the results." Persecuted unrelentingly by allopathic physicians, he moved from Leipzig to Kother. In 1812, *Chronic Diseases: Their Peculiar Nature and their Homeopathic Cure* was published in two volumes. In the second volume he referred to the vital force. In the *Organon* he had this to say, "In the healthy condition of man the spirit-like vital force, the dynamis that animates the material body, rules with unbounded sway and retains all the parts of the organism in admirable, harmonious, vital operation, as regards both sensations and functions, so that our indwelling, reason gifted mind can freely employ this living healthy instrument for the higher powers of an existence." It is this energy that maintains life in the individual. In chiropractic it is called innate intelligence. Most importantly in this second volume he introduced the theory of miasms.

Miasm is from the Greek word *miainein*, which translates into defilement or to pollute. Dr. Hahnemann felt this was the cause of all chronic disease. According to Ortega, "an

understanding of the miasmatic is, in our judgement, the ultimate concern of the physician, because it involves nothing less than a maximum understanding of the human, both with respect to the qualities which lead him to persist and to realize his full potential, and with respect to those defects which hinder him both with respect to those defects and failures which hinder him.” Grosso stated that, “When we say miasm we mean causes, the etiology of acute and chronic disease.” Miasm is not the disease itself but is the factor responsible for a disturbance in the vital force which allows the disease to manifest. These may be thought of as hereditary influence in the genetic codes. According to Trevor Cook, “The miasm is defined as a taint or stigmata, either inherited or acquired, which permeates every cell in the body and is then passed on genetically to each succeeding generation” and further “Thus, these chronic diseases lie dormant in the body – are susceptible – and can be activated according to our sensitivity. Miasms may be treated homeopathically with high or very high potencies to act upon the genetic code.” It is also now understood that miasms may be acquired via allopathic medication, blood transfusions, and vaccinations. Non-miasmatic diseases can be thought of as poor hygiene and/or pollution, allopathic iatrogenic treatment, and occupational hazards. Miasmatic diseases may be subdivided into acute and chronic. Acute miasmatic diseases may include any number of infections (viral, bacterial, parasitical, amoebic, worms, etc.). Chronic miasmatic diseases originally included three; sycotic (gonorrhoea), syphilitic, and psoric. A fourth miasm credited to both A. Nebel and H.C. Allen is known as tuberculinic. New miasms include both oncotic (carcinosis and/or schirrhinum) and vaccinosus.

The first pulse point (left proximal wrist-kidney/bladder divergent meridians) is related to the tubercular miasm; the miasm of exhaustion. Body sweats, weight loss, depression, anxiety, insomnia, infection susceptibility, slow to recover, lung symptoms, arthritis, and other bone diseases. The homeopathic nosode correlation is tuberculinum. Tuberculinum is indicated in kidney and bladder afflictions, lung troubles, fatigue, constantly changing symptoms, skin problems, trembling, epileptics, exhaustion, rheumatism, arthritis, and patients who are very sensitive mentally and physically.

The second pulse point (right middle pulse point-spleen/stomach divergent meridians) is related to the sycotic (gonorrhoea) miasm. This is the miasm of excess. Mucosal proliferation, condyloma, irritability, deep skin changes such as moles, lipomas, joint pain, digestive dysfunction, sex organ dysfunction, confusion/incoordination and hypertrophy of tissues. The miasmatic nosode is medorrhinum. Medorrhinum is indicated in edema, chronic pelvic disorders, rheumatism, sinus symptoms, trembling, collapse, phobias, suicidal tendencies, irritability, ailments tend to be chronic, feeling hopeless, nocturnal enuresis, enlarged tonsils, and difficulty in mental concentration.

The third pulse point (left middle pulse point-liver/gall bladder divergent meridians) is related to the new oncotic miasm. This new miasm correlation has been credited to Leon Vannier. This is the miasm of adaptive failure. Change in warts/moles, persistent indigestion, sores that do not heal, prolonged hemorrhage from any orifice, discoloration of skin, lumps, change in bowel or bladder habits, body odor, and any unusual discharges. The associated miasmatic nosode is carcinosis. Carcinosis is known to have a

positive effect in all cases of carcinoma, glandular pain, offensive discharges, rheumatism, hemorrhage and pain.

The fourth pulse point (left distal pulse point-heart/small intestine divergent meridians) is related to the psoric miasm. This is the miasm of deficiency. This is the hypersensitivity miasm producing functional disorders such as eczema, psoriasis, skin rash and/or any skin itch with any skin symptoms, allergies, morning fatigue, hemorrhoids, and an overactive vital force. The miasmatic nosode remedy is psorinum. The drug picture is extreme sensitivity to cold, debility, immune reaction lacking, heart weakness, secretions and discharges offensive smelling.

The fifth pulse point (right distal pulse point-lung/large intestine divergent meridians) is related to the syphilitic miasm. This is the miasm of destruction. Chancres, skin ulceration, anxiety, memory loss, insomnia, premature aging, muscle cramps/aches, cancer and neurodegenerative disorders. The miasmatic nosode is syphilinum. The syphilinum picture often displays morning debility, rheumatic pains, tendency to alcoholism, ulcerations, abscesses, feels as if going insane, increased salivation, and chronic inflammation of the eyes.

The sixth pulse point (right proximal wrist-pericardium/triple burner divergent meridians) is related to the new miasm of vaccinosis. (This new miasm is also called AIDS according to Harimohan Choudhury). This miasm classification may originally be attributed to J. Compton Burnett. This is the miasm of chronicity. "Vaccination has a profound disturbing effect on the health of an individual, particularly in relation to chronic disease," J. Compton Burnett, (March 1884). According to George Vitoulkas, "Whenever a vaccine is administered, it tends to change the electromagnetic vibration rate in the same way that a severe illness or allopathic drug does." Symptoms may include ARC (aids related complex) such as weight loss, swollen glands, malaise, sweats, fever, persistent diarrhea, persistent candidiasis, and neurologic disorders. The miasmatic nosode is vaccininum. This nosode is related to the symptoms of vaccinosis and chronicity of all health issues; skin, nerve, cough, indigestion, irritability, nervousness, chilliness, and headache.

The seventh pulse point (right and left wrists of the proximal thenar eminences-conception/governing vessel divergent meridians) is related to the oncotic miasm, but the homeopathic nosode is schirrhinum. This is a new miasm related to adaptive failure. The signs and symptoms are similar to the third pulse point but with some variations. Schirrhinum has proven invaluable in cases of worms, cancer, enlarged glands, varicosities, hemorrhages, along with a potential sinking sensation at the navel.

Nosode as defined by Yasgur's Homeopathic Dictionary is "The potentized homeopathic remedy prepared from diseased tissue or the product of disease. It can be used to prevent or treat a miasm, as well as for many other uses." Nosodes are the most important category according to Dr. Trevor Cook. Constantine Herring was the architect of homeopathy in North America and founded The American Institute of Homeopathy in 1835 which is the oldest medical professional association in America. He was the first to

suggest the use of nosodes. He also laid down Herring's Laws of Cure which states that healing occurs from above downwards, from within outwards, and from the most important organs to lesser important and in the reverse order of their appearance. This may involve a homeopathic aggravation and is frequently encountered in practice. According to Trevor Cook, "Putting it very simply this may be viewed as the induced similar symptoms of the artificial disease being superimposed momentarily over the symptoms of the natural disease before mutual elimination-the law of similars in action." This process is based on provings. Yasgur's Homeopathic Dictionary defines proving as "The process of determining the medicinal/curative properties of a substance. This process involves the administration of substances in either crude form or in potency to healthy human subjects in order to observe and record symptoms." Furthermore according to G. von Keller "...A drug proving produces an illness called pathogenesis...this artificial illness is also transmitted to the patient. It is stronger than the natural illness which it replaces and causes to vanish." These provings are recorded down in a book called a *Materia Medica*.

The Arndt-Schultz law states that the function of the drug dose is inversely proportional to the effect of the drug. Therefore a small stimulus stimulates life activity, large doses impede life, and very large doses destroy life. The potency for the miasmatic-nosodes is usually either 1M or 10M. A 1M potency is the same as 1000c. A 1c potency is 1 part mother tincture and mixed with 99 parts of liquid containing 87% alcohol and percussed releasing the kinetic energy. Therefore, lower potencies act more superficially for acute conditions and higher potencies act on the mental or chronic conditions at a deeper level.

ACUPUNCTURE AND HOMEOPATHY VIA APPLIED KINESIOLOGY

"When educated intelligence can communicate with innate intelligence, a point at which the not-too-distant future may hold, then a correct diagnosis and treatment will be made and rendered", -D.D. Palmer. Utilizing the process of therapy localization to the pulse points with head rotation (since the divergent meridians end at the neck) will access the divergent meridians. The one pulse point that therapy localizes (T.L.) will be the most deficient meridian at that moment in time. The correct miasmatic-nosode correlation (Figure 15) will negate the positive therapy localization to the pulse point. The appropriate remedy is usually in the 1M or 10M potency. Before dosing the patient, have them hold the vial of the remedy under the chin near the symphysis menti (it is not possible to test the remedy on the tongue as it immediately treats the patient); this should not weaken a strong indicator muscle. Then tap the associated meeting point (Figure 2). If it does not weaken the strong indicator muscle, it is the correct remedy and potency. If holding the homeopathic remedy under the chin does not weaken the strong indicator muscle but it weakens while tapping the affiliated meeting point, then the remedy is correct but the potency is not. Once the remedy has been chosen based upon pulse point therapy localization with head rotation and verified by manual muscle testing while tapping the appropriate meeting point, dose the patient with one capful under the tongue. Have the patient avoid all sources of mint and/or mint products as there is a possibility of negating the treatment. The associated muscle/meridian weakness patterns, either weak in the clear or more commonly repeated muscle activation patient induced (RMAPI) will be negated after dosing the patient with the appropriate miasmatic-nosode /divergent

meridian remedy correlation. Most Applied Kinesiology findings will now be eliminated after the patient walks a short while. If the attending physician waits too long before checking the original Applied Kinesiology findings the patient may go into an all Yin response (all muscles manually testing weak) for a period of time. Wait from one to six weeks before treating the patient again checking the pulse points with head rotation. This appears to be very similar to the concepts of Dr. Ortega, one of the most respected homeopaths in all Latin America. He stated that over time several different remedies must be used treating each layer as it presents rather like peeling an onion before the patient can be cured.

Conclusion

The divergent meridians run deep in the interior of the body emerging at the neck. They balance Yin/Yang in the interior and internal organs. These meridians may be accessed by combining therapy localization to the pulse points with head rotation.

According to Hahnemann, the founder of homeopathy, miasm is the cause of all chronic disease. This may be inherited and/or acquired. It is the factor that is responsible for a disturbance in the vital force. Specific homeopathic remedies known as nosodes are related to specific miasms.

The divergent meridians are related to miasms, and may be treated with the related specific high potency nosode; confirmed by Applied Kinesiology protocol. As the founder of Applied Kinesiology stated, "Fix what you find." This ultimately will help to lead a human being toward the final goal of continuous and complete harmony of structure, chemistry, emotion, and spirit.

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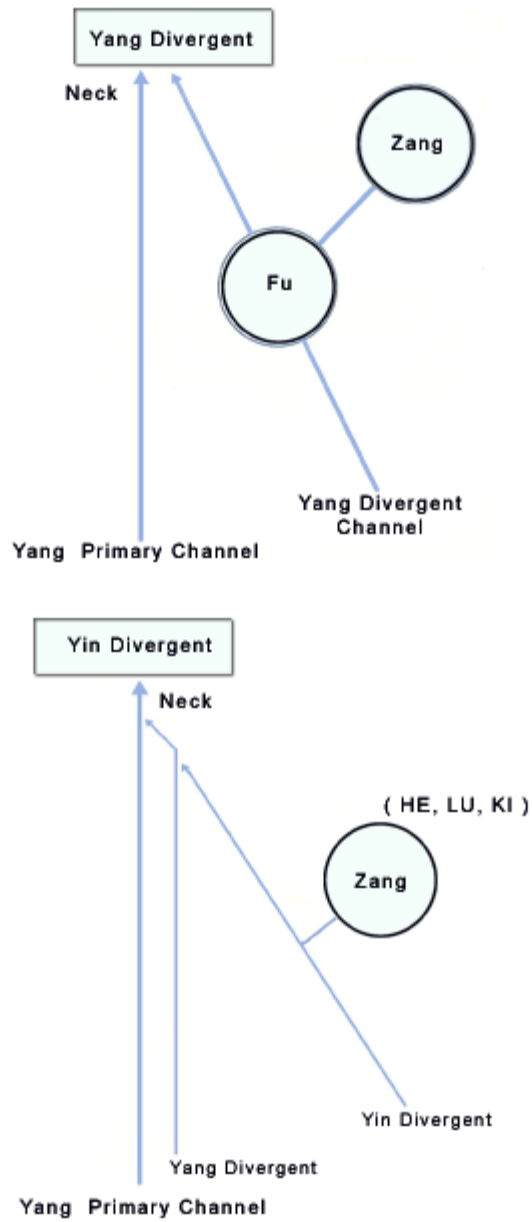
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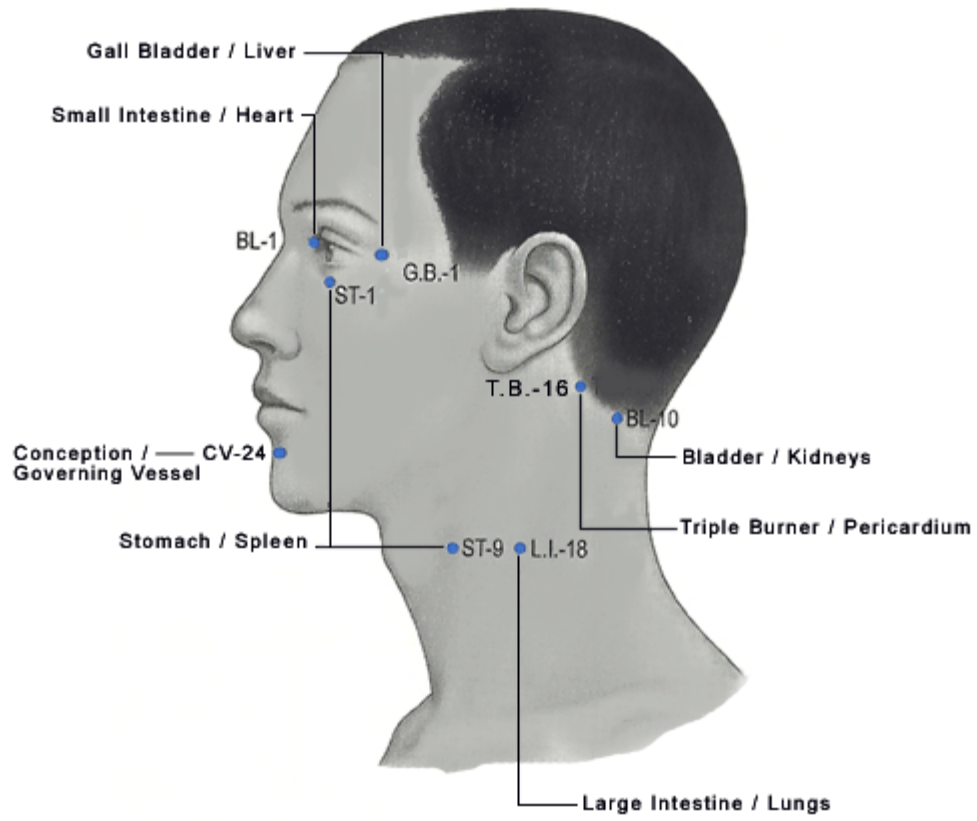
Figure 1



Divergent Meridian Pathways

(after Maciocia)

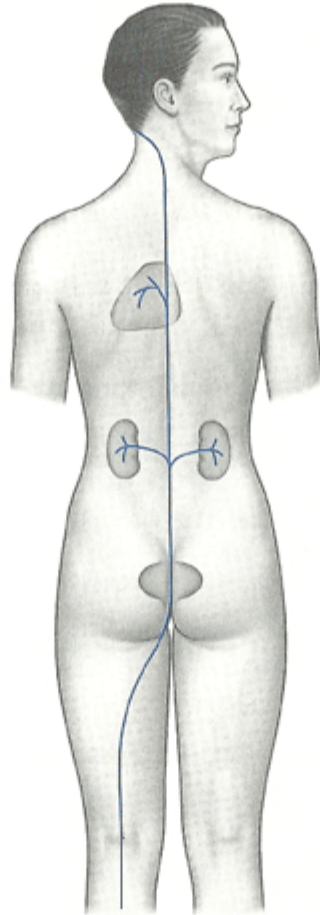
Figure 2



Meeting Points

(after Maciocia)

Figure 3



Bladder Divergent Meridian

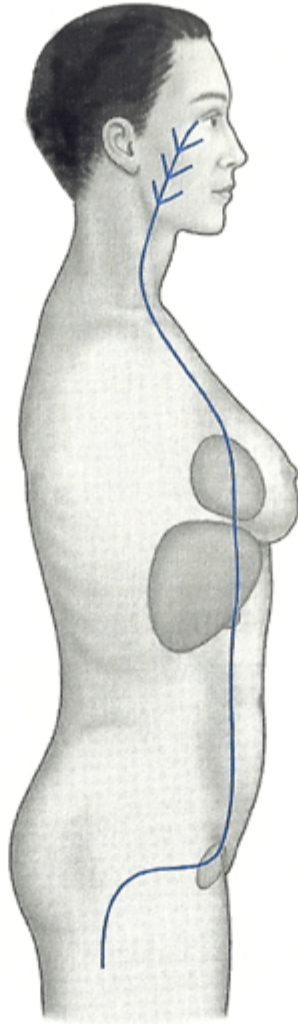
(after Maciocia)

Figure 4



Kidney Divergent Meridian
(after Maciocia)

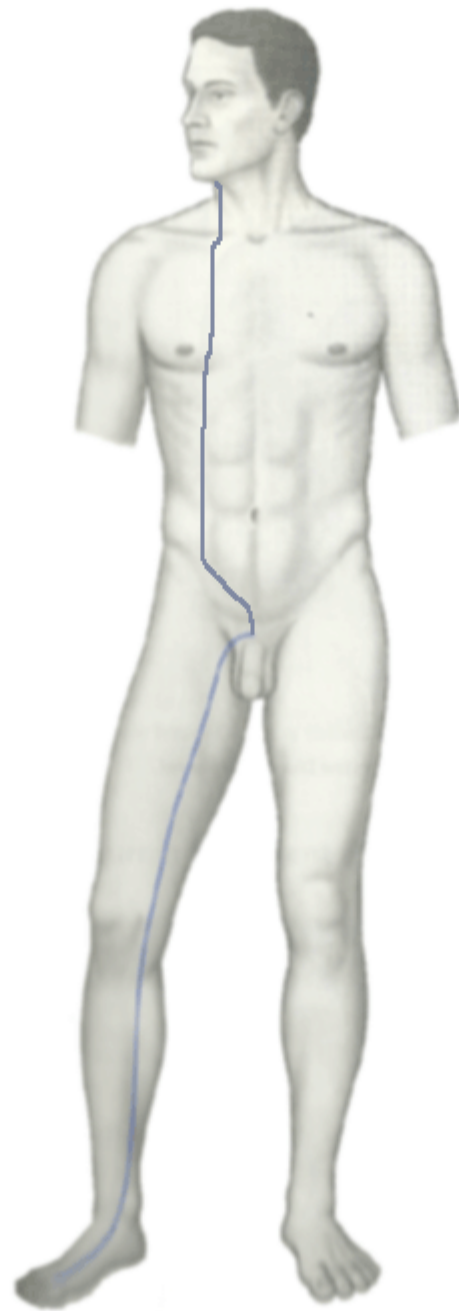
Figure 5



Gall Bladder Divergent Meridian

(after Maciocia)

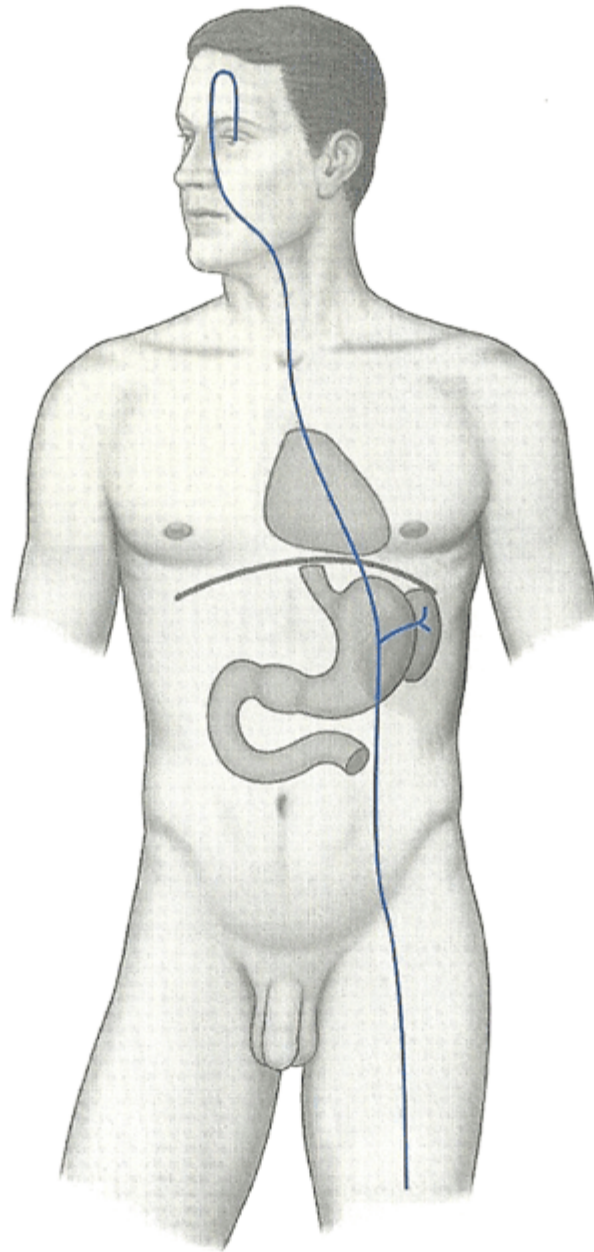
Figure 6



Liver Divergent Meridian

(after Maciocia)

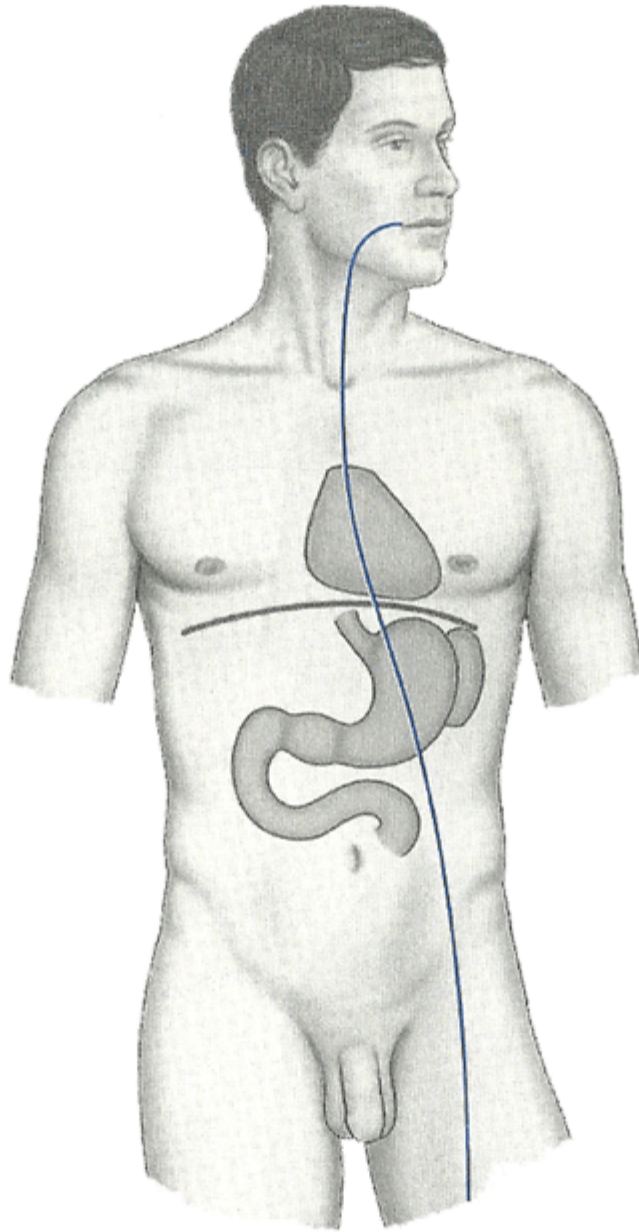
Figure 7



Stomach Divergent Meridian

(after Maciocia)

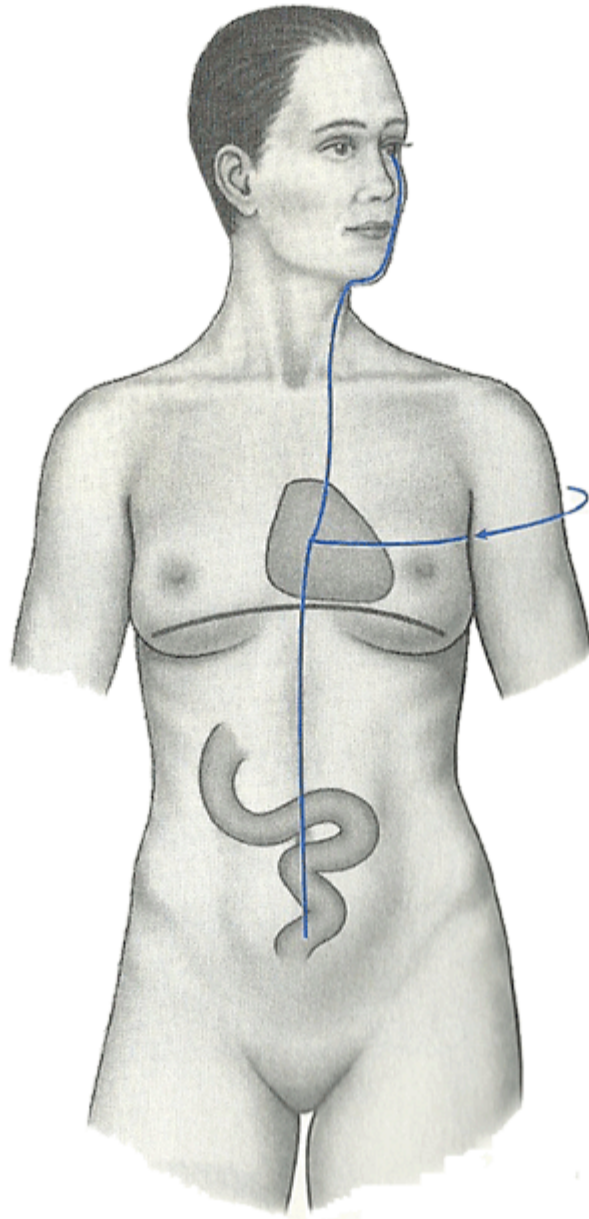
Figure 8



Spleen Divergent Meridian

(after Maciocia)

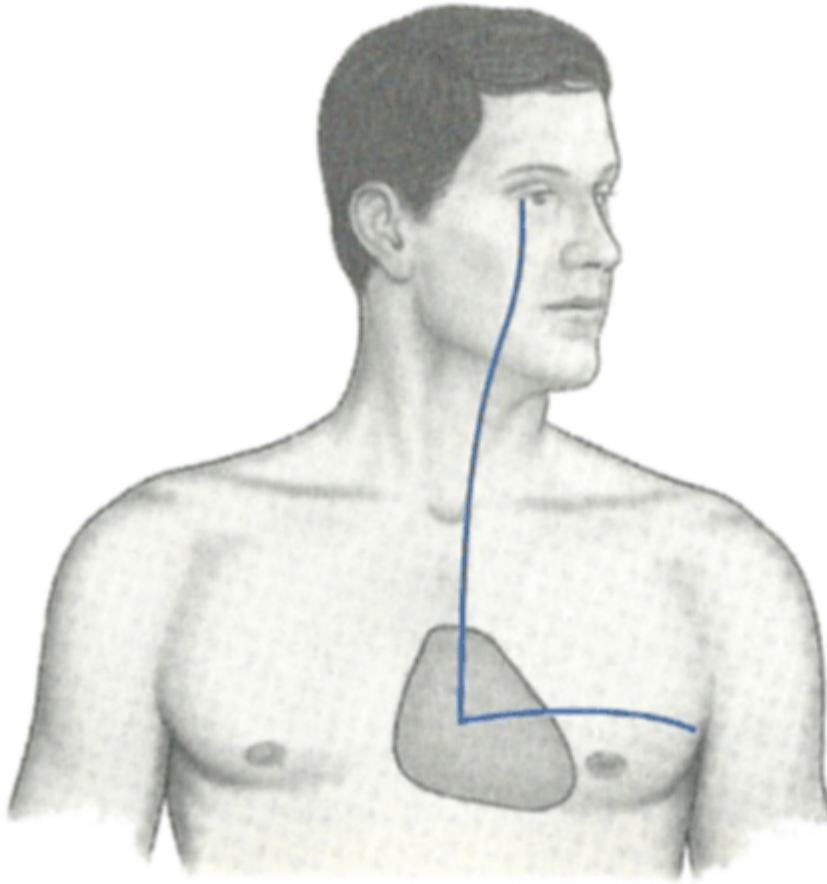
Figure 9



Small Intestine Divergent Meridian

(after Maciocia)

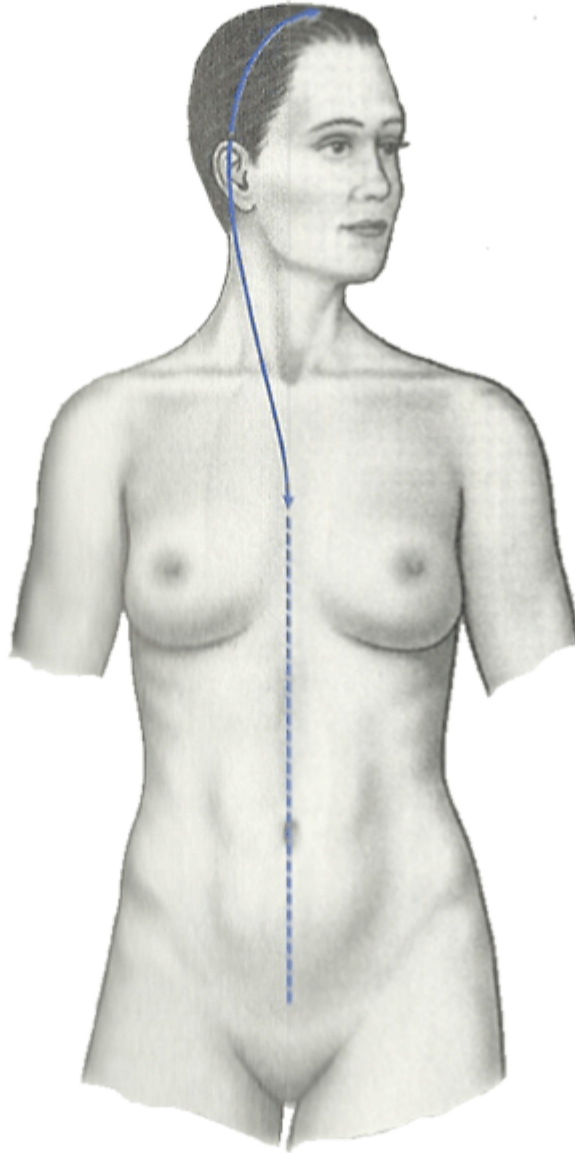
Figure 10



Heart Divergent Meridian

(after Maciocia)

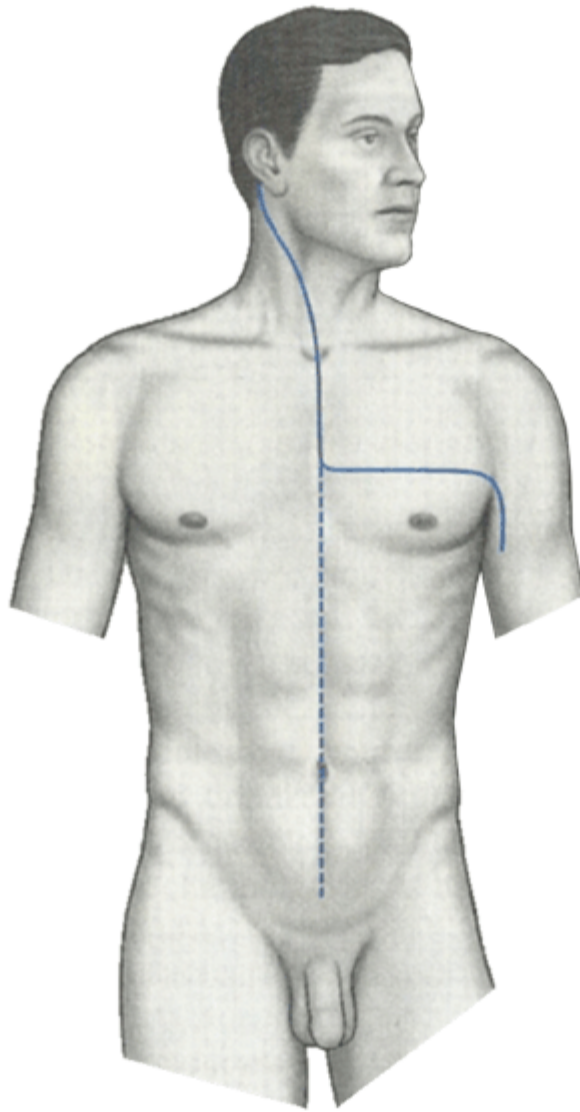
Figure 11



Triple Burner Divergent Meridian

(after Maciocia)

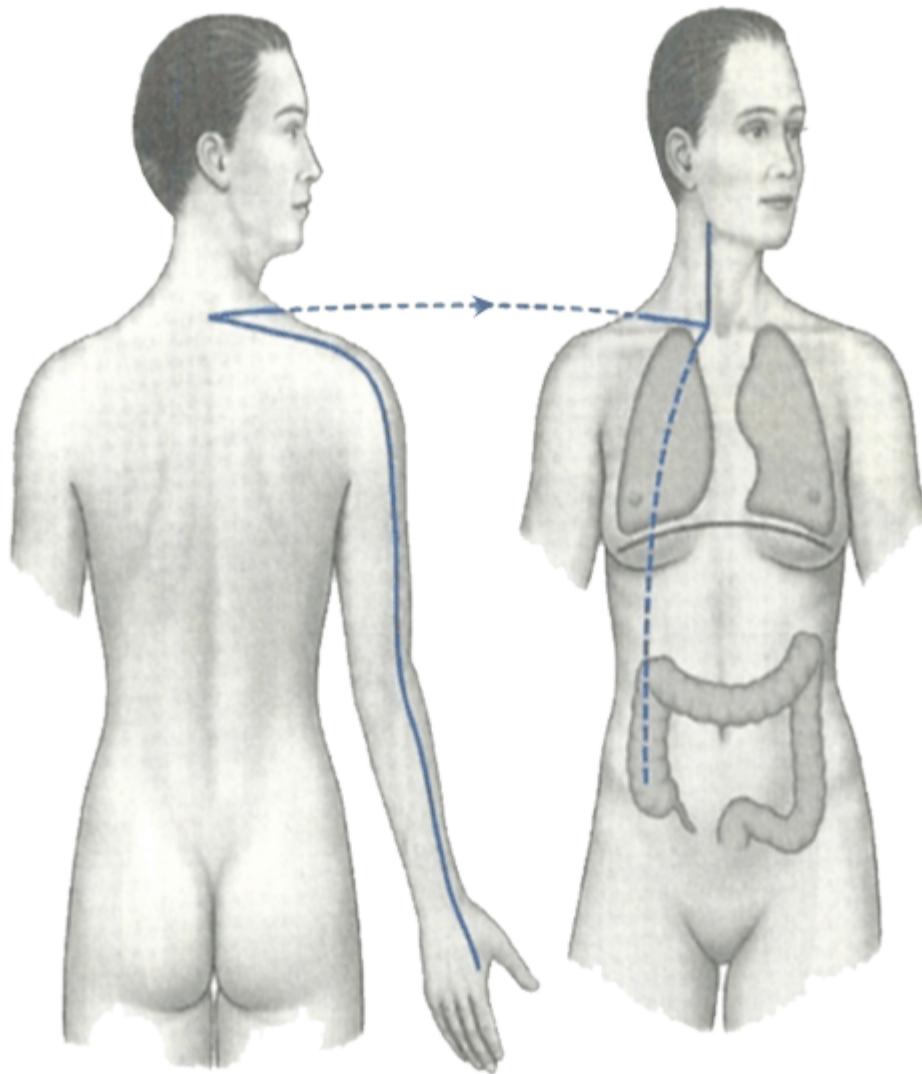
Figure 12



Pericardium Divergent Meridian

(after Maciocia)

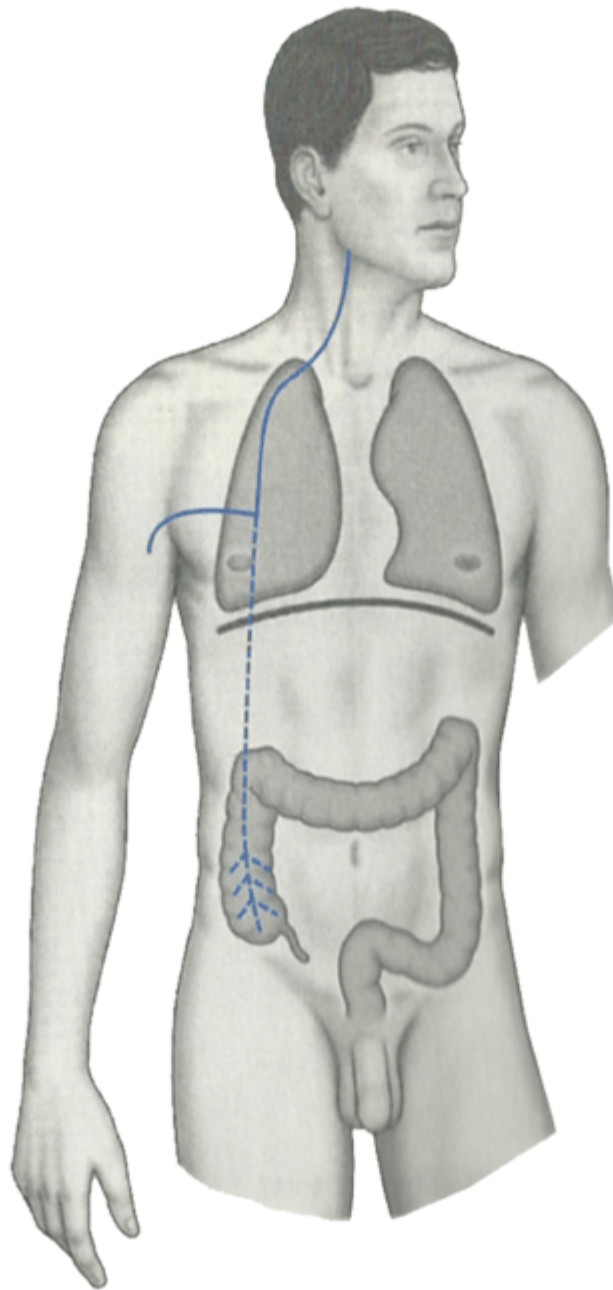
Figure 13



Large Intestine Divergent Meridian

(after Maciocia)

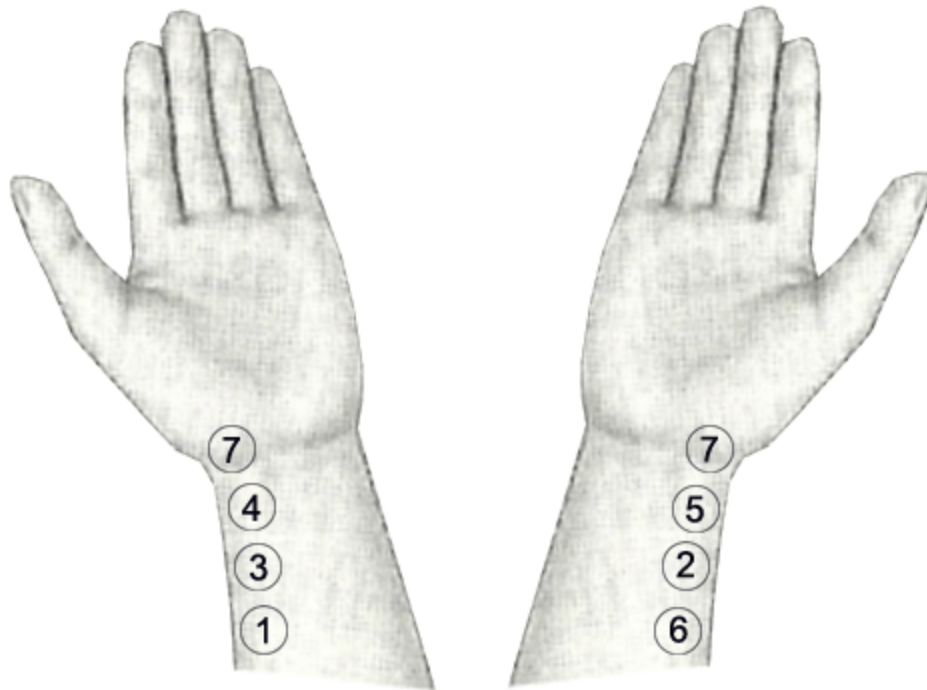
Figure 14



Lung Divergent Meridian

(after Maciocia)

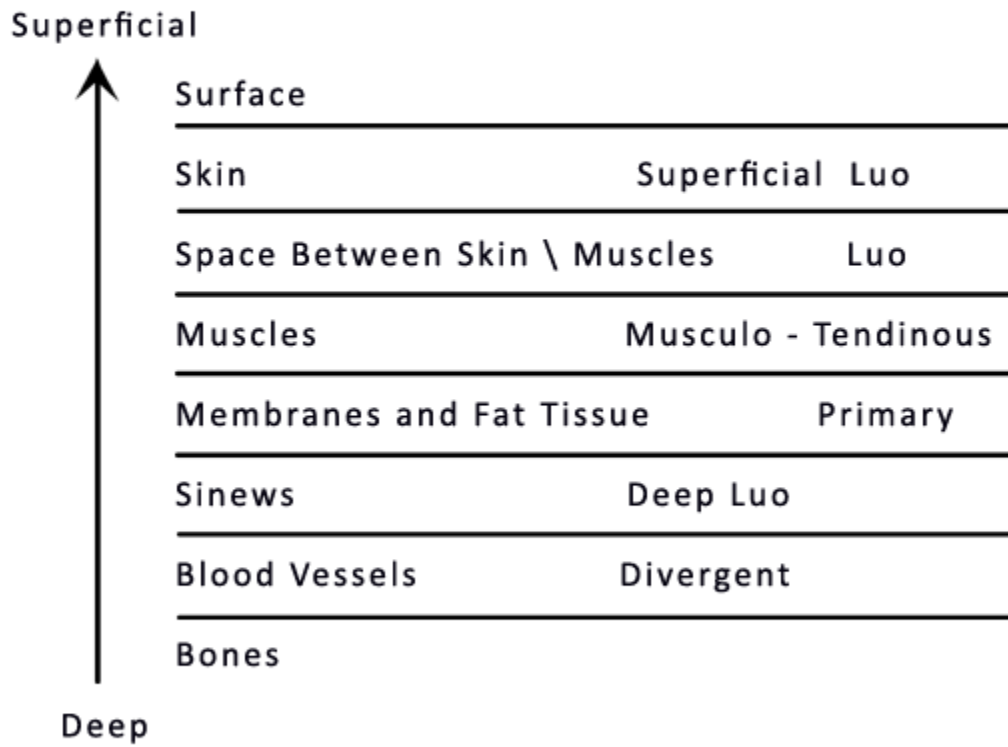
Figure 15



1. Tuberculinum (Kidney \ Bladder)
2. Medorrhinum (Spleen \ Stomach)
3. Carcinosis (Liver \ Gall Bladder)
4. Psorinum (Heart \ Small Intestine)
5. Syphilinum (Lung \ Large Intestine)
6. Vaccinum (Pericardium \ Triple Burner)
7. Scirrhinum (Conception \ Governing Vessel)

Divergent Meridian Pulse Points

Figure 16



Energetic Layers

(after Maciocia)

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The Divergent Meridians and Miasmatic Nosodes
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Expanded Gait Assessment and Evaluation and Validation of Minimalist Footwear

Stephen C. Gangemi, D.C., DIBAK

Abstract

Assessment of gait has been used for many years to help a physician evaluate and treat a gait dysfunction in a patient and therefore help restore health and function; it is an invaluable tool. The typical gait analysis that has been described by previous authors and books has been expanded by this author. The new testing procedures in this paper will describe how to identify previously missed imbalances and validate the case for the use of minimalist type footwear and the rapid growth of the barefoot running movement of today.

Key Indexing Terms

Minimalist Shoes, Shod Running, Gait, Barefoot, Manual Muscle Testing (MMT), Ligament Interlink

Introduction

Evaluation of gait is perhaps one of the most valuable tools a physician can learn. An imbalance or dysfunction of gait can ultimately result in the return of health problems. It is often a reason for the reoccurrence of neurological dysfunctions within the structural system itself or elsewhere throughout the body due to the relationship between the nervous system and the sensory feedback provided by the feet, known as kinesthetic sense.¹ Patients can literally “walk themselves back into a problem” if a gait imbalance is left untreated or if they perform some action to disrupt the gait. Often this occurs from the use of orthotic devices that were fitted to a dysfunctional foot and, even more often, from improper footwear.

Most often foot orthotic devices, as well as heel lifts, are prescribed to a patient at a time when there is some imbalance. This imbalance is typically in the foot, but may also occur separately or concurrently with a knee, hip, lower back, or other structural imbalance. Due to the normal gait pattern, even an upper limb imbalance can, and often will, result in a lower limb imbalance. Therefore, the entire gait as well as musculoskeletal system must be evaluated prior to any fitting or casting of any supportive device to ensure that the device supports normal gait function and balance. If not, the device will only support the dysfunction and, although this support system may reduce or even eliminate pain, compensatory patterns will soon arise as the patient adapts to the uncorrected but supported injury/imbalance. This will eventually result in a new problem arising, which may or may not be near the initial complaint site.

Recently, there has been a significant movement, referred to as the “minimalist movement”, that concerns walking and especially running. This “back to basics” approach cites how humans were never meant to wear the common walking, running, and dress shoes which flood the market today. This is commonly referred to as shod. The term “shod” refers to some level of modern footwear that is typically characterized by a softer midsole, elevated heel, and potentially some form of “motion” control device built into the shoe. The footwear industry often makes claims that one will run faster, jump higher, be stronger or exercise muscles not otherwise used with competitor’s shoes or while barefoot, yet there has never been any research to validate such claims. More interestingly are the claims of injury prevention, none of which can be substantiated through any scientific study.

The majority of the investigation into barefoot running and minimalist footwear focuses on the fact that experienced, habitually barefoot runners will avoid landing on their heel. The natural motion during barefoot running is to land with a midfoot, or even a somewhat forefoot, strike. A heel strike results in a significant stress to the body, whereas a midfoot or forefoot strike does not. The majority of running shoes have been developed to promote the heel strike, and therefore an unnatural running and gait cycle.² A built up heel on a walking or dress shoe also results in a similar problem, though the force of impact generated via running is significantly more than walking. A thick heel on footwear will result in increased dorsiflexion while running, adding more stress to the body.³

New terms such as “drop” are being used to note the difference, in millimeters, between the heel and the forefoot. “Zero-drop” is the term for absolutely no change from heel to forefoot, as in barefoot. Currently the consensus is a drop of 6mm or less is considered “minimalist”. Often shoes have drops of 10mm or more, and as one may expect, the common “high-top” shoes and women’s high heels have drops which often are more easily measured in inches. Increased heel height has been associated with increased EMG activity in both the vastus medialis and vastus lateralis.⁴

Most footwear contains supportive devices and excessive cushioning which can and often will disrupt gait.⁵ Motion control stabilization devices are often added to the medial midsole of shoes to prevent overpronation. Though ultimately they can prevent pronation entirely, which results in gait disturbances and joint dysfunction as normal foot pronation is necessary to absorb shock upon impact. Added cushions and pads, often in the heel of the shoe, also disrupt gait as well as nervous system function due to the resultant loss of the kinesthetic sense of the foot. Ultimately, the further away the foot is off the ground the more kinesthetic sense that is lost which leads to more nervous system impairment. This impaired foot position has been linked to increased falls in aging adults.⁶

Discussion

During normal gait, there is a continuous pattern of facilitation and inhibition. The physician can easily determine a normal and abnormal gait pattern based on manual muscle testing (MMT). If a patient is placed in a gait position in which the right lower

limb is flexed forward, with weight slightly shifted to that forward foot as if taking a normal step, then, during a normal neuromuscular state, the right lower leg flexors as well as the left upper limb flexors will be facilitated. Likewise, in the same gait pattern, the left lower limb flexors and the right upper limb flexors should be inhibited. The exact opposite will hold true if the gait pattern is then changed to a left foot leading step.⁷

The physician can then clinically evaluate the function of the flexors and extensors of the patient during the gait cycle in order to determine if the gait is normal or not. For example, if the patient steps forward initiating a left forward gait, the physician would expect a right upper limb extensor, such as the latissimus dorsi to be inhibited (photo 1). A left upper limb flexor, such as the middle deltoid, would also be inhibited. The same muscles on the opposite side should be facilitated at this time. If the patient then switches to a right forward gait, the physician would expect the right deltoid to be inhibited (photo 2) as well as the left latissimus dorsi. Again, the opposite would hold true in each case for the muscles that should be facilitated.



photo 1

photo 2

An abnormal gait is defined as one in which the muscles are facilitated or inhibited at the wrong time. For example, if during the left forward gait the patient demonstrates a facilitation of the right latissimus dorsi or an inhibition of the right middle deltoid, then there is some gait disturbance.

The physician must make sure that the muscles being tested are functioning correctly before any gait testing is performed. Any inhibited muscles must be corrected first during the normal treatment and facilitated muscles must be tested for normal autogenic inhibition to make sure they are not over-facilitated. Otherwise, the physician may be testing muscles that are already functioning improperly.

The above testing procedures are examples of how physicians who employ MMT have evaluated gait for many years. However, this author has discovered that with new additional testing, as described next, the physician will uncover previously hidden gait disturbances. The additional gait testing also supports the recent belief that barefoot and minimalist type footwear is not harmful to the body, yet non-minimalist footwear often is.

First, one must realize, the original gait test is more of an evaluation to determine the function of upper leg (not limb) and upper arm (not limb) flexors and extensors relationship to one another as they normally inhibit and facilitate one another through a gait cycle. However, it does not evaluate the function of the lower leg muscles responsible for plantar flexion (i.e., gastrocnemius, soleus and posterior tibialis) and those responsible for dorsiflexion (i.e., tibialis anterior and fibularis muscles) in their relationship to the lower arm and wrist flexor (i.e., wrist flexors and pronator muscles) and lower arm and wrist extensor (i.e., wrist extensors and supinator) muscles.

Using the previous example, if the patient steps forward initiating a left forward gait, the physician would expect a right lower arm extensor, such as the wrist extensor group, to be inhibited (photo 3). A left lower arm flexor, such as the wrist flexor group, would also be inhibited. The same corresponding muscles on the opposite side should be facilitated at this time. If the patient then switches to a right forward gait, the physician would expect the right wrist flexor group to be inhibited (photo 4), as well as the left wrist extensor group. Again, the opposite would hold true in each case for the muscles that should be facilitated. Often the physician will discover the upper arm muscles described earlier (in this example, middle deltoids and latissimus) to function normally in the gait pattern, but not the lower arm/wrist muscles (wrist flexors and extensors) when there is a subtle gait disturbance. This more specific testing is successful due to the interaction of joints during the gait cycle, referred to as ligament interlink,⁸ but this application is entirely new.



photo 3

photo 4

A further expansion of the gait test is to check diaphragmatic function, since the fascia of the psoas muscles connect with the diaphragm and thus creates a strong relationship between breathing and gait. With the patient in either gait position, the physician should instruct the patient to inhale as deeply as possible and hold the breath. This should not disrupt the gait in any manner. If the physician is testing for the inhibition of the right latissimus dorsi and right wrist extensor group (left forward gait position), then the breath in should result in those muscles remaining inhibited. If they become facilitated, there is an imbalance that needs to be corrected, most likely in the diaphragm and previously identified by this author.⁹ Likewise, in this example, the right middle deltoid and the right

wrist flexors should remain facilitated (and not over-facilitated). Next, the physician should ask the patient to exhale as much as possible and then hold the breath out as the muscles are tested again in the same manner.

If the gait is abnormal when the patient is barefoot, then the physician must investigate the source of the gait dysfunction. The source of the problem can be anywhere in the body. Once the patient is displaying a normal gait while barefoot, any orthotic device and/or inserts should be tested. Most often the physician will realize that the orthotic will disrupt the normal gait, especially in this new expanded procedure, as the orthotic was originally made for a dysfunctional foot/gait that should now be corrected.

Finally, and perhaps most importantly, any and all footwear the patient commonly wears should be thoroughly evaluated exactly as described above. The tests should be the same ones performed previously when the patient was barefoot. First, the physician should test the upper arm/shoulder muscles, followed by the muscles of the lower arm/wrist. Also, the test for the diaphragm should be performed again with full inhalation/exhalation. A failure of any test now will point to a problem with the patient's footwear.

Procedure

The physician may use other upper arm and lower arm muscles for testing as an alternative to the ones described here, but for the purposes and consistency of this procedure, the following muscles will be used: latissimus dorsi, middle deltoid, wrist extensors, and wrist flexors. Before the gait test is performed, the physician should verify that these four muscles are normal facilitated and can be inhibited by autogenic inhibition (shortening of the spindle cell = the muscle temporarily shows weakening).

1. While the patient is BAREFOOT, perform the gait test as follows:
 - a. In a left forward gait position, the right latissimus dorsi and the right wrist extensor group should be inhibited (weak) and the right middle deltoid and the right wrist flexor group should remain facilitated (strong)
 - b. In a right forward gait position, the right middle deltoid and the right wrist flexor group should be inhibited (weak) and the right latissimus dorsi and the right wrist extensor group should remain facilitated (strong)
 - i. If MMT of any of the above results in any variation, the patient has failed the test and the physician must correct the imbalance
 - c. Full breath inspiration and expiration, testing for any gait disturbance caused by a diaphragm imbalance
 - i. Correct any diaphragm (or psoas) imbalance found before continuing
2. Once the gait is determined to be normal while the patient is barefoot, the physician should perform the exact same tests as above (1a, 1b, and 1c) in the following manner:
 - a. Standing in any orthotics, whether custom made or "drug store" type. These should be removed from the shoe for testing

- i. If the orthotics disrupt the gait in any way, they should be discontinued. If they do not, set aside
 - b. Standing in the footwear
 - i. If the footwear disrupts the gait in any way, the patient should be instructed to seek out a more minimalist-type shoe (*see current list below) or sandal
 - c. Standing in the orthotics back in the footwear (only if both 2a and 2b did not cause a gait disturbance)
 - i. Typically the patient would have failed the gait test individually either with the orthotics or the footwear, but they should also be tested together to be certain
3. Regardless of the outcome, the patient should be advised to walk barefoot as much as possible, especially while at home.

Conclusion

A thorough gait assessment is a vital part of each and every appointment. Patients are literally walking themselves back into distress due to uncorrected muscle imbalances, unnecessary orthotic devices and, especially, improper footwear. Although individuality is part of the essence of MMT, the physician will soon realize that there are shoes that will almost always pass the gait test and shoes that will always fail. Women's high heels, especially over two inches, never pass the gait test, particularly the new expanded wrist flexor/extensor test. Flat sandals, typically under one-half inch high across the entire sandal, rarely fail. Footwear with anti-pronation devices and stabilization added to the midfoot, typically fail, as do shoes with excess cushioning.

Using MMT the physician can determine what shoes will not harm the patient during their daily activities and during exercise. Notice that the word "benefit" was not used, as footwear is not meant for this reason. It should only protect the feet from damage that may be the result of the particular environment. It is advised that the physician ask the patient to bring in various pairs of regularly worn footwear, though caution should be made when making this offer to some women (bags of high heels may soon flood the office)! Typically a pattern will be found if the footwear that the patient has been using is improper – wrong size (one to two sizes too small is very common), too high a heel (due to too much drop), too much support, or entirely too far off the ground (such as with platform shoes).

The feet are loaded with nerve endings that sense contact with the ground and those nerve endings communicate with the brain and affect the entire nervous system. Therefore, advising the patient to go barefoot as much as possible and directing them towards more minimalist type shoes will ultimately provide substantial health benefits, often beyond those that are only physical.

The following are guidelines to give to patients when choosing new shoes:

1. Think simple – no “fancy shoes” especially ones that make claims to increase performance or work certain muscle groups
2. Keep them low to the ground – throughout the entire shoe – and especially the heel. A low to zero-drop shoe is always best – *see list
3. Make sure the shoe can be flexed throughout the entire sole – especially the midsole where the arch of the foot sits
4. Take the insoles out and step in them to make sure the foot fits well into the outline of the insole – the big toe should never go past the insole and ideally should be about 1/4”-1/2” behind the tip of the insole
5. Make sure the shoes look somewhat level on a flat surface as defects do occur during manufacturing

***Low to zero-drop running/walking shoes as of Winter-Spring 2011 (Not an exhaustive list)**

Altra
Brooks Green Silence
Feelmax Osma
GoLite
Huaraches
Inov-8
Merrell Trail Glove
New Balance Minimus Road
Newton
Nike Free Run +
Nike Free 3
Terra Plana Evo
Vibram Five Fingers

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Expanded Gait Assessment and Evaluation and Validation of Minimalist Footwear
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Tibialis Posterior Torque & Stability Taping

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Abstract

The tibialis posterior serves many functions of the lower leg. Often the muscle is more difficult to correct than other muscles as the tibialis posterior is so intricately involved in the gait cycle. This paper describes how to stress the muscle under load and provide support to the lower leg which will lead to faster rehabilitation of the tibialis posterior as well as problems associated with its dysfunction.

Key Indexing Terms

Tibialis Posterior, Manual Muscle Testing (MMT), Interosseous Membrane, Deep Fascia of Lower Leg

Introduction

The tibialis posterior is a vital muscle of the lower leg because of its numerous insertions, support of the leg, foot, and ankle, and its relationship with normal foot pronation. Inhibition of the tibialis posterior often results in knee pain, foot pain, and ankle pain, as well as overpronation, which can defer excess shock to the rest of the body during impact. Problems such as shinsplints, plantar fasciitis, bunions, hammer toes, and neuromas are often a result of tibialis posterior dysfunction.

The tibialis posterior's main action is to invert and plantar flex the ankle joint, as well as stabilize the medial aspect of the ankle. It is also the major muscle that supports the medial arch of the foot and, along with many of the insertions throughout the plantar aspect of the foot, the tibialis posterior is responsible for the actual strength and health of the foot itself.¹

The tibialis posterior originates at the medial portion of the proximal posterior tibia and the medial two-thirds of the proximal posterior fibula. The interosseous membrane binds the tibia and fibula together, as well as forms much of the origin of the tibialis posterior along with the deep fascia of the lower leg. This makes the tibialis posterior very important in the stability of the lower leg, support of the medial arch, and normal pronation.

The tibialis posterior muscle serves more functions than any other lower leg muscle; therefore it is extremely important that the muscle function optimally. Manual muscle testing (MMT) of the tibialis posterior is done by placing the foot and ankle into maximum inversion and plantar flexion. The physician stabilizes the posterolateral distal

leg and pressure is directed with the other hand into a dorsiflexion and eversion direction.¹

Discussion

The tibialis posterior muscle is often a muscle that is harder to keep corrected (facilitated) after treatment. This could be due to its many functions as described previously, as well as its somatovisceral connection to the adrenal glands. Adrenal gland problems are present in the majority of patients, as the glands can be overburdened due to too much stress, such as emotional distress, nutritional issues (a diet high in refined carbohydrates, caffeine, food allergies, etc...), as well as physical stress/injury. An injury to the tibialis posterior itself can feedback and compromise the adrenal glands, which in turn can cause more tibialis posterior inhibition!

Another problem when trying to correct the tibialis posterior is that the patient has to do one thing that does not allow the muscle to rest and recover. In other words, they have to walk. Often, just the mere act of walking out the door of the treatment room can inhibit the tibialis posterior muscle again, particularly if there is a gait dysfunction or if the patient is wearing improper footwear.² Testing for and providing support to the majority of the origins of the tibialis posterior (the deep fascia and interosseous membrane) will greatly reduce the reoccurrence of the muscle inhibition and provide a much longer lasting result as well as pain reduction.

Provided the physician has thoroughly evaluated and corrected the cause of the tibialis posterior problem, whether structural, chemical/nutritional, or emotional, and has verified that any and all footwear or supporting devices are not hindering its function, the patient is ready to provide a stress test to the tibialis posterior.

The physician will ask the patient to stand and put the majority of weight on the affected tibialis posterior leg. Next, the patient should be instructed to shift the majority of weight to the forefoot, lifting the heel slightly off the ground as if trying to push an object through the floor with the ball of the foot. Finally, the patient will be instructed to torque the lower leg by rotating the foot, ankle, and lower leg back and forth three to four times. This movement can be likened to doing the opposite motion of twisting a cork out of wine bottle, by pushing rather than pulling. After this procedure is done, the patient should immediately lay supine on the treatment table and the physician should re-test the tibialis posterior muscle. Re-inhibition to the muscle after the stress test proves that either the interosseous membrane and/or the deep fascia is unable to handle the overwhelming stress of all their functions and allow the muscle to heal. Therefore, a simple taping method is used to help the support the tibialis posterior and the surrounding tissues so the patient may recover much faster.

Once the tibialis posterior is stressed and the muscle once again shows inhibition, the patient is then asked to assist the physician by placing the hands on either side of the lower leg and compressing (squeezing) them together, with a moderate amount of force. The patient begins at the top of the lower leg at the head of the fibula and the physician

tests the tibialis posterior muscle. If the muscle becomes facilitated, the physician notes this and stops. If the muscle does not facilitate, then the patient is instructed to move the hands down about one-inch and the physician retests the muscle. Each time the patient moves distally down the leg, the physician retests the tibialis posterior. There will be one place somewhere between the head of the fibula and the medial and lateral malleoli, where the muscle will facilitate (become strong). In the example here (photo 1), it is approximately half-way down the lower leg.

Once the exact area of maximum facilitation is found, it is supported with athletic tape. The taping method used here is to simply wrap the tape one to two times around the lower leg, compressing the fibula and tibia together (photo 2). The tape should be wrapped tightly enough to provide the needed support but not so tightly that it causes any skin irritation or vascular compromise.



photo 1

photo 2

The patient should then re-perform the same torque test that previously weakened. This will ensure the tape is properly supporting the tibialis posterior, deep fascia, and interosseous membrane so the patient will not “walk back into the problem.” If the tape does not provide support, it is either too loose or on the wrong location of the leg.

The tape ideally should stay on the rest of the day until the patient is off his or her feet and into bed for the night. It can then be removed. If there is some reoccurrence of pain or return of the problem the next morning, the tape can be reapplied and worn as long as it continues to help. Sometimes two to three days of tape support are needed. In some cases, there is a different spot which needs to be taped. This can only be verified by a return visit to the office to see exactly what area now needs tape application. The author has seen this in cases where the patient has placed significant torque stress on the lower leg. Two notable cases were with a nationally ranked university high jumper and a professional ballet dancer since performing both these activities causes repeated stress and torque to the lower leg.

Additionally, fascial release technique can often be beneficial to certain tibialis posterior problems. This can be verified by stretching the tibialis posterior and testing for a reoccurrence of the inhibition.³ Fascial release treatment should then be performed and

can also be done on the area where patient compression strengthens prior to applying the tape, as previously described.

Conclusion

Adding extra stress to the tibialis posterior muscle with the torque test and supporting any inhibition with a simple taping procedure will assist the physician greatly in getting the patient well faster than ever before.

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Tibialis Posterior Torque & Stability Taping
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The Use of Low Level Laser Therapy in the Treatment of Myofascial Trigger Points

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Abstract

The use of trigger point therapy in the treatment of myofascial pain and dysfunction has been a part of manual therapy used in Chiropractic and other manual professions for many years. There are a number of methods traditionally used in such treatment including direct manual pressure as well as the use of ice and coolant sprays. The author has been using low level laser therapy (LLLT) in place of various coolants for over ten years. This paper presents a discussion of various therapies and details the use of LLLT in treating myofascial trigger points.

Keywords Indexing Terms

Trigger Points, Myofascial Pain, Low Level Laser Therapy, LLLT, Travell, Applied Kinesiology, AK, Professional Applied Kinesiology™, PAK®

Introduction

The treatment of trigger points has been a part of manual therapy in general and Professional Applied Kinesiology (PAK) in particular for many years. The approach commonly used in PAK was adapted from Travell.¹ Treatment methods have included digital pressure as well as stretching and cooling with ice or coolant spray. The use of low level laser therapy (LLLT) in the treatment of trigger points has been documented in referenced journals.^{3,4} In the late 1990's, with concerns regarding chemical toxicity and possible damage to the atmospheric ozone layer, I started investigating the possibility of substituting LLLT for the different coolant sprays commonly used. I was pleased to discover that LLLT, as described below, worked at least as well as the methods using coolant spray with elimination of all positive findings commonly associated with trigger points. This includes the elimination of radiating pain on digital pressure, muscle shortening and concurrent decreased range of motion (ROM) as well as the neuromuscular inhibition on muscle stretching as described by Walther.²

Materials and Methods

LLLT described in this article is performed with a 635nm, 5mw single diode continuous output laser. The specific device used has an adjustable beam width and an on/off button. For this therapy the beam is set to the narrowest setting. This laser is available at www.onpointlasers.com. I have also used devices as simple as an ordinary laser pointer to good effect in this technique.

For the classic PAK methods of trigger point therapy, please consult Walther's text². The method I developed using LLLT is described below. Those familiar with the use of various coolants in trigger point therapy will note the similarity.

I. Analysis

- A. Muscle to be investigated may show neuromuscular inhibition (“weak”) or facilitation (“strong”)
 - i. if the muscle is weak, find a nearby muscle that tests strong
- B. Stretch the muscle in question
 - i. slowly for lower extremity/predominantly red fiber, muscles
 - ii. quickly for upper extremity/predominantly white fiber muscles
- C. Immediately retest the muscle in question if it was previously strong or a nearby previously strong muscle (PSM)
 - i. inhibition of PSM suggests myofascial problems
 - a) palpate the muscle for tender areas
 - points tender to palpation with radiation of pain = positive for trigger points
 - no tender points or tender but non-radiating pain = other myofascial problems, probably need for fascial release.²
 - b) check range of motion for joint/amount of “stretch for involved muscle

II. Treatment

- A. Set the laser to narrowest beam (if using an adjustable beam laser)
- B. Stretch muscle identified above until resistance is felt
- C. Move the laser beam along the muscle being stretched
 - i. parallel to the muscle fibers (from origin to insertion or vice-versa)
 - ii. make multiple passes of the laser beam along the muscle at a spacing of about 3mm
- D. After several passes of the laser beam, the muscle will usually start to elongate
 - i. this “stretch” should be palpable by the therapist
 - ii. this may not happen if the muscle is being stretched hard enough to elicit a “guarding” response from the patient
 - a) gentle stretching without pain is most effective
 - iii. the treatment is usually complete when no further muscular release is noted
- E. Retest when no further muscular release is noted or when entire muscle width has been covered by laser
 - i. retest as in I.B. and C. above
 - ii. there will usually be increased range of motion after the treatment

Conclusion

I have been using the above approach and teaching it as an experimental, non-approved technique for over ten years. I have found it very effective for painlessly relieving trigger points and increasing range of motion. I've also found that it will frequently clear positive findings for fascial release as used in PAK.² As stated above, I was concerned by the

possibility of detrimental effects to patient or environment health posed by flourimethane or ethyl-chloride sprays. Also these chemicals were so volatile that buying more than one bottle at a time would often result in a large amount of product evaporation before it was used. The use of LLLT eliminates these concerns. This application of LLLT is also more convenient than the use of ice and more comfortable for the patient than the use of digital pressure to release trigger points.

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The Use of Low Level Laser Therapy in the Treatment of Myofascial Trigger Points
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Emotional Equation Supplements: Neutralizing the Underlying Factors of Unwanted Emotions

Matthew G. Keschner, D.C., DIBAK, CCSP

Abstract

John Diamond, MD, in his work, *Life Energy*, suggested that if mental attitude is changed, stress is prevented, and disease will not occur.ⁱ Relieving somatic manifestations of emotional stress has been accomplished by tapping acupuncture head points while the patient thinks about an emotionally stressful problem, person, or event. Walter Schmitt, DC, DABCN, DIBAK enhanced this technique with Emotional Recall Quick Fix, identifying acupuncture head points that negated thought induced weakness, and performing Injury Recall Technique, herein referred to as IRT, to the Chapman's Reflex related to the acupuncture head point.ⁱⁱ Lester Levenson, creator of The Sedona Method®, spent a good deal of time reviewing his past and letting go of his inner motivations. He discovered that, as people clean up the past relating to the four basic wants, the heavy burdens they've been carrying from their personal histories can easily be put down, never to be picked up again.ⁱⁱⁱ Applying the aforementioned techniques to feelings of 'wanting' may help neutralize and alleviate unwanted emotions.

Key Indexing Terms

Acupuncture, Meridian, Emotional Recall, Applied Kinesiology, Chapman's Reflexes, Emotional Healing, Emotional Techniques, The Sedona Method®

Introduction

Merriam-Webster Online Dictionary defines emotion as a "conscious mental reaction (as anger or fear) subjectively experienced as strong feeling usually directed toward a specific object and typically **accompanied by physiological and behavioral changes in the body**".^{iv} Gregg Braden, in *Walking Between the Worlds: The Science of Compassion*, writes, "Researchers have now demonstrated to the Western world that human emotion determines the actual patterning of DNA within our bodies...Furthermore, the demonstrations have shown that the arrangement of matter (atoms, bacteria, viruses, climate, even other people) surrounding your body, is directly linked to the feeling and emotion from within your body."^v Applied Kinesiology methods and methods of techniques with origins tied to applied kinesiology to affect emotional and emotionally induced physiological states have included psychological reversal, emotional recall, emotional recall quick fix, Neuro-Emotional Technique, and emotional erase^{vi}, all of which include usage of the body's acupuncture meridians.

The combined application of these techniques to underlying feelings of wanting may help neutralize deep-rooted emotional charges. Hale Dwoskin, author and lead instructor of *The Sedona Method®*, maintains, “the underlying motivators of the desire for approval, control, safety, and separation/oneness form the core of all limitation. In the process of releasing these wants, we let go of our sense of deprivation and lacking.”^{vii} The effect of the feeling of wanting is evident in manual muscle-testing. In addition to the basic wants, as set forth by Dwoskin (originated by Levenson), the feelings of ‘wanting’ to change or fix things, wanting to figure it out, wanting to defend, justify, or explain, as well as overall feelings of resistance may also form the deep-seated basis of detrimental emotions. These additional ‘wants’ were sub-categorized by Dwoskin under Wanting to Control^{viii}, but for the purposes of more precise and effective applied kinesiology treatment, will be treated as their own categories.

It should be duly noted that this paper is merely applying principles described in *The Sedona Method®* to applied kinesiology treatment methods, and is not discussing the actual techniques and methodologies of *The Sedona Method®*, itself. Reading and utilizing the concepts set forth in this paper will not give the reader an understanding of nor the ability to practice *The Sedona Method®*. This author is a certified coach of *The Sedona Method®* and has been utilizing *The Sedona Method®* in its originally presented form for seven years. For more information on *The Sedona Method®*, please visit www.sedona.com, a website run by Sedona Training Associates, and not by this author. This author receives no compensation in any form by readers visiting or ordering any products or seminars from the site.

Discussion

At the core of long-standing as well as future emotional issues are feelings of wanting – of control, approval, security, oneness/separation; wanting to figure things out, to fix or change things, and also resistance. Neutralizing (or clearing) these motivators of unwanted emotion, prove an effective supplement in emotional healing techniques as described in my 2008 *ICAK Proceedings* paper, “Enhancing Emotional Recall Quick Fix: Utilizing Sensory Modalities Beyond the Primary Representational System”^{ix}, my 2009 *ICAK Proceedings* paper, “The Emotional Equation: Raising the Level of Consciousness”^x, and my 2010 *ICAK Proceedings* paper, Emotional Equation Supplements: Neutralizing Deep-Rooted Emotional Charges From Past Relationships and Feelings of Victimization”^{xi}. For the biomechanics behind the methodology, please refer to my previous papers.

Hale Dwoskin, author of *The Sedona Method®*, states, “Wanting equates to lack. It does not equal having. Our lives are limited by our tendency to focus on the struggle that leads up to having, rather than having itself...When we let go of wanting, we therefore feel more like we can have. We also notice a corresponding increase in what we actually do have.”^{xii} He adds, “Many people deny themselves the things they believe they want, because they feel they can never have them, or they’ve been told that it’s wrong to even want them.”^{xiii}

Each ‘want’ also includes its opposite - not only does wanting create a sense of lack for us, we also experience conflict between wanting control and to be controlled, wanting approval and disapproval, wanting security and insecurity, and wanting separation and oneness.^{xiv} Dwoskin adds, “Due to conflicted wants, most of us take three steps towards our goals in life and two steps back before we can move forward again...When we’re letting go of a given want, we’re always letting go of some of its opposite at the same time.”^{xv} Having an underlying feeling of wanting is like driving with a foot on the brakes.

Dwoskin describes the imaginary ‘Tree of Limitation’, in which the leaves on the tree equate to feelings. The trunk and roots of the tree represent wanting control and wanting approval. The taproot of the tree represents wanting security, and the soil represents wanting to be one, and wanting to be separate. Rather than merely release one leaf at a time – and each leaf may very well grow back – it is far more effective to fell the tree by chopping the trunks, removing the roots, and altering the soil. Dwoskin notes that one will let go of big chunks of imaginary limitation when the four basic wants are released.^{xvi}

The wants, according to Dwoskin in *The Sedona Method® Course*, are the “main motivators of all limiting feelings, thoughts, beliefs, patterns, and attitudes...Each time you let go of wanting approval, control, security, separation or oneness, you will be letting go of some, or all, of your inner limitations that relate to that program. As a result, you will notice a profound increase in your ability to release even long-standing or deeply-rooted issues.”^{xvii} Please note the effects Dwoskin mentions are by using The Sedona Method® itself, whereas this author is merely using some of its concepts in an applied kinesiology application.

Wanting to Control

“When we want to control,” says Dwoskin, “we feel like we don’t have control.” He adds, “When we want to control, we feel out of control and like we need to take action to get it back...As we let go of wanting to control, we feel more in control.”^{xviii} Without a feeling of a need or want to control, everything would feel more at ease and already the perfect the way it is. There would be a greater acceptance of what is and no longer an inner conflict against the perceived reality.

Wanting Approval

A want equates to a lack. When one wants approval, one feels like he/she doesn’t have approval. Dwoskin comments, “We act in ways designed to help us get [approval], while all the time sabotaging actually getting it. We are focused on ourselves, and we feel self-conscious...When we want approval, we feel like we don’t have love and that we need to do something to get it back...As we let go of wanting approval, we will feel more loving and caring, more loved and accepted.”^{xix} Without a wanting of approval, one will feel more self-confident and assured, regardless of whether or not he/she has the approval of their peers, loved one, etc.

Wanting Security

As with the previously mentioned wants, when we want security, we feel like we don't have security. Dwoskin writes, "We approach life as though it's a battle for survival. We see everyone, at least on a subtle level, as an enemy. We may often feel and react to even the smallest changes or decision as if our lives are threatened... We may walk around expecting the next disaster."^{xx} Wanting security may include a sense of "being threatened, in danger, on guard, or impending doom."^{xxi}

Dwoskin explains, "The built-in opposing force to wanting security, or survival, is the sense of wanting to die. When we want to die, we feel as though life is too much... We approach life like a minefield. We are our own worst enemies."^{xxii} It carries with it hopelessness and a feeling of being defeated. When one releases the wanting of security, he/she may feel safe and more secure.

Wanting To Be Separate

When one wants to be separate, he/she might want to feel special, or stand out from the rest of the bunch. Dwoskin specifies, "We act in ways designed to help maintain a distinct identity. We are constantly engaged in differentiating from everyone and everything else. We want to prove how we are different, better, and special."^{xxiii} When one releases the wanting to be separate, there may be a feeling of being connected with others without losing one's uniqueness.

Wanting to Be One

When there is a wanting to be one (or wanting oneness), an individual may experience a sense of isolation or feeling alone. Dwoskin elaborates, "We are constantly engaged in seeking unity, while ignoring the underlying unity that is already effortlessly present... as long as we have any sense of wanting to be one, we always feel... alone and isolated... We often fill our lives with external signs of connection in order to hide or avoid our feelings of isolation."^{xxiv} "As one releases the wanting to be one, there may be a feeling of unity and connection in the Now, without having to look for it outside of oneself.

The following wants: Wanting to change or fix it, wanting to figure it out, wanting to defend, justify or explain it, and resistance (in general) were grouped by Hale Dwoskin under 'Wanting to Control'. For the purposes of thoroughness and effectiveness of applied kinesiology treatment in clinical practice, this author lists and tests them separately, although they may not appear after the wanting of control is cleared from the system.

Wanting to Change 'What Is' or Fix It

Often, the individual's wanting to change or fix something leads to a feeling of 'stuckness'. This stuckness, or feeling stuck, refers to the feeling of when a feeling or sensation simply feels stuck inside, incapable of release. Dwoskin remarks, "When we focus on wanting to change a problem, our awareness of the problem causes it to persist. Holding it in mind keeps us stuck."^{xxv} This includes hoping a certain problem doesn't happen in the future, or a past or present problem doesn't happen again. When one thinks, "I hope this does not happen," the mind does not translate a negation like 'not', so it

creates a picture of the problem and holds onto it. As one lets go of the wanting to change what is, he/she will naturally move into a greater feeling of acceptance, while releasing the feeling of stuckness.

Wanting to Figure It Out; Wanting to Defend, Justify, or Explain It

In *The Sedona Method® Course*, Dvoskin diagrams the anatomy of a problem. We appear to have a problem, we want to figure it out, and we then defend, justify, and explain the problem. We look for evidence to prove we have a problem. The problem now appears even more real.^{xxvi} Wanting to figure it all out, and/or wanting to explain it anchors in the feelings surrounding the perceived problem. There is a common New Age trap of one asking another, “Why do you think this happened? What is the lesson involved?” Attempting to answer these types of questions will only serve to amplify the emotional charge of the perceived stressor. When explains his/her stresses, or attempts to justify the situation, he/she only adds more weight. When one releases the wanting to figure it out, as well as the wanting to explain, defend, or justify, he/she will move into a greater state of acceptance, and will feel more in the flow of life.

Resistance

In his earlier work, *The Sedona Method®*, Dvoskin writes, “[Resistance] can sabotage your personal growth and stop you from moving forward in every area of your life...Resistance feels like trying to move forward with the brakes on....As you let go of resistance, your life will begin to flow in the direction of what’s best for you.”^{xxvii} In his later work, *The Sedona Method® Course*, Dvoskin goes as far as to mention that resistance is even synonymous with wanting to control.^{xxviii}

Resistance, according to Dvoskin, is “one of the main things that stop us from having, doing, and being what we want in life... Resistance can be self-sabotaging and counterproductive.”^{xxix} An individual in addition to resisting what he or she is told to do, even resists something when the command comes from one’s self! People simply do not like being told what to do, even if the command originates within his/her own mind. Thoughts of “I should do this” is what Dvoskin refers to as “Shoulding on ourselves.”^{xxx} Dvoskin states, “The greatest obstacle to being in the flow all day long, every day, is resistance to what is.”^{xxxi} Resistance may also be generated by a feeling of separation, a sense of “me against the world.” Resistance hence may be dissolved by simply letting go of the wanting or feeling of separation, as well as the previously mentioned wanting to control. It is for this reason that author tests resistance last as it may be released or neutralized upon treatment of the other wants.

Some may argue or fear that releasing or neutralizing resistance will result in vulnerability. Dvoskin points out that martial artists understand that when opponents attack, by not resisting, they can turn that energy against their attackers. Neutralizing or letting go of resistance will result in more strength with less effort and greater emotional stamina.^{xxxii}

Dvoskin notes, “Resistance is pushing against the world, which causes a feeling of being pushed back...Resistance to ‘what is’ is the glue that holds our apparent limitations

together.”^{xxxxiii} When one releases resistance, perceived limitations may dissipate, resulting in a sense of self-confidence and acceptance.

Step-by-Step Procedure:

1. Patient is supine. Practitioner finds a strong indicator muscle, preferably the Pec Major Clavicular.
2. Practitioner first explains that he/she is not a mind-reader, and that the patient will not be asked to share any thoughts aloud. All thoughts will remain privately within the patient. This will allow the patient freedom in dealing with whatever stress is present rather than being cautious and guarding the stressing thoughts that the patient does not want to share.asks the patient to think of a current stress.
3. Practitioner asks the patient to think of ONE current stress, and reminds the patient that he/she does not have to share with the practitioner.
 - a. Example: Patient thinks of current stressor.
4. With one of the patient’s sets of fingertips TL’ing the location of the Thymus (or Heart Chakra), the practitioner muscle-tests the strong indicator muscle (left pec clavicular) while reciting the list of wants (one muscle-test per want). When the indicator muscle weakens, stop testing the list of wants and fix what you find. The reason for this is that the later wants may be resolved while treating the first four or five:
 - a. Want of Control
 - b. Want of Approval
 - c. Want of Security
 - d. Want of Separation
 - e. Want of Oneness
 - f. Wanting to Change It or Fix It
 - g. Wanting to Figure It Out
 - h. Wanting to Explain It, Defend It, or Justify It
 - i. ResistanceExample: Practitioner says “Want of Security” and the indicator muscle tests weak
5. Practitioner asks patient to get in touch with the feeling of wanting (that weakened the indicator muscle) as it relates or underlies the current stress. Explain that the wanting is a feeling. Retest indicator muscle to ensure that it is still inhibited.
 - a. Example: Practitioner asks patient to get in touch (or tap into) the feeling of wanting security as it relates to the current stress; Practitioner retests indicator muscle and it is inhibited
6. Practitioner taps acupuncture head points until a pair is found that negates weakness.
 - a. Ex: Tapping or therapy localizing ST1 negates the weakness.
7. Practitioner may also choose to test the laterality to see if the acupuncture head point is on the left or right side of the head. Positive point on either right or left strengthens weak indicator muscle while patient feels the wanting associated with stressor.

8. Patient therapy localizes neurolymphatic (Chapman's Reflex) points correlated to coupled meridian acupuncture head points until one point, on either right or left side, is found that negates weak indicator muscle. For example, if therapy localizing ST1 facilitates the indicator muscle, test both the Stomach and Spleen Chapman's (Neurolymphatic) Reflex points. For Triple Warmer meridian, test Thyroid NL point as well as the Thymus point and then for Circulation-Sex meridian, test adrenal NL point or reproductive organs NL point.
 - a. Ex: Therapy localizing the Stomach Chapman's Reflex strengthens the indicator muscle, while therapy localizing the Spleen Chapman's Reflex does not.
9. Practitioner places patient's hands on indicated Chapman's Reflex point(s). The Practitioner has a choice of tapping the acupuncture head points bilaterally, or tapping the Beginning/End Points on one side only. Neither option has appeared to hold a significant advantage over the other in recent tests. If point is unilateral, then both hands therapy localize the same point. Practitioner taps acupuncture head point 120 times while patient continues to FEEL the respective 'want' previously indicated while patient therapy localizes the indicated Chapman's Reflex point(s). In addition, the patient performs the appropriate healing sound associated with the acupuncture head point, as explained in Dr. Eugene Charles's *2010 ICAK Proceedings* paper "Stress Reduction Using the Acupuncture Head Points."^{xxxiv}
 - a. Ex: Practitioner taps ST1 bilaterally 120 times while patient therapy localizes the Stomach Chapman's Reflex, simultaneously feeling the wanting of security as well as emitting the associated healing sound of "Whoooo" (from throat)
10. Practitioner performs IRT to Chapman's Reflex while patient continues to experience the feeling of the particular want that weakened indicator muscle.
 - a. Ex: Practitioner performs IRT using talus distraction while patient therapy localizes Stomach Chapman's Reflex while feeling a want of security.
11. Practitioner moves patient to a seated position and affirms a strong indicator muscle. The patient Therapy Localizes the alarm point(s) that correspond to the Chapman's Reflex area and the practitioner checks for weakening of the indicator muscle. If there are bilateral alarm points, test each point independently.
 - a. Ex: Patient therapy localizes the Stomach alarm point and practitioner checks for weakening of indicator muscle.
12. As the patient continues to Therapy Localize the alarm point which caused weakening of the indicator muscle, the practitioner has the patient recite the correlated Life Energy Affirmations^{xxxv} (listed in the latter part of this paper) as the practitioner tests for strengthening of the weak indicator muscle following each affirmation. This is performed in a "repeat after me" format. Note: The patient is no longer having to experience the feeling of the indicated want.
 - a. Example: With the patient Therapy Localizing the Stomach Alarm Point (which caused the indicator muscle to go weak), instruct the patient to "repeat after me", and then recite the following affirmations, testing the indicator muscle after each affirmation is spoken:
 " I have enough."

“I am enough.”
“I am satisfied.”
“I am thankful.”
“I am tranquil.”

13. Upon finding the affirmation that negated the weakening caused by the Therapy Localization of the indicated alarm point, instruct the patient to keep his or her contact on the alarm point, and in a manner similar to that of Dr. Scott Walker’s Neuro-Emotional Technique^{xxxvi}, the patient puts the palm of the free hand on his/her forehead, encompassing the emotional Neurovascular points. The practitioner instructs the patient to SILENTLY REPEAT the affirmation indicated in the previous step.
 - a. Example: the patient would have one hand therapy localizing the Stomach alarm point, while the other hand therapy localizes the entire forehead (with the intention of covering both emotional Neurovascular points). The practitioner instructs the patient to now “Silently repeat, ‘I am enough. I am enough. I am enough,’ over and over again.”
14. While the patient is holding both the points on the head and body and reciting the affirmation silently, the practitioner, again in a manner similar to that of Dr. Scott Walker’s Neuro-Emotional Technique^{xxxvii} as well as Dr. Victor Frank’s Total Body Modification^{xxxviii}, using either his/her fingers, a double-tipped activator instrument, or an IMPAC Arthro-Stim, stimulates Dr. Frank’s TBM Sequence points on the Transverse Processes which correspond to that organ. Stimulate first while the patient’s breath is neutral, then again while instructing the patient to breathe in, and again while instructing patient to exhale.
 - a. Example, the practitioner adjusts/taps the T8, T10, and lastly T12 transverse processes upon neutral breath, inhalation, and then exhalation (one vertebra at a time) by the patient while the patient silently recites the affirmation of “I am enough.”
15. Practitioner rechecks the indicated feeling of wanting. If negative, practitioner then repeats Step 4, testing for each individual feeling of wanting. If practitioner finds a feeling of wanting that weakens indicator muscle, then treat indicated feeling of wanting before testing other feelings of wanting (and resistance). When finished with list of wanting (and resistance), continue to next step.
16. Practitioner asks patient to think of the original stressor. Practitioner may wish to recheck the original personality trait using different sensory modalities. For more information on checking different modalities/predicates, please refer to my paper in the *2008 ICAK Annual Proceedings* entitled, “Beyond Emotional Recall Quick Fix – Using Representational Systems.”^{xxxix} Practitioner corrects what is found using procedure as indicated in the 2008 paper.
17. If the practitioner wishes to investigate further, he or she may use investigative techniques used in *Neuro-Emotional Technique*, in order to find out if there were precipitating events in the patient’s lifetime that lead to the block at the indicated affirmation. In our example, the patient may ask the body if “I am enough” is the original concept, if the current stressor is the original concept, or if there is a more original concept. Not wanting to re-present Dr. Walker’s original work and claim it as my own, please refer to seminars and manuals by Dr. Scott Walker and

- Neuro-Emotional Technique (N.E.T)*. Practitioner may then use the same “Feelings of Wanting” Protocol on the indicated more original stressor.
18. Recheck original stressor to confirm correction.
 19. It should be noted that I always use “The Emotional Equation”, as described in my 2009 *ICAK Proceedings* paper entitled, “The Emotional Equation: Raising the Level of Consciousness”^{xi} as a finishing step or clean-up move.
 20. Let the patient know that sometimes the effects are not immediate. The patient may feel very subtly more grounded, balanced, relaxed, and/or lighter immediately, but should really notice the effect in about 20-30 minutes. The practitioner may recommend meditation, any type of meditative yoga (this author practices Kundalini Yoga and has found it to provide an excellent adjunct), as well as The Sedona Method®, which helps the patient to actively let go, or release, aberrant thought and belief programs that are slowing down the body’s hardware. The patient may even choose to work on releasing whatever thought patterns or affirmations were found in the office visit.
 21. This technique may be used more frequently (every other day) in cases of extreme stress. Be forewarned that as this technique inhibits the amygdala, over-utilization may result in a sort of “emotional numbing”.

Life Energy Alarm Points and Affirmations, from Dr John Diamond’s Life Energy^{xii} and associated Teas and Victor Frank TBM Sequences^{xiii}

(Note: This author highly recommends a thorough reading of Dr. Diamond’s *Life Energy* in order to fully grasp all concepts instead of merely looking at an outline.)

BILATERAL MERIDIANS

LUNG

<u>Negative</u>	<u>Positive</u>
Disdain	Humility
Scorn	Modesty
Contempt	Tolerance
Haughtiness	
False Pride	
Intolerance	
Prejudice	

POSITIVE AFFIRMATIONS:

- I am humble.
- I am tolerant.
- I am modest.

Sequence: Left: T1, T8, L2; Right: T2, T9, L3

LIVER

<u>Negative</u>	<u>Positive</u>
Unhappiness	Happiness
	Cheer

POSITIVE AFFIRMATIONS:

I am happy.
I have good fortune.
I am cheerful.

Sequence: T2, T5, T8

GALL BLADDER

<u>Negative</u>	<u>Positive</u>
Rage	(Reaching out with) Love
Fury	(Reaching out with) Forgiveness
Wrath	Adoration

POSITIVE AFFIRMATIONS

I reach out with love.
I reach out with forgiveness.
I come forward with love and forgiveness.
I adore.

Sequence: T4

SPLEEN

<u>Negative</u>	<u>Positive</u>
Anxiety about future	Faith (about the future) Confidence (about the future) Security

POSITIVE AFFIRMATIONS

I have faith and confidence in my future.
I am secure.
My future is secure.
I have faith and courage in my future.

Sequence: T1, T5, T9

KIDNEY

<u>Negative</u>	<u>Positive</u>
Sexual Indecision	Sexual Security/Assuredness

POSITIVE AFFIRMATIONS

I am sexually secure.
My energies are balanced. (Note: This affirmation is modified from the original affirmation as listed by Diamond In *Life Energy*: “My sexual energies are balanced.”^{xliii})

Sequence: T1, T5, T8

LARGE INTESTINE

<u>Negative</u>	<u>Positive</u>
Guilt	Self-Worth

Obsessional thinking

(Note: While Diamond does not list Obsessional thinking as a negative emotion, he mentions “People who feel guilty tend to be obsessional.”^{xliv})

POSITIVE AFFIRMATIONS

I am basically clean and good.

I am basically clean and pure.

I am worthy of being loved.

I am loveable.*

(* added by this author)

Sequence: L5

MIDLINE MERIDIANS

CIRCULATION-SEX

<u>Negative</u>	<u>Positive</u>
Regret and Remorse	Renunciation of Past
Sexual Tension	Relaxation
Jealousy	Generosity
Stubbornness	Kindness

POSITIVE AFFIRMATIONS

I renounce the past.

I am relaxed. My body is relaxed.

I am generous.

That is done. It is the past. I will let it go and move on in the present.

My mind is wholly disconnected with things of the past.

Sequence: T7, T9, T11

HEART

<u>Negative</u>	<u>Positive</u>
Anger	Love
	Forgiveness

POSITIVE AFFIRMATIONS

I love.

I forgive.

There is forgiveness in my heart.

Sequence: T2, T8, T12

STOMACH

Negative

Disappointment

Disgust

Greed

Bitterness

Emptiness

Deprivation

Nausea

Hunger

Positive

Contentment

Receiving Enough

Having Enough

Tranquility

POSITIVE AFFIRMATIONS

I am content.

I am tranquil.

I have enough. What I have is sufficient.

I am thankful for what I have now.

I am thankful for having enough now.

I am enough.*

I am satisfied.*

(* added by this author)

Sequences: T8, T10, T12

THYROID/TRIPLE HEATER

Negative

Depression

Heaviness

Despair

Grief

Hopelessness

Despondency

Loneliness

Solitude

Positive

Elation

Lightness

Buoyancy

Floating

Hope

POSITIVE AFFIRMATIONS

I am light and buoyant.

I am buoyed up with hope.

I am hopeful.*

I am lifted up by hope.*

(* added by this author)

Sequence: C1, C4, C7

Teas: Green Tea, Vitality, Ginseng, Horny Goat Weed

THYMUS/TRIPLE HEATER

<u>Negative</u>	<u>Positive</u>
Hate	Love
Envy	Faith
Fear	Gratitude
	Trust
	Courage

POSITIVE AFFIRMATIONS

I have love, faith, gratitude, trust, and courage.

I love.*

I am filled with love.*

I trust.*

I am filled with faith and trust.*

(* added by this author)

Sequence: T9

Teas: Immune System Enhancing Teas

SMALL INTESTINE

<u>Negative</u>	<u>Positive</u>
Sorrow	Joy
Sadness	

POSITIVE AFFIRMATIONS

I am full of joy. (I am joyful)

I am jumping with joy.

I have joy in my life.*

I am lifted up with joy. *

(* Added by this author)

Sequence: L5

BLADDER

<u>Negative</u>	<u>Positive</u>
Restlessness	Peace
Impatience	Harmony
Frustration	Patience
	Serenity
	Calm

POSITIVE AFFIRMATIONS

I am at peace.

I am in harmony.

Dissonances and conflicts within me have been resolved. I am balanced.

Sequence: L5

GOVERNING VESSEL

Negative

Embarrassment

No affirmations listed. Have the patient make up his or her own based on the opposite of the negative attitude.

Sequence: T3, T6 (from Dr. Scott Walker, N.E.T)^{xlv}

CONCEPTION VESSEL

Negative

Shame

Shyness

No affirmations listed. Have the patient make up his or her own based on the opposite of the negative attitude.

Sequence: T3, T6 (from Dr. Scott Walker, N.E.T)^{xlvi}

Healing Sounds, from “Stress Reduction Using the Acupuncture Head Points” by Dr. Eugene Charles^{xlvii}

Meridian/Acupuncture Head Point

Large Intestine

Stomach

Small Intestine

Bladder

Triple Warmer

Gall Bladder

Healing Sound

SSSSS (tongue behind teeth)

WHOOO (from throat)

HAWWW (mouth wide open)

OOOO (like blowing out a candle)

HEEEE

SHHHH (tongue near hard palate)

When To Use

Dr. Walter Schmitt and Dr. Kerry McCord, in their *Quintessential Applications of Applied Kinesiology Protocol*, put the step of treating the emotional/mental component at the end of their protocol, following all treatment for the organs, but just before dealing with any fascial elements or the actual vertebral or extra-spinal adjustment. However, in this same protocol, the “emotional step” may be performed while correcting cranial-sacral flow disturbances, if it is indeed found that emotional stressors are primary and are playing a role in the dysfunction of the cranial-sacral mechanism and/or the immune system^{xlviii}. In either case, correcting neurological injury patterns, neutralizing histamine, allergy, and/or sensitivity reactions, and improving neurotransmitter function should be performed prior to any type of emotional treatment. If a histamine reaction is not neutralized prior to treating emotional factors, deleterious effects, including greater stressful feelings, may occur.^{xlix} For further elaboration of their recommended protocol, please refer to the *Quintessential Applications of Applied Kinesiology* manual or recorded (video) lectures, available from Applied Kinesiology Study Program. As Dr. Schmitt

notes in his newsletter, The Uplink, the “emotional correction” is “NOT an optional step.”¹

Table 1 (located on TABLE page) shows the results of subjective before and after ratings of particular stresses, on a scale of 0-10, with 10 being the most stressful. Ten random patients were tested, age ranges 24 – 62, who were treated consecutively. Patient thought of stress and was asked to rate the stress on the 1-10 scale. The patient was asked to re-evaluate the stress about three minutes following completion of the emotional treatment. No other applied kinesiology, emotional, or other techniques were used before or during any measurements. The Emotional Equation was not utilized.

In the findings, there is a sharp decrease in the emotional charge of a given stress on a scale of 1-10. While these examples attempt to show the release of tension and neurological re-organization in linear yet subjective terms, what is of greater importance is the non-linear benefit that can be communicated but not measured. Here is an excerpt from an email that I received from a woman from Ireland who had flown in to New York just to see me before heading south to visit her sister and newborn niece in Washington, DC. Among other physical symptoms, she had complained of lack of sleep, stress, and lack of clarity:

“I had a wonderful sleep after my visit and felt relieved psychologically... Also, for the last few years I've had a real lack of clarity. I'm not sure where this comes from but it feels like the fog in my head is starting to clear.”

(Note: other applied kinesiology techniques were performed; name withheld due to current HIPPA regulations)

Conclusion

Clearing underlying feelings of wanting brings a deeper facet to the emotional side of the Triad of Health that may help neutralize deep-rooted and detrimental emotional factors, and enable the client with a fresh and unbiased perspective.

Further studies involving a greater number of measurements taken, testing ranges of motion for physiological effects, testing for the facilitation of previously inhibited muscles, and recording of pH levels may need to be performed. Long-term follow-up of how the patient reacts to similar situations may also prove to be intriguing.

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Tables

10 randomly selected patients, ages 24-62, were asked to think of a current stressor and rank it on a scale of 1 to 10, with 10 being the most stressful. Following utilization of emotional protocol of treating the underlying wants, three minutes passed, and patients were again asked to re-evaluate the stress using the same scale of 1-10.

Table 1

Patient Test Number	Pre-Test	Post-Test
1.	7	1
2.	6	1
3.	8	4
4.	8	5
5.	5	1
6.	7	5
7.	5	1
8.	6	2
9.	8	6
10.	7	4

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**Emotional Equation Supplements: Neutralizing the Underlying Factors of
Unwanted Emotions**

Matthew G. Keschner, D.C., DIBAK, CCSP

Patient Homework for Balancing the Meridians: Kundalini Yoga *Kriyas*

Matthew G. Keschner, D.C., DIBAK, CCSP

Abstract

Clinical observation that acupuncture meridians, as studied in applied kinesiology, will respond positively and all acupuncture meridians (as observed by facilitation of acupuncture pulse points which previously weakened indicator muscles) will balance by simply performing any Kundalini Yoga *Kriya* (followed with the ten to fifteen minute period of deep relaxation).

Key Indexing Terms

Acupuncture, Meridian Therapy, Applied Kinesiology, Kundalini Yoga, Yogi Bhajan, PhD

Introduction

Chinese acupuncture was developed 5,000 years ago and works on the energy meridians of the body, culminating in the balance of the five elements. Kundalini Yoga, developed perhaps 10,000 years ago, works on the body's energy system composed of chakras and five elements known as Tattvas. Just as separate people on separate continents claimed the invention of the modern refrigerator, separate yet effective methods of working on balancing the body's energy system were developed by two different cultures. Although vast differences in application and theory exist, and results of both methodologies are separate and distinct, performing a Kundalini Yoga *kriya* will balance previously inhibited acupuncture meridians. Performance of a Kundalini Yoga *kriya* is effective homework for the Applied Kinesiology patient in many facets – glandular system, nervous system – yet the focus on this paper is strictly on the meridian system.

Discussion

Chinese acupuncture, as taught in the field of Applied Kinesiology, utilizes five elements comprised of twelve different meridians. The energy, or the chi, runs through these meridians. In Yogic theory, according to Shakta Kaur Khalsa, author of *Kundalini Yoga: Unlock Your Inner Potential Through Life-Changing Exercise*, “Kundalini Yoga is a tool we use to activate and transform the body's energy centers, called chakras...The body is made up of fields of energy that most of us cannot see with our eyes. Those who can, say that these fields of energy are like fluid whirlpools of light that are constantly moving and changing in complex patterns. The yogic name for these centers is chakras, literally “circles” in Sanskrit....Energy flows through the entire body from the chakras...All the

main chakras are connected by a channel of energy called the shushmana that travels up the center of the spine and around the brain.”ⁱ When the energy is able to run through the seven chakras (the eighth chakra, the aura, encompasses the first seven), it will vibrate the three major surs (zones) which will in turn vibrate the 72,000 nadis (energy channels), adjusting the body’s energy system overall, balancing the five Tattvas (elements). Kundalini Yoga works on the nervous system, the hormones, and consciousness, but for the purposes of maintaining a focus on balancing the meridians set forth by a completely separate and distinct modality, this paper will limit the focus to the body’s energy system.

With certain theoretical similarities (energy flow through meridians to balance the five elements) in mind, this author tested before and after effects on inhibited meridians of the Chinese acupuncture system (using simple pulse point analysis) of a Kundalini Yoga *kriya*. All *kriyas*, selected randomly and without regard to the acupuncture meridian inhibition, were found to correct all meridian balances, 100% of the time. Kundalini Yoga thus makes for effective ‘meridian homework’ for the patient, as it will help correct and maintain meridian balances leading to the increased health and well-being of the patient.

Kundalini Yoga

According to the late Yogi Bhajan, PhD, who brought the ancient, and once secret science of Kundalini Yoga to the western world in 1969, “The techniques of Kundalini Yoga form the owner’s manual for human consciousness.”ⁱⁱ He described Kundalini Yoga as “a science which works on the seven chakras, the arcline and the aura (the Eighth Chakra). It works directly on the total energy.”ⁱⁱⁱ

It is important to note that this paper focuses only on Kundalini Yoga, and not on the science of Yoga in general. There are twenty two forms of yoga. Yogi Bhajan, PhD, stated, ““In yoga this is how it is: twelve years of Hatha Yoga, plus six years of Raja Yoga, plus three years of Mantra Yoga, plus one year of Laya Yoga is equal to the effect of just one complete year of Kundalini Yoga. I have not written this, so don’t blame me. It is in the Yogic Scriptures.”^{iv} Yoga, according to Shakta Kaur Khalsa, is 10,000 years old.^v

A Yogic Anatomy Primer

A Nadi is a channel of energy flow. There are seventy-two major zones (surs) through which the nadis flow. There are three major surs: the *ida*, on the left, the *pingala*, on the right, and the *shushmana*, in the center. It is the shushmana which connects all the main chakras. When you vibrate the central channel, the shushmana, through Kundalini Yoga practice, you can vibrate all three major surs. When you vibrate all three major surs, you vibrate the seventy-two surs, and you can adjust the entire system. Those seventy-two surs span out to 72,000 channels (nadis) throughout the body in different systems.^{vi}

Nadis are channels of flow for the Praana. Yogi Bhajan, PhD, commented, “Praana is the motion and the coding of energies through the realms of the mind and body. Praana is not Kundalini. Kundalini is an emanation of the soul itself, the opening of the soul energy - an awareness. Kundalini emergencies are imbalances of the praana in one or another of

the Ten Bodies or in the chakras. Most healing has to do with rearranging the praanas in an appropriate way.”^{vii}

Tattvas are elements. Similar to the Chinese acupuncture meridian system, there are five Tattvas in all. However, there are major differences between the two systems. In Yogic anatomy, the five elements comprise earth, water, fire, air, and ether (Chinese meridian theory labels the five elements as fire, earth, metal, water and wood.) The first five chakras correspond to the five elements. The quality associated with the sixth, seventh, and eighth chakra (aura) is light.^{viii}

The correlated anatomy of these tattvas differ slightly from the elements of the Chinese acupuncture meridian system. In Yogic anatomy, the Vayu (Air) Tattva includes the lungs, heart, and thymus. The Agni (Fire) Tattva manifests through the spleen, liver, pancreas, and adrenals. The Apas (Water) Tattva includes the kidneys and sex glands. So the Tattvas are based both upon function as well as location. Despite the differences between Chinese acupuncture meridian theory and yogic philosophy, all organs and systems of the body are covered by each overall system, respectively.

According to Siri Atma S. Khalsa, MD, in *Waves of Healing: Listening to the Voice of Your Soul*, “Your soul resides in every atom of your tattvas.”^{ix} Kundalini, as stated earlier, is an emanation of the soul, itself.

Kundalini Yoga Kriyas

Shakta Kaur Khalsa specifies, “The word, ‘*kriya*’ literally means ‘action’.” In Kundalini Yoga, it is an exercise or group of exercises that work toward a specific outcome. Every exercise is not a *kriya*. Practicing a *kriya* initiates a sequence of physical and mental changes that affect the body, mind, and spirit simultaneously. Each *kriya* has a different effect, but all work on all levels of your being.^x

In addition, Yogi Bhajan, PhD, elaborated, “To act with *kriya* is a state of spontaneous flow. It’s free of all the blocks...*Kriya* is not a random collection of actions. Just as you put together a transmission in a car, there’s a number of gears that have to be in place, and they have to be there in a certain sequence. Then the power that’s in the motor can be transferred to the wheels, and you can go where you need to. Just so, a *kriya* in yoga is a sequence of postures, breath, and sound that are integrated together to allow the manifestation of a particular state.”^{xi}

Kundalini *Kriyas*, passed down through the ages, strengthen the accumulating energy of praana and the eliminating energy of apaana. When praana and apaana are both strong, the opposite energies mix together, uniting through the navel by applying a lock called mulbandh, and this opens the doorway to the flow of Kundalini.^{xii}

Kundalini Yoga schools stress to follow the *kriyas* previously set forth, and not to invent your own *kriya*, as each *kriya*, in addition to having a focused intent, will work *all* of the *kriyas*, chakras, bodies, and elements. When I first became really involved with Kundalini Yoga, it was not uncommon for me to perform five *kriyas*, along with

meditations, in one day, often staying up through the night to fit everything in. I thought that in performing multiple *kriyas*, I would be working on all of my elements and all of my chakras. Sat Jivan Kaur Khalsa, former aide to Yogi Bhajan, PhD, and current co-director of *Kundalini Yoga East* in New York City, reminded me how each *kriya* is meant to affect everything for an overall balance, despite its focused intent. Not wanting to discourage my unbridled enthusiasm, she subtly reminded me of this fact until eventually I performed a simple *sadhana* (daily practice) each day. It was at this point that I began testing the effects of various, randomly chosen *kriyas* (sometimes selected by the Kundalini Yoga instructor him/herself without my input) on imbalanced Chinese acupuncture meridians.^{xiii}

Supporting Sat Jivan Kaur Khalsa's advice, Bhajan carefully noted, "...each *kriya* is a whole unto itself, a perfect jewel that acts to create a flow. They are perfectly designed sets meant to produce predictable and subtle impacts on the total Self."^{xiv} Yogi Bhajan has emphasized the importance of keeping the teachings as given, with the exception of reducing the timing of postures. Yogi Bhajan also specified that Kundalini Yoga teachers are not to mix Kundalini Yoga *kriyas* with any other kind of yoga.

During the course of investigating the effects of Kundalini Yoga, the following *kriyas* were performed. The selection of the *kriya* was never based on the acupuncture imbalance. They were either chosen at random, or were selected by a third party, such as a certified Kundalini Yoga instructor, who had no knowledge that I was therapy localizing acupuncture pulse points prior to and following the performance of a *kriya* (and relaxation afterwards). All *kriyas* were repeated randomly (at least five times) at multiple points throughout the time period of October 2008 to January 2010. The success rate of any given *kriya* achieving complete balance and strengthening of previously weak acupuncture pulse points (indicator muscle weakening upon therapy localization of acupuncture pulse points) was 100%.

- *Kriya* for Disease Resistance
- To Master Your Domain
- Wahe Guru: Subtle Body *Kriya*
- Nabhi *Kriya* for the Navel Center
- To Balance the Head and the Heart
- Strengthening the Aura
- For a Healthy Mental Balance
- For a New Energy Balance
- Awakening to Your Ten Bodies
- Balancing the Vayuus (Praanic Airs)
- Balancing Praana and Apaana
- Finding Heaven Within
- Sat *Kriya*
- Longevity *Kriya*

For more information about these *kriyas* and others, contact the Kundalini Research Institute (www.kundaliniresearchinstitute.org) or the 3HO Foundation (www.3HO.org).

This author receives no compensation of any form by mentioning these organizations nor by anyone contacting them or purchasing anything from them.

Asanas of the Kundalini Yoga Kriya

A *kriya* is composed of specific different asanas, or postures, in a specified order. Yogi Bhajan, PhD, detailed, “Each asana is an exercise, a meditation, a connection to energy flow, and a self-diagnostic instrument for the Kundalini Yoga practitioner. As an exercise, the posture is used to isolate specific muscles, to pressurize specific points or areas that act as reflex triggers to enhance the functions of the glands and organs, and to re-direct, flush, or increase circulation. As a meditation, the posture creates a special link and foundation between the body and the mind. Each posture stimulates an area of the body as the mediation technique employed begins to release emotional masking and blocks....As a connection to energy flow, the posture opens an energy pathway between meridian points. Even a baby in the womb moves and goes through 84 postures. If the baby skips one of those postures, that means that energy pathway isn’t as developed, and they’ll have to compensate later. That is why some postures are unexpectedly powerful and initiate great changes.”^{xv}

Bhajan further detailed, “Many of the techniques of posture and breathing...are done to recreate the natural flow of subdivisions of Prana within our bodies...”^{xvi} Additionally, “Kundalini yoga is a science of angles and triangles. Every angle created with the body has a corresponding energetic effect. For instance...lifting the arms 60 degrees affects the heart and lungs.”^{xvii}

Sounding similar to the tenets of Applied Kinesiology, Bhajan expounded, “There may be reflexes – this hand may be connected to something else in the body. There may be interconnections throughout the body, connecting its most distant parts in unexpected ways.”^{xviii}

An asana may involve either chanting or holding the tongue or mouth in a certain position. Providing more evidence of a Kundalini Yoga *kriya* affecting the energy meridians, there are 84 meridian points located on the hard palate of the roof of the mouth, 32 pairs of points (64 points) are located on the hard palate surface directly behind and along the inside of the teeth, i.e. four points with each tooth. The other 20 points are located in a curve or “U” shape on the central part of the palate, with 10 pairs of points along each side. The location of the points are not exactly the same for each person, since palate shapes vary, but the general curved pattern is universal.^{xix}

Deep Relaxation

Following most, but not all Kundalini Yoga *kriyas*, is a period of deep relaxation- yogic nidra (sleep) – for ten to fifteen minutes. This is usually performed in Shavaasana (corpse pose), lying supine, arms at the sides, palms facing up, ankles uncrossed, and without a pillow under the head. A shawl or covering may be used. I urge all people who perform a Kundalini Yoga *kriya* to also perform deep relaxation. As a typical New Yorker always on the go, I would forgo the relaxation phase in my early days of practice at home, in favor of moving on to the next commitment or task. However, this was defeating the

purpose. When I told Sat Jivan Kaur Khalsa of my reluctance to adhere to the period of deep relaxation, she was adamant of its importance in the overall process.^{xx}

Bhajan dutifully affirmed in *The Aquarian Teacher*, ““Relaxation is an important part of the rhythm of exercise and change in Kundalini Yoga. The physiological and neural state of a student is elevated after completing a Kundalini Yoga kriya. It is the physiology of awakening and awareness. During this state, relaxation serves several functions:

- Rejuvenating, especially the parasympathetic nervous system.
- Distributing of prana (vital life force) stimulated by the exercises.
- Releasing rigid patterns in the muscles and blood flow.
- Circulating glandular changes.
- Centering one’s emotional energies
- Learning how to handle stress and letting go.
- ‘Memorizing’ the relaxation sensation.
- Integrating a new pattern after an old one is broken.
- Creating a rhythm or pulse of energy. ^{“xxi}

Following the Yogic Nidra, a meditation is performed. Although I strongly advocate meditating at this point, I had measured my results of the *kriya* on meridian imbalances after the deep relaxation period, and not after meditation. For this reason alone, I will not discuss meditation here. However, meditation is considered an integral part of the practice of Kundalini Yoga.

For the applied kinesiologist interested in investigating the effects of Kundalini Yoga, do not merely send your clients home with photocopies of *kriyas* from a Kundalini Yoga book. Yogi Bhajan, PhD affirmed, “The difficulty is that Kundalini Yoga cannot be learned without a teacher. It cannot be learned from books.”^{xxii} Please find a Kundalini Yoga center or event near your location, or contact the previously mentioned organizations for more information.

Conclusion

Pulse points that cause an inhibition of previously strong indicator muscles may be strengthened, with corresponding balance of all of the acupuncture meridians, by performing any Kundalini Yoga *kriya*. A Kundalini Yoga *kriya* provides effective ‘homework’ for the Applied Kinesiology patient in terms of strengthening and maintaining balance of the acupuncture meridians. Kundalini Yoga may also aid other systems, such as the nervous system, glandular system, and cerebrospinal fluid flow, but additional research needs to be performed in these areas. As Dr. George Goodheart has repeatedly mentioned chakras but never specifically explored and detailed healing techniques based on Kundalini Yoga or ayurvedic medicine, more research is needed in this field - a field yet untapped in the vast range of effective healing modalities of Applied Kinesiology.

Note: Matthew Keschner, DC, DIBAK, CCSP has been practicing Kundalini Yoga since October 2008. At the time of this writing (January 2011), he is in the Kundalini Yoga Teacher Training Program, through Kundalini Yoga East in New York City, with an anticipated commencement date of May, 2011.

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Muscle Chains

David Leaf, D.C., DIBAK

Abstract

This paper presents a novel approach to finding imbalances in muscle firing sequences that are found in sports and daily activities. A discussion of the various stages of a tennis forehand are described to demonstrate the usefulness of this technique. Finally, a short description of the use of this procedure in a downhill skier is presented.

Discussion

Myers introduced the concept on anatomy trains, which in reality were the chains of fascia that covered muscles in various pathways in the body. Goodheart showed different methods of identifying imbalances in these fascia connections.

It became apparent that muscles are the driving force of the chains and that they are not limited to those described by Myers. Sports actions provide an excellent example of the interconnections of these chains of muscle activity.

Combining the concepts of reactive muscle, biomechanics and the sequential activation of muscles to perform intricate tasks has shown that imbalances in these complex actions can be easily diagnosed and corrected using applied kinesiology procedures.

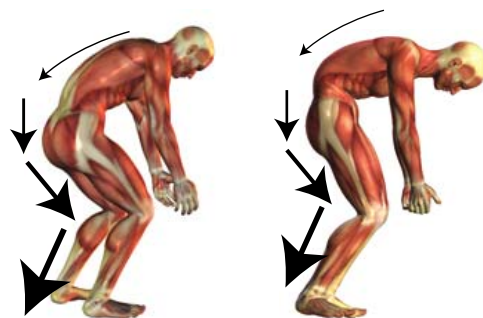
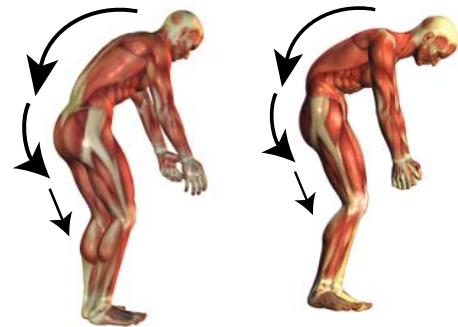
The failure of these muscle-firing sequences explains common returning problems and also allows the doctor to increase athletic performance.

An example of this concept is the muscle activity that is utilized in lifting. EMG studies have shown that there is a dramatic difference in the sequence of muscle activity depending upon the angle of flexion that the person is in.

The muscle firing sequence either begins with the gastrocnemius and spreads superior to the hamstrings, gluteus maximus and then the quadratus lumborum and the erector spinae muscles or does exactly the reverse sequence.

This change depends on the degree of flexion with that change occurring at 40 degrees.

In treating patients with recurring low back injuries from lifting there is a distinct need to determine which muscle is malfunctioning in this firing sequence. Testing of the



individual muscles will show a weakness but does not address the activity that occurs during the actual lifting process.

To find if there is a weakness in this muscle firing sequence, test a muscle at the end of the sequence and asked the patient activate the muscles. If there is a defect in the firing sequence you will find a weakness at the end of the chain.

For example testing a quadratus lumborum and finding it to be in an intact muscle, ask the person to attempt to contract the sequence from the gas dropped hamstrings gluteus maximus and see if the quadratus lumborum weakens. If it does, then one of the muscles in the sequence is either inhibited or over facilitated.

This was the first use of this firing sequence that I use in the office and in seminars.

This concept is easily applied to sports. But here the sequence is usually broken down into sections. In this way I want you to think of the pelvis the shoulders as stations in the concepts of Myers. For example in golf or tennis, the muscle firing sequence begins in the feet and extends through the body into the arms. There can be a muscular imbalance anywhere in the chain and to find the weakness in the chain presents a problem for the doctor.

If you break the biomechanical sequence into sections, you end up with areas that must be stable for the next section to fire properly. These are the pelvis and the shoulders. So while the forearm and hand muscles are the end of the firing chain, the forces applied need to be transmitted from the foot through to the pelvis, from the pelvis to the shoulder and then from the shoulder to the hands.

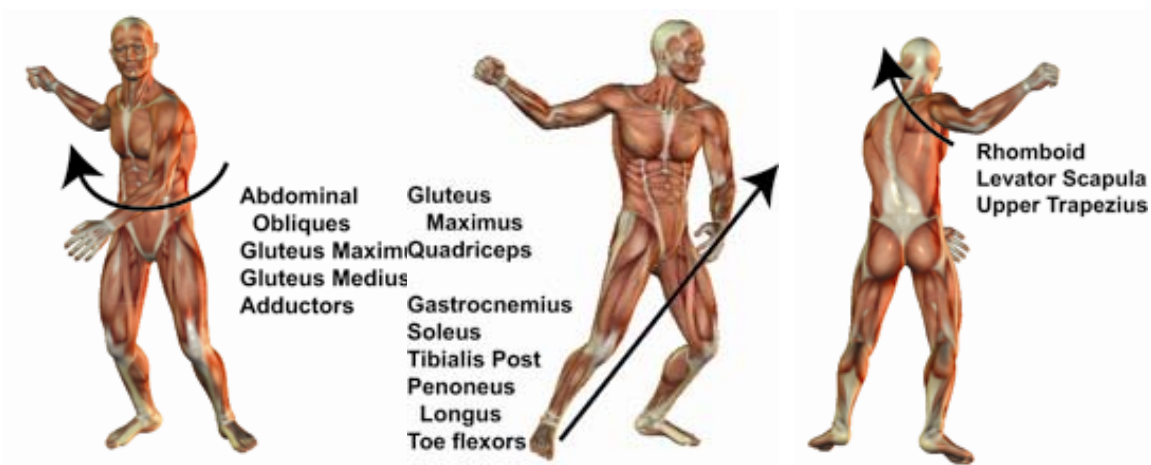
In both of these sports, the abdominal obliques are extremely important in transferring the force from the pelvis to the shoulder. From the thorax into the arm the muscle activity varies depending upon the motion of the arm.

For this paper, we will discuss the tennis forehand.

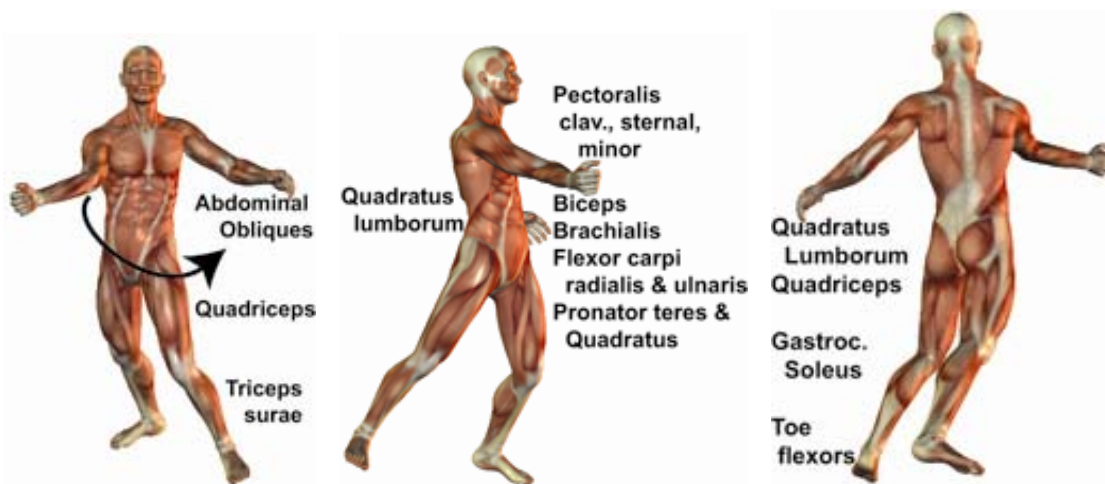
In the tennis forehand stroke, the muscle firing sequence begins from the foot and runs through the pelvis to the shoulder and forearm.

In the beginning, the first choice a player has is to use either an open or closed stance. The only difference in this discussion is when the legs contract to throw the player forward prior to hitting the ball. With the closed stance, the back legs fires first and in the open stance the contraction of the leg extensors is almost simultaneous. In either case, the torso and shoulders are turned approximately 45° by contraction of the abdominal obliques, gluteus medius, gluteus maximus and the adductors.

This causes a coiling of the abdomen and pelvis, which is combined with a slight knee bend. A combination of the anterior deltoid and the long head of the biceps bring the racket head back. The rhomboid, levator scapula and the upper trapezius, retracts the scapula so that the racket is held high above the level of the head.



Execution of this stroke is a combination of gravity and the elastic stored energy in the muscles, which have been stretched in the beginning position and then released. As the racket begins to drop, the pelvis is uncoiled. At this time, the hips and knees begin to straighten. An uncoiling of the torso by the abdominal oblique muscles, and then the shoulders follows this.



The rotational force comes from a coordinated contraction of the internal and external abdominal obliques, and on the right side, the pectoralis major, the gluteus maximus, the gluteus medius and the quadriceps. While this is occurring, the first the back leg is extended and then the front leg to drive the body upward and forward. This action begins with the toe flexors, the tibialis posterior, the peroneus longus, the soleus and gastrocnemius, the quadriceps and the gluteus maximus muscles. The racket is moved forward with contraction of the pectoralis (including the minor), anterior deltoid, biceps, brachialis and the forearm flexors. The pronator teres and quadratus contract to stabilize the radius and ulna. Spin is applied to the ball by contraction of the pronators and the flexor carpi ulnaris.

Following contact with the ball, the shoulders, torso and hips finish rotation towards the non-dominant side.

The testing sequence begins by determining which are the critical muscles that transfer the force and the end muscle of the firing chain.

For example, in the lower leg the foot pushes off and the muscles of the chain exert their pressure to move the pelvis. This force is then transmitted up to the thorax and the shoulders through the abdominal obliques. If there is an imbalance in this firing sequence then an intact abdominal oblique will test weak when the leg muscles are contracted as in propelling the body forward.

In the arm, the last major muscle group that fires is the flexors of the forearm, the flexor carpi radialis and ulnaris depending on the spin that the player attempts to put on the ball. If there is an imbalance in the firing sequence of the arm, the flexor muscles will test weak.

Likewise, the pectoral muscles are one of the first major muscles that fire in the shoulder to bring the racket forward. If there is an imbalance in the muscles that transmit the force from the pelvis to the shoulders, then the pectorals will test weak.

Think of the foot, pelvis and the shoulders as major “stations” along the chain of muscles that must fire to transfer force through the arm to the racket and finally to the ball.

A player may have one or more deficits in this firing sequence.

For any sport or physical activity, break the action into sections that start and end at one of these stations. Ask the person to contract the section being tested and either test the last muscle of the chain or the first of the next section. If there is a deficit in that section, the muscle will test inhibited.

Once a segment has been found to have a deficit, the problem becomes one of isolating where the problem is.

For years, the author has taught that musculoskeletal injuries revolve around an inhibited muscle, a synergistic muscle that must overwork to compensate for the failure of the prime mover and changes in the antagonist muscle that fall into the fascial problems described by Travell.

Goodheart described using pincer palpation to disclose muscles with trigger point problems. This includes muscles of the strain counterstrain nature and the Travell fascial problems. Both strain counterstrain and fascial problem muscles contain trigger points. The usual pattern is for the muscle that follows the inhibited muscle will be found to be over working and a strain counterstrain type of muscle. In essence a muscle that when tested will test strong but weaken when the muscle is maximally contracted and then immediately tested again.

Once the inhibited muscle has been isolated and corrected, the following synergistic

muscle needs to be corrected using the strain counterstrain procedure of Jones' and Goodheart.

Attention then shifts to identifying the antagonist muscle that will have shortened and have the fascia problem.

Once these muscle imbalances have been corrected. The pattern of muscle activity needs to be reinforced by performing a PNF procedure. These proprioceptive facilitation patterns help to normalize both spindle cell and golgi tendon organ functions.

Finally, the spine should be examined for imbalances at the nerve supply to the muscles involved to "lock" in the corrections attained.

The whole pattern of activity should be tested for to make sure that there are no "weak links" in the chain of muscle firing.

An example of this testing procedure was recently done by the author at a ski resort. A patient was presented for treatment that had residual weakness in the right leg. He had prior surgery to repair a patella tendon tear. The quadriceps failed to fire properly but responded to treatment to the scar and massage to the patella tendon. The person was then asked to bend and make repeated turns as he would on the slope. Testing of the gluteus medius and the lateral hamstrings showed marked weakness after he performed six consecutive turns.

Further testing showed that contraction of the toe flexors on the right foot caused inhibition of the gluteus medius and the lateral hamstrings. Utilizing the concept that there is a triad of findings that are consistently found, a search was done to find the inhibited muscle that would cause the toe flexors to have to over contract. The tibialis posterior was found to be the offending muscle. After normalizing the function of the tibialis posterior, a PNF procedure was performed on the lower leg. Finally, a spinal imbalance at the level of L-5 was corrected.

The next day, the skier competed in a super G race at the European level, just under the professionals, against 40 other skiers and won the race.

Conclusion

This line of thought and examination can and should be applied to all activities. This could be the elderly person who has difficulty getting up from a sitting position or the skilled athlete that is competing for an Olympic medal.

The key is to first test and correct any muscle weakness pattern found. Next, break the muscle firing chain down into logical sections. Test each section under stress to find which is the weakest link. Then either pincer palpate or do reactive muscle testing for the muscles that fire in that section. Then correct the imbalances found, repattern the firing sequence and correct any related spinal imbalances.

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Muscle Chains
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Observations on Parasites and Their Treatment

Brian Llewellyn, B.S., D.C.

Abstract

The following article outlines many conditions and ailments found in general practice that well could have other etiologies, but are often related to parasite infections as discerned through Applied Kinesiology protocols.

Key Indexing Terms

Parasites, Round Worms, Nematodes, Tape Worms, Cestodes, Flukes, Trematodes, Protozoa, Sporozans

Discussion

For some unknown reason the concept of parasitism in mainstream allopathy has fallen to an almost non-existent clinical reality. While I was made aware of parasites as a clinical possibility by Dr. Michael Lebowitz back when I was just starting practice, I am still dismayed that the basic Applied Kinesiology membership has not put forward more clinical observance or advancements towards the elucidation of parasites. My own experience had been that prior to the second week of January 1995, the prevalence of parasitic infection was rather small, averaging one or two suspected cases per month. Please bear in mind that our collected diagnostic methods were rather limited almost 20 years ago. Of the various nutritional companies each would have a signature anti-parasitic product like Nutriwest's Black Walnut or Thorne's Citricidin, etc. I, and most others, I presume, that with this range of several products, the bulk of the variety of parasite infections could be ascertained and treated. We all have some miraculous case of "colitis" that we have cured with one of these products.

However, that second week of January, 1995 induced a perceptual change in my thoughts on signs and symptoms and their causes. What happened was a sudden outbreak of flu-like symptoms in 16 patients in one week, all of which through the trial and error methods we employ in AK with nutritional products required wormwood product. The trend continued into the second week with another 14 cases, and I being among them. Prior to this event my detection rate was one or two parasite cases a month. There was a 50% chance of the patient being either a cat or horse owner. The rest fell into long-term digestive symptomatology or some known event like a "food poisoning". The distribution of these sick patients didn't follow the 50% cat/horse relationship and were geographically diverse. Those of you from Michigan who were attending the AK seminars in the early years may know Dr. Harry O. Eidenier, Jr. Somehow I was of the belief that Dr. Eidenier, while although the Michigan/Ohio Standard Process representative, was academically a parasitologist. I gave him a call and when I described

my current outbreak Dr. Eidenier explained that when there is a sudden jump like this it is possible and probable that there has been a breach in the municipal water system, where contaminated water has made it into the clean end of the filtration system. What then happens is that "little percentage" of total dissolved solids (TDS), some of which is feces, over time in the old and large municipal systems will accumulate in the water mains which becomes the food source of the parasite. Thereby the whole water system becomes as a giant intestine serving up parasite, egg-laden drinking water. Dr. Eidenier went on to describe that this is eventually the fate of old and large municipal systems, especially like those found in Europe, hence their populations' "awareness" in drinking bottled water. Technology exists to filter parasitic cysts called "ultra-filtration" but is often retrofitted long after a contaminating breach. As you may imagine, cleaning a city's entire plumbing network, let alone the litigation to follow the admittance of such an event, would be near impossible. So the general state of affairs is, our drinking water arrives at our tap by flowing miles over a layer of feces. A recent article in the Detroit Free Press calculated that the consumption of one litre a day of Detroit City water, which prides itself on having low TDS compared to other municipalities, would in one-year's time cause one to drink one kilo of E-Coli.

Dr. Eidenier further explained that due to the above reasons the state of parasite contamination through this system would henceforth be permanent. I must admit that I did not believe him, nor want to, however, in a short time span this particular parasite become a daily 50% finding in my patient population which persisted for several years only to diminish again. This experience showed me a huge number of cases of which the signs and symptoms we could have been quick to dismiss as the flu, only to have their true causation to have been a parasite. This led to the speculation when a patient had flu-like symptoms but did not test for one of the several nutritional products, was it still possibly a parasite, but just one that fell outside the therapeutic range of one of our limited anti-parasitic products. I then proceeded to gather a plethora of medicinal herb books¹ and collect any herb that had any reputed use for any of the signs and symptoms of flu or to have actually been historically used in an anti-parasitic or anti-dysentery role. [Side note: I noticed a general trend that two-thirds of the herbs that have historical anti-parasitic properties are also the same herbs used in cancer]. It was one and a half years into the so-called parasite explosion that a colleague, through AK muscle testing, found a parasite on me that virtually cured my eight years of GERD in three days. This experience has led to something of an epiphany as to what are the roots to many of the daily symptoms we encounter. I have come to some general concepts, one of which is what we call the "flu", is almost never a viral entity. Consider what we diagnose as the flu is really just a constellation of symptoms with some variability thrown in, such as with or without vomiting or diarrhea and fever and malaise. So if it is vomiting, "the stomach flu" and if it lasts only 24 hours it may be the "24 hour stomach flu". What dogma! It could be a viral entity. It could be food poisoning. It could be a number of things, but to blindly ascribe these symptoms as "flu" is folly. I have seen with high percentage of success in treatment that the signs and symptoms of parasites to include:

- . Flu signs and symptoms
- . Cough, productive or non-productive

- . Diarrhea or constipation
- . Irritable bowel syndrome
- . Colitis
- . Iliac sprue
- . Lupus
- . All manner of psoriasis, rashes or acne
- . Vomiting
- . Heartburn
- . Adrenal fatigue/Cat II, fallen arches to knee pain
- . Anyone who does not promptly respond to your vitamin therapy
- . Itching nose and sneezing
- . Asthma (nearly 100%)
- . Brain lesions
- . Low back pain
- . Gas
- . Nausea
- . Food allergies
- . Anemia, both types
- . Tired/toxic
- . Diabetes II (nearly 100%)
- . Crohn's
- . Fibromyalgia
- . Eosinophilia
- . Bipolar

Dr. Goodheart once told me, "If you want to impress me, make a quad go weak". I want all of you reading this to know that in its entirety these procedures were accomplished and filtered through the use of a quadriceps, in part due to the organ relationship of small intestine, but mostly to pass the Dr. Goodheart test.

Please understand that since by definition a parasite does not go away, acute symptoms can be different than when chronic.

Procedures

When I was just starting to figure out what parasites went with what signs and symptoms and match those to what were relevant to AK, as it turned out, many, if not all of the parasites, tend to have their own unique two-point address. For example, chilomastix will muscle test with Therapy Localization (TL)² to the small intestine neurolymphatic (NL) on the rib border and simultaneous TL to the large intestine alarm point. Note that a bilateral weak PMC from a TL to the SI NL rib can be either Angelica or Hyssop with the symptom of heart burn. The last one I'll mention is LV NL crossed Lung NL with the use of Pleurisy Root.

However, there is a generalized test which I deem to be about 85% accurate for the presence of parasites and that is to actually do a three-point TL but which can be

accomplished with two hands--TL small intestine NL on the rib cage border and simultaneous TL to both small intestine and large intestine NL and lateral and medial thigh. An indicator muscle generally related to a digestive organ (including liver) should weaken. However, as more experience was gained, due to a particular parasite's affinity to disrupt one organ over another, there are cases where only a specific indicator is most often used, as in the case for lung with asthma and latissimus dorsi with diabetes.

Step 1.

Are there signs and symptoms?

Perform the three-point TL and observe the result.

(Consider K27-SP21 switching)

Step 2.

Now the task as to which parasite and what herbal recipe correlates to it. At least half of this work was done before the availability of "parasite kits" so many of the multiple NL specific addresses that a specific parasite would generate and the attendant herbal cures were clinically worked out without an identity being assigned to the parasite. The result was to name many clinical reproducible patterns after the herbal cure, such as the "tansy bug" or the "juniper bug". I eventually worked out approximately 80 different TL patterns to match an herbal remedy recipe.

The next task is to utilize a kit which is a collection of homeopathic nosodes of the specific parasites. There are some caveats to remember with their use. One is the "on the body testing" which is probably less sensitive than gustatory methods, but I do not think any patients are going to let me put a sample of ground up tapeworm on their tongue, even if such samples were available. Secondly, the kits developed so far have the samples homeopathically potentized to one degree or another, which may have shifted it into a therapeutic range for a patient. The result could be weak indicator muscles going strong or the reverse depending on the situation. To circumvent this problem the practitioner would have to check for both conditions every test. The two kits I am aware of and would recommend are those from metabolics.co.uk and Dr. Michael Lebowitz. He can be reached at aktestkits@aol.com or 1-888-323-0625.

The third option is a device which came to my awareness through Dr. Carl Amadio called a Holopathic Imprinter. Most of us have encountered small units that perhaps run on a battery that will make a new remedy from copying the master sample. So evidently, it must be possible for there to be an "electrical" method of production. The Holopathic Imprinter was built by Ron Brown, a NASA aerospace engineer, at the behest of Dr. Theodore Baroody. Dr. Baroody's book, *Holographic Health*, Volume 3,³ contains code numbers that represent thousands of items such as parasites, bacteria, viruses, foods, allergens, metals, toxins, hormones, etc., that can be dialed into the imprinter and be electrically duplicated. There are several controversies pertaining to this device, i.e, is it possible that all matter has an attendant frequency. Secondly, Dr. Baroody has supplied the frequencies in the form of a code which his derivation of, to my knowledge, has been proprietary. So I gambled on the purchase of an Imprinter and endeavored to create all

the pathogens available from Dr. Baroody's book. Another feature of the Imprinter is the capacity to set the strength or the potency of the remedy. I made all other remedies at a 0 level which makes them equal to what would be known in homeopathy as the mother tincture. This would be the starting concentration that had not yet been potentized. This eliminated the double test required of the other kits. We now have to corroborate that these remedies are representative of what they are supposed to be. When I started to use these remedies, if when I found a "positive" on muscle testing I always tried to cross-reference the finding to one of the other kits providing that there was a match. I have yet to encounter a failure in compliance even against some of my samples that are the actual substance. I am satisfied that the code numbers which Dr. Baroody supplies are, indeed, accurate representatives and that the Imprinter can generate these in an effective, reproducible manner.

Step 3.

We can derive the parasite with their reflex addresses, which is time-consuming, or TL the test kit samples and cross-reference the parasite to its remedy. Now multiple entities can be screened for very quickly. They can be put into a bag and trial-and-error separated into a final sample. This extra bit of data helps in the treatment because one now has the name of the parasite, which affords us with some insight into how extensive a process it will be to match it to remedies. By this I mean the single cell parasite usually only need one remedy to dispatch them. However, worms, and particularly flukes, have so many larval/intermediate stages that they usually require a different herb for each stage. If the kit has the stages separated out it greatly simplifies the process. I had to conclude my recipes were incomplete due to repetitive failures until the complete group of herbs for all the stages were elucidated. The good news is I have already done that for most of the parasites in the kits. In order to find any herbal recipe, a patient has actually to be stricken with that parasite.

Step 4.

Treatment. Supply the herbs listed. If the herb is in tincture form, I have found that dosage of one-half eyedropper full QID and if tablet or capsule form then 2 QID. If taken at these quantities then a 1 oz. tincture will be mostly used up in one week's duration. For quite some time I had patients return to validate the parasite's elimination, but a failure to eliminate them was rare. I usually leave it up to the patient if they are not substantially symptomatically changed to return. If they still are infected, several questions arise. Did they take the remedies in sufficient amounts? Did they get re-infected as fast as they cleared? This is where some more history taking and questions about family members with the same symptoms need looking into, etc. Some clinicians feel that boiling bed clothes and other austerities need employing. Do they kiss the dog or horse, etc.? A larger patient or one that is rather debilitated may need higher doses and, for babies, one-quarter to one-half eyedropper and one-half on the tablets or capsules. Be advised that the dose cannot get too small or the concentration will be too dilute to be effective.

Conclusion

It has literally reached the point that I collect herb species even if there is no apparent reason or known affinity for anti-parasiticism because I have often found that there are occasions when one herb and only one herb will suffice for my entire library. In these cases I am grateful to have it on hand to help the patient as well as to further the knowledge base. One example that comes to mind was for Anaplasma Marginale contained in Metabolic's kit. It is actually a Rickettsia, so, therefore, the same family as Lyme's. The only herb I have found to date to be effective is quack grass aka couch grass. At least one vector I am sure of for the Anaplasma is those new Asian lady bugs. I have seen this infection by the dozens and even multiple times in the same season. One does not escape these beetles even in the winter as they are still crawling about, however, without their regular food source.

We in the AK community have become very adept at protocol to find various nutritional deficiencies, though I feel we have lost sight of why these deficiencies exist in the first place. Why isn't every patient just cured by giving them a complete multi-vitamin? Many of them come in already taking a suitcase full of them! I have learned to look first to the causes of malabsorption. I find parasites to be by far the largest reason, followed by and usually less severe molds and then bacteria/virus. There are rarely cases where the malabsorption is just due to folic acid, co-Q 10, probiotics, etc. I used to see this kind of easy resolution before 1995 but not anymore. It is entirely possible that in your area the general population is not so exposed and parasitism could be infrequent.

Many of the species in the kits are not supposed to be in humans or the last reported case was 1939 or some such thing. I have found many of these in droves, while others are generally rare, but do not be put off by what the textbook says. I also believe all the vector mechanisms are very incomplete. Two of my good friends who boar hunt both had Trichinella. Another 10 year old patient contracted a tapeworm while gutting a deer. Whatever this species is it was not in the kit. Another patient last December had some type of Filarial worms and gained over 75 pounds in one month's duration. Upon eliminating the worms, he lost 64 pounds in four days. A couple of times a year, a patient having been through a battery of tests to ascertain why they have anemia the only medical answers are bleeding or cancer however they could not find either. An adult pinworm can eat a c.c. of blood a day.

I read a brief news flash in a science magazine some years ago so I am sorry I do not have the reference, but they stated "scientists have discovered the first parasite secreting a neuropeptide". They did not mention which parasite or the peptide. Dr. Harry Eidenier, Jr. mentioned that the stool tests performed by hospitals are approximately only 10% effective in finding parasites. So do not be swayed that since a patient's stool was checked after a trip to Mexico that there still is not a parasite present.

Over time the need occasionally arises to employ "tricks" which are nothing more than enhancements to the original challenge with the parasite sample. Some of the worms seem to disturb B12 metabolism yet the patient will not test for the parasite unless also in

contact or tasting B12. Another variable is due to some immune mechanism whereby the parasite was first ingested along with a particular food. The test will not respond unless the food is tested along with the parasite. The patient will usually be knowingly allergic to that food and often remember the event like a food poisoning, that, however, the symptoms persisted. Sometimes it is necessary to TL the area of a patient's complaint or even to touch the vial from the kit to the symptomatic area. Occasionally some odd symptom ends up resulting from the infection. I have stated before that I am a big advocate of the body's ability to manifest what we describe in AK as "layers". I have seen layers develop from trauma, sickness, and pharmaceuticals. If you are unable to elicit a positive response in a suspected case, reconsider the history. Has the parasite symptomatology been around longer than the advent of the new trauma or the initiation of a new medical prescription? It is not uncommon at all in my experience to find a patient infected with multiple parasites. It can only take one parasite to become very sick but usually the more debilitated, the greater the chance of multiple entities. There seems to be a pattern that manifests in order of parasites first followed by fungal infections, then bacteria/virus. This type of thing is what you will find in colitis and sprue-type cases. I do not give the symptoms a "name", it is just a level of digestive dysfunction and how did it get that way. I would also like to offer a reminder to check for switching in suspect cases and possibly review my paper entitled "Total Switching"⁴.

Many of the parasites are microscopic, but on rare occasions a patient may pass in the stool a pile of worms.

As to the toxicity of the herbs themselves, I have only run into trouble a few times. Once was with wormwood when a patient started to develop jaundice. We stopped the herbs and were able to deduce that the patient, being a vegetarian, was deficient in an amino acid. You have to consider that due to the leaky gut syndrome that all the parasites seem to initiate, a patient's detoxification pathways could be very overloaded. The other herb that has been trouble on two occasions is tansy. The effects of alcohol consumption will be greatly magnified when taking tansy. The second problem encountered with tansy is it will induce nausea and bellyache but only after its usefulness had been served in eradicating the parasite. So tell a patient to watch for an immediate sensation of nausea or bellyache that initially goes away but with each dose get progressively worse. Once again, the body tells you to stop, but the signs and symptoms of what tansy kills will be greatly improved first which is asthma! Yes, asthma is a condition of a specific parasite 99% of the time. In my experience since this discovery the adrenal/bronchospasm mediated etiology represents a huge minority as the primary mechanism. I have stopped asthma symptoms many times with a one-ounce tincture of tansy in one week's duration. The problem which arises is that this parasite has an airborne transmission and with roughly 50% of the students in the United States now presenting with asthma, it is near impossible to keep them from re-infection until keeping them away from that infected 50%. One symptom with initial onset is laryngitis and it may take years but it eventually becomes asthma. I have found a fair percentage of smokers have the parasite without obvious asthma. My suspicion is that the smoke inhibits the parasite's action in the lungs.

The same general situation applies to juniper berry, as I find it in nearly 100% of Type II diabetics. The results are not as dramatic as there are many multi-factoral influences simultaneously impacting the disease's resolution, i.e., the patient's diet, how long and how much insulin have they been on, etc; however the less severe and lesser duration enhance outcomes. I routinely get some reduction in symptoms, as in eliminating the pharmaceutical or insulin usage. The malabsorptive state induced by the parasite results in a B complex deficiency and, hence, the inefficient carbohydrate metabolism at the cellular level. Supplementing B complex is not the same as absorbing it. This issue and how I determine absorption really should be expounded upon in a separate paper. One must also be aware of inducing a Herxheimer reaction. These, if developing at all, can be ameliorated by increasing bowel function, water, and possibly Vitamin C. The effect of the parasite infection can exist past their elimination. The hope for symptomatic relief, if not achieved, may require nutritional products that are generally known to function as gut cleaners. This list could be enzymes, fibers, or probiotics, to name a few. I find that these will not test positive if there is another parasite present. If you try a multitude of these products on a still-symptomatic patient and do not find any of them to be effective, consider there is still another entity in the GI tract.

The experience of the elucidation of the parasite, fungal infections, and bacterial/viral infections, has led me to the conclusion that the concept of autoimmune disease is false. The body does not attack itself. Once you have the techniques and the tools, one is usually able to find the infectious agents lingering. Lupus is categorized as an autoimmune disease, and has as one of its symptoms the eventual scarring of the intestines. Ask yourself, what tissue is the interface between the blood-borne immune system machinery and the cavity occupied by parasites?

I feel that if you have difficulty treating any of the symptom list and you have not addressed the possibility of parasiticism, you will find it rewarding and, possibly, eye-opening as to the magnitude of their involvement in a myriad of ailments.

“Llewellyn’s List” of infections, remedies and comments follows along with product key codes.

Llewellyn’s List

Cestodes (Tape Worms)

Diphylidium caninum.

Remedies: Wormwood (PH), Clove (PH), may need to TL enzymes, eczema.

Diphyllobothrium.

Remedies: Black Walnut (PH), Clove (PH), Pumpkin Seed (PH), Olive Leaf (PH), Rue (PH).

Gyrodactylus.

Remedies: Clove (PH), Greasewood (PH).

Heterophytes.

Remedies: Spirulina (PH), Wormwood (Artemisia Absinthium) (HPH), Turmeric (HPH).

Hymenolepis Cysticercoides.

Remedies: Black Walnut (PH), Rue (PH), Hydrangea (PH), Greasewood (PH).

Note: There is some overlap in this recipe so try them individually against the test vials.

Echinococcus multilocularis granulosus.

Remedies: Black Walnut (PH), Mugwort (PH), or try Hydrangea (PH), Greasewood (PH), Clove (PH).

Fischoedrins elongatus.

Remedies: Clove (PH), Greasewood (PH).

Hymenolepis nana.

Remedies: Unresolved.

Hymenolepis diminuta.

Remedies: Black Walnut (PH), Mugwort (PH), Rue (PH), Hydrangea (PH) Clove (PH), Pau D' Arco (G),

Note: May be some overlap, S/S bloody nose, may need to TL B 12.

Moniezia expansa.

Remedies: Black Walnut (PH), Pumpkin Seed (PH).

Note: May be an incomplete recipe.

Multiceps serialis.

Remedies: Hydrangea (PH), Greasewood (PH), Clove (PH).

Pigion Tapeworm.

Remedies: Hydrangea (PH), Greasewood (PH).

Taenia saginata.

Remedies: Black Currant (PH), Clove (PH).

Note: Beef tapeworm, may need to TL HCl.

Taenia pisiformis.

Remedies: Black Walnut (PH), Clove (PH), Hydrangea (PH), Greasewood (PH), Damiana (PH), Yerba Santa (HPH).

Note: May be some overlap, may need to TL enzymes.

Taenia solium.

Remedies: Hydrangea (PH), Greasewood (PH), Clove (PH).

Notes: Pork tape worm; dangerous as it can encyst in the brain and is then possible to have toxic reactions once treatment begins. I have not had this happen in the 2 or 3 cases I have seen.

Nematodes (Round Worms)

Acanthocephalan.

Remedies: Olive leaf (PH), Mugwort (PH) or Wormwood (KH), Maca (PH), Motherwort (PH).

Ancylostoma duodenaler habiditiform.

Remedies: Lemon balm (WW)

Note: Watch for re-hatch in 2 weeks.

Ancylostoma duodenale filariform.

Remedies: Cleavers (PH).

Ancylostoma caninium.

Remedies: Male fern (PH), Clove (PH), Black Walnut (PH), Chuchuhuasi (PH).

Ancylostoma braziliense.

Remedies: Goats Rue (WW).

Ascaris lumbricoides.

Remedies: Black Walnut (PH), Mugwort (PH), Clove (PH).

Note: Have to watch for hatching 9 or 10 days after the 1 weeks treatment ends.

Enterobius vermicularis.

Remedies: Rue (PH), Clove (PH), Safflower (PH).

Capillaria hepatica.

Remedies: Wormwood (artemesia absinthium only) (HPH), Clove (PH), Cocoa.

Note: May need to TL amino acids, text book says S/S of Lv.

Dipetalonema perstans.

Remedies: Black Walnut (PH), Hops (PH), Pumpkin seed (PH).

Note: G.E.R.D.

Dirofilaria immitis.

Remedies: Catnip (PH), Pumpkin (PH), Virginia Snake Root (PH).

Note: Dog heart worm, in humans does not mature at the heart, but remains in a larval stage in the lungs. Is mosquito bourne.

Hookworm.

Remedies: Black Walnut (PH), Cloves (PH)

Note: Anemia.

Loiasis.

Remedies: Golden Bough(PH), Cranesbill (PH).

Macracanthor-hynchus, hirudinaceus.

Remedies: Black Walnut (PH), Thyme (PH), Clove (PH).

Necator americanus.

Remedies: Black Walnut (PH), Goats Rue (HPH), Clove (PH).

Note: May have to TL adrenal tissue.

Onchocerca volvulus.

Remedies: Black Walnut (PH), Plantain (PH), Clove (PH).

Onchorciasis.

Remedies: Black Walnut (PH), Clove (PH), Plantain (PH).

Stephanarus dentalus.

Remedies: Horsetail tincture only (PH), Usnea (PH), Mullein (PH).

Note: Pig, kd worm.

Strongyloid stercoralis and larvae.

Remedies: Black walnut (PH), Sundew (PH).

Note: Heart racing, weight loss, anorexia, Lv S/S, dry cough as if breathing cold air.

Strongyloid filariform.

Remedies: Cayenne (PH), Golden Seal (PH), Sheep Sorrel (PH), Witch Hazel (HPH).

Toxocara canis.

Remedies: Turmeric (PH), Mayapple (PH), Clove (PH).

Trichuriasis.

Remedies: Black Walnut (PH), Rue (PH), Clove (PH).

Trichuris trichiura.

Remedies: Black Walnut (PH), Rue (PH), Clove (PH).

Trichinella spiralis.

Remedies: Bilberry (PH), Black Walnut (PH), Lapacho (PH), Mullein (PH), Sanicle (PH).

Protozoa

Acanthamoeba culbertsoni.

Remedies: Bloodroot (HPH).

Notes: Corneal, skin infection.

Amoeba limax.

Remedies: Yarrow.

Balantidium coli trophozoite and cysts.

Remedies: Osha (PH), Oregon grape (PH).

Blastohominis.

Remedies: Schisandra (HPH).

Note: Found in swine primarily.

Chilomastix mesnili.

Remedies: Carpenter's Square (PH) AKA Figwort.

Note: I feel this is endemic to Detroit water I used to catch this almost weekly. The first day, you may get heart burn and your meal won't digest for hours. There will usually be an episode of diarrhea that night and the condition will evolve into fever of 102, severe productive cough and malaise. Having contracted this myself so many times, the symptom progression will move right into a chronic phase, with the first days S/S being the same, but the second day I get a head ache. I usually figure it out without too much more suffering and drown myself with carpenter's square. I have never been so sick in my life as I once was from this parasite. It would be unusual to not have at least 1 or 2 patients per week with this entity. The reflex address of this bug is LI Alarm x Lv NL.

Chilomonas.

Remedies: Oregano leaf, not oil (G).

Chlamydia.

Remedies: Unresolved.

Crithidia fasciculata.

Remedies: Tansy (PH).

Cryptosporidium.

Remedies: Thuja (HPH).

Note: May need to TL Kd.

Dientamoeba fragilis.

Remedies: Sweet root (PH).

Endolimax nana trophozoites and cysts.

Remedies: ChuanXinLian (WWH) AKA Andrographis paniculata

Note: puritis ani

Entamoeba coli trophozoites and cysts.

Remedies: Yarrow (PH) or Cinnamon (HPH).

Note: Heart burn.

Entamoeba hartmanni trophozites and cysts.
Remedies: Yarrow (PH) and Cinnamon (HPH).

Entamoeba histolytica trophozites and cysts.
Remedies: Yarrow (PH) and Cinnamon (HPH).

Giardia lamblia trophozites and cysts.
Remedies: Skullcap (HP) Peppermint leaf (PH), Carpenter's Square (PH), Garlic (PH).

Iodamoeba butschlii trophozites and cysts.
Remedies: Cinnamon (HPH) or Feverfew (PH), Fennel (PH).
Note: Very common and causes heart burn. The reflex address is SI Alarm x LgI Alarm.

Leishmania donovani, mexicana, tropica.
Remedies: Feverfew (PH).

Leishmaninsis americanus.
Remedies: Fennel (PH).

Leptospirosis.
Remedies: Feverfew (PH), Una de Gato (PH).
Note: Swollen lips.

Naegleria fowleri.
Remedies: Celandine (PH).

Pneumocystis carinii.
Remedies: Gotu kola (PH), Inkberry (PH).
Note: Sensitive teeth, challenge by tapping tooth with finger nail and eventually supplement with cobalt.

Termite flagellates.
Remedies: Entero concentrate (PL).
Note: May need to TL Vit C.

Trichomonas vaginalis, muris.
Remedies: Blood root / Red root (PH).

Trypanisoma africana.
Remedies: Gotu kola (PH).

Trypanosome.
Remedies: Gotu kola (PH) , False Unicorn (PH), Thyme (PH).
Note: May have to TL enterotrophin (SP).

Trematodes (Flukes)

Bdelloura.

Remedies: Blessed Thistle (PH).

Clonorchis.

Remedies: Black Walnut (PH), Bugle Weed (PH), Burdock (PH), Khella (HPH), Clove (PH).

Cryptoclyle lingua.

Remedies: Black Currant (PH), Witch Hazel (HPH).

Note: May need to TL Lv tissue.

Echinostoma trivolvis.

Remedies: Black Walnut (PH), Milk Weed (PH).

Note: May need to TL small intestine tissue.

Eurytrema pancreaticum.

Remedies: Myrrh Gum (NWay), Muira Puama (G or HPH), Clove (PH), Black Walnut (PH).

Note: May be incomplete, may need to TL pancreas tissue.

Fasciolopsis buski.

Remedies: Black Walnut (PH), Clove (PH), Wood Betony (PH).

Fasciola hepatica.

Remedies: Black Walnut (PH), Mugwort (PH), Cloves (PH).

Gastrothylax elongotis.

Remedies: Black Walnut (PH), Cloves (PH), Witch Hazel (HPH), Golden Bough (PH), Oregano leaf (G), Carpenter's Square (PH).

Note: May need to TL Vit C.

Heterophytes.

Remedies: Bayberry (PH).

Metagonimus.

Remedies: Unresolved.

Notocotylus quinqueserialis.

Remedies: Black Walnut (PH), Clove (PH), Garlic (PH), Thyme (PH), Oregon Grape (PH), Mullein (PH).

Neobened melleni.

Remedies: Bacopa (T), Clove (PH).

Paragonimus.

Remedies: Hydrangea (PH), Greasewood (PH).

Platynosomum fastosum.

Remedies: Black Walnut (PH), Clove (PH), Bayberry (PH), Berbercap (T).

Schistosoma haematobium, japon, mansoni.

Remedies: Hops (PH), Clove (PH), Peppermint leaf (not oil) (PH).

Sporocysts.

Remedies: Black Walnut (PH), Clove (PH), Carpenter's Square (PH), Spikenard (PH)

Urocleidus.

Remedies: Licorice Root (PH).

Sporozans

Besnotia.

Remedies: Angelica (PH).

Note: Supposed to be in cattle and not particularly in the U.S. I find in kidneys. May need to TL kidney or NL.

Cryptosporidium.

Remedies: Thuja (HPH).

Note: May need to TL kidney.

Emeriastiedea or Tenella.

Remedies: Olive Leaf (PH).

Note: I have found not all olive leaf brands to be effective.

Gregarines (various or vegetative).

Remedies: Witch Hazel (HPH), Cayenne (NWay), Goldenseal (PH), Sheep Sorrel (PH).

Note: Only supposed to be in invertebrates especially beetles, can have upwards of 10 forms.

Hemogregariens.

Remedies: Same as above.

Haemoproteus.

Remedies: Black Currant (PH).

Histomonas meleagridis.

Remedies: Spirulina. (PH),

Infusoria.

Remedies: Echinacea (PH) or Mullien Leaf (PH).

Monocystis agilis.
Remedies: Burdock (PH).

Opalina trophozites.
Remedies: Bistort (PH).

Sarcocystis cervi, cysts.
Remedies: Spikenard (PH), Clove (PH).

Leucocytozoon.
Remedies: Chickweed (PH).
Note: Just in birds.

Toxoplasma.
Remedies: Burdock (PH), Butterbur (G).
Note: Butterbur has become an endangered plant and may be unavailable.

Product Key Codes for Llewellyn's List

G - Gaia Herbs
HPH- Herb Pharm
NWay – Nature's Way
PH – Pure Herbs
PL – Progressive labs
T – Thorne Research
WW – Wise Woman Herbals

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Observations on Parasites and Their Treatment
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Case History: Debilitation Caused by Ileocecal Valve Dysfunction in a Late Teen

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Abstract

Objective is to share a case history of an Ileocecal valve syndrome and its ability to confuse clinicians while causing debilitation and mystery illness in a patient. Over the years several patients have presented with conditions that are unexplained by conventional laboratory testing, analysis, and standard medical examination procedures, leaving the clinician in mystery and the patient hopeless as the afflictions fell short of pathology and were indeed functional illness. Applied kinesiology examination and procedures augment and clarify these cases and may make diagnosis fruitful, allowing the clinician to take appropriate action and assist the body in healing. Thus assisting patients in healing who may have lost hope. Ileocecal valve dysfunction should be ruled out in all patients presenting with mystery and routine illness.

Key Indexing Terms

Chiropractic, Applied Kinesiology, Herbs, Manual Muscle Text, MMT, Nutrition, Physiological Phenomena, Functional Medicine, Large Intestine, Colon, Ileocecal Valve

Introduction

The digestive tract contains several functional valves; These include Iliocecal, Cecal colic, Valve of Houston, Cardiac sphincter, Lower esophageal sphincter, and anus. Anatomic knowledge has dominated clinical practice at a cost of ignoring possible functions of these structures. More commonly clinicians mainly look for anatomic pathology. Only those trained to understand that functional illness precedes poor function and then leads to pathology actually look for it. The presentations that are considered significant are only those relating to the stomach with little acknowledgement of those in the large bowel except for cancer and inflammatory bowel conditions. In clinical practice more attention must be paid to the abnormal physiology of a structure as it relates to history and presentation. The iliocecal valve is such a structure. Very little attention is paid to it during a clinician's education of any disciplines and training and connection to its relationship to patient presentation fail to be made many times due to its' remoteness. The incidence and number of possible disorders relating to valve dysfunction and reported anecdotally are too numerous to list but in clinical practice include, various types of inflammatory conditions, flu like symptoms, exhaustion, bursitis, sinusitis, and others.

Jargon relating to Ileocecal valve.

The Ileocecal valve also abbreviated “ICV”, is located at the junction of the ileum and cecum. As it has been demonstrated to be a functional valve it opens and closes. “Open” means the opening is dilated. And “closed” means the orifice is approximated or contracted so nothing can pass through. However normal functions may occur inappropriately and create symptoms. Manipulation of the valve involves opening or closing it manually. “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 diagnostic palpatory line located bilaterally on the skull near the temporal and sphenoidal areas. The clinical palpates this line for nodules that correspond with muscle and possible organ imbalance.

Case Report

A 16 year old male was taken to the emergency department after flying via airline to a city to visit a college. He had a sudden onset of extreme fatigue, malaise, and headache. At a local hospital an exam was performed and several labs were drawn and unremarkable. Infectious disease was appropriately ruled out and he was given a spinal tap which was negative. Finding nothing was hydrated, observed and sent home, with very minor improvement. Several days later his symptoms exacerbated and he presented to our office with a parent, ambulatory only with assistance.

Using standard medical physical examination and abdominal examination no abnormalities were detected, except for mild orthostatic hypotension and paradoxical pupillary dilation. However the TS line revealed a conditionally inhibited, right tensor facia lata which strengthened on TL to the ileocecal valve. The patient also had an instant reduction in his nagging unrelenting headache the second the valve was pulled closed (pulled supero-medially). He exclaimed, “my headache is gone! And he then sat up. When the valve was reopened - that is so as to pull infero-laterally while in the right lower quadrant of the abdomen in the area of McBurney’s point; his headache returned instantly. 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. These included neurovascular, lymphatic, and the acupuncture meridian connector point, bladder 58. The patient was then put on Nutri-West’s Chlorophyll plus, Total Enzymes, and DSF as these strengthened the TFL on gustatory challenge. At the conclusion of the visit, the headache was gone, energy, measured by the patient’s ability to ambulate unassisted improved as he could ambulate without assistance upon presentation, if only for short periods of time. He remarked that he generally felt better. His father amazed by the speed of recovery sat quietly with tears in his eyes. Over the next four weeks with interim visits the patient fully recovered and was discharged.

Discussion

There are many different spin offs of Standard Applied Kinesiology Management of an ileocecal valve syndrome. Our management consisted of following standards sets by the ICAK per Walther's Applied Kinesiology Synopsis. The standard indicator muscle is the right tensor fascia lata, the reflexes used were also standard.

While the ileocecal valve does not always give symptomatic pain at the anatomic location of the valve it must be differentiated from other conditions which would refer pain into the region around McBurney's point. These include disorders of the right ovary, mittelschmitz, appendicitis, inguinal hernia, and gastritis. Furthermore, a rather challenging differential diagnosis exists with a variety of problems that mimic valve dysfunction due to their remote, diffuse, or migratory nature including, shoulder pain, bursitis, flu symptoms, fever or unknown origin, unexplained halitosis, bowel movement appearance irregularities, small stool strands, balls, dark circles around eyes, estrogen dominance, extreme fatigue, croup, migratory gas pains, and headache. These problems must be considered and valve dysfunction should be ruled out after a search for pathology is fruitless. However, AK methods should be used first prior to more aggressive care being performed. This is stated because this patient had been previously admitted into two hospitals with extensive testing for infection and no positive findings on any lab. Frank pathology had been completely ruled out. Part of the work-up should have included an evaluation by an applied kinesiologist or an appropriate referral to one, after a life threatening illness was ruled out. Having an early examination for ileocecal valve involvement is a practical approach which will save thousands in unneeded lab testing.

Conclusion

The ileocecal valve syndrome represents a condition that has a broad and significant impact on a wide array of human biological functions. 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.

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Case History: Debilitation Caused by Ileocecal Valve Dysfunction in a Late Teen
Tyran G. Mincey, D.C., DIBAK

Eicosanoid Assessment with AK

Scott Monk, D.C.

Abstract

Eicosanoids are hormones present in each of the 70 trillion cells of the human body. Rather than endocrine hormones, like estrogen and testosterone, traveling throughout the blood stream, or paracrine hormones communicating between cells, eicosanoids are autocrine hormones. This means they work within the cells themselves, each one having its own special role to play. There are currently around 100 known eicosanoids¹ with names such as prostaglandins, leukotrienes, and thromboxanes. All cellular function (which means all human function) is based on these elusive chemicals. The balance between eicosanoids either enhances or degrades health. Most of the top-ten causes of death directly relate to eicosanoid imbalances, including heart disease, hypertension, type 2 diabetes, inflammatory diseases, auto-immune diseases, cancer, depression, and many more.^{2 3 4 5}

Introduction

The things that make us sick are the same things that accelerate aging. The reason this is so is because all diseases and functional imbalances originate from dysfunction in the cells. When cells are stressed, replication increases and total cellular lifespan decreases. Slowing biological aging begins with a strong defense of DNA against inflammatory assault. The main threats come from oxidation-generated free radicals, poor cellular methylation, a skewed nitric oxide system and inadequate levels of good eicosanoids.

Anti-Aging = DNA Protection

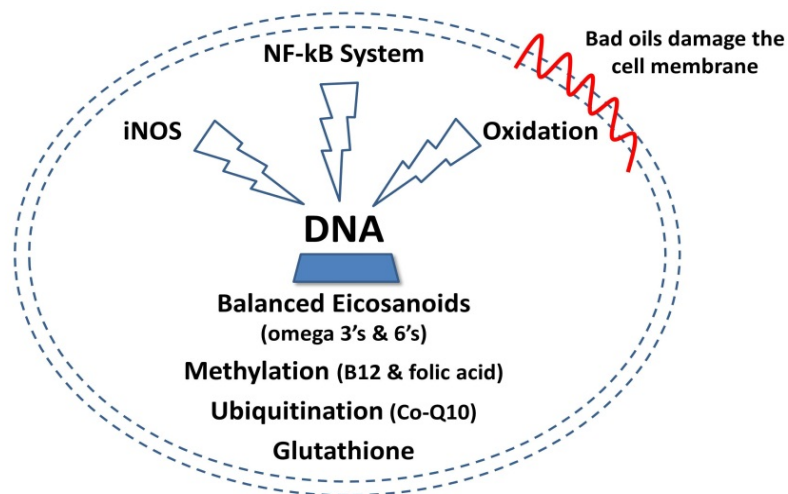


Figure 1: Protecting DNA

All eicosanoids are essential, but under certain circumstances, some are much more important and others more harmful. Therefore, if the operating assumption is that most people are not in perfect health, have some degree of emotional stress, and their diet could use some improvement, then the title of “good” and “bad” eicosanoids becomes applicable.

“Good” Eicosanoids	“Bad” Eicosanoids
Inhibit platelet aggregation	Promote platelet aggregation
Vasodilators	Vasoconstrictors
Anti-inflammatory	Pro-inflammatory
Control cellular proliferation	Promote cellular proliferation
Encourage immune function	Suppress immune function

So how is it possible to manipulate eicosanoids naturally for the benefit of improved function? By understanding how the body makes them. All eicosanoids come from oils called essential fatty acids (EFAs). The irony is that EFAs are useful, or become activated, after oxidization. In other words, the process that damages DNA and creates free radicals, leading to inflammation, is the very same process used to kick-start the production of anti-inflammatory eicosanoids.

It makes good biological sense that oils would contain a key to health and anti-aging. Oil is human soil, or the place from which health springs forth. The brain is 50 percent fats and oils. All the nerves throughout the nervous system have a coating of fat, called a myelin sheath. Fat makes all hormones, whether within the cell itself or floating around the blood stream. Every cell in the body has a bilipid layer, an exterior membrane made of a double dose of fat.

The cell membrane is Grand Central Station. Hormones, nutrients, chemicals of all kinds, and even light waves engage the cell membrane and elicit a response through specific receptor proteins. Cellular biologists believe that there may be more than 100,000 of these proteins, each designed to respond to a precise environmental stimulus.⁶ Without a healthy cell membrane, nutrients do not move in and waste products do not move out of the cell. Keeping the plethora of processes moving efficiently requires a healthy cell membrane, and this is dependent upon access to an abundance of essential oils—the same oils required to make good eicosanoids. Harvesting good eicosanoids and weeding out bad ones must be the foundation of any health rejuvenating or anti-aging program.

Since the early 1980s, researchers have known about eicosanoids and have used oils with mixed results to try to balance their levels for the benefit of health. This is not surprising. The power and success of oils is based upon two important caveats. First, not just any oil will do. Second, the oils used must be ingested in the correct ratios. These ratios can vary from one person to the next, depending on the present state of health. Overall, it is a delicate scale, easily tipped in one direction or another. Overdosing either side, even with good oils, will create problems.

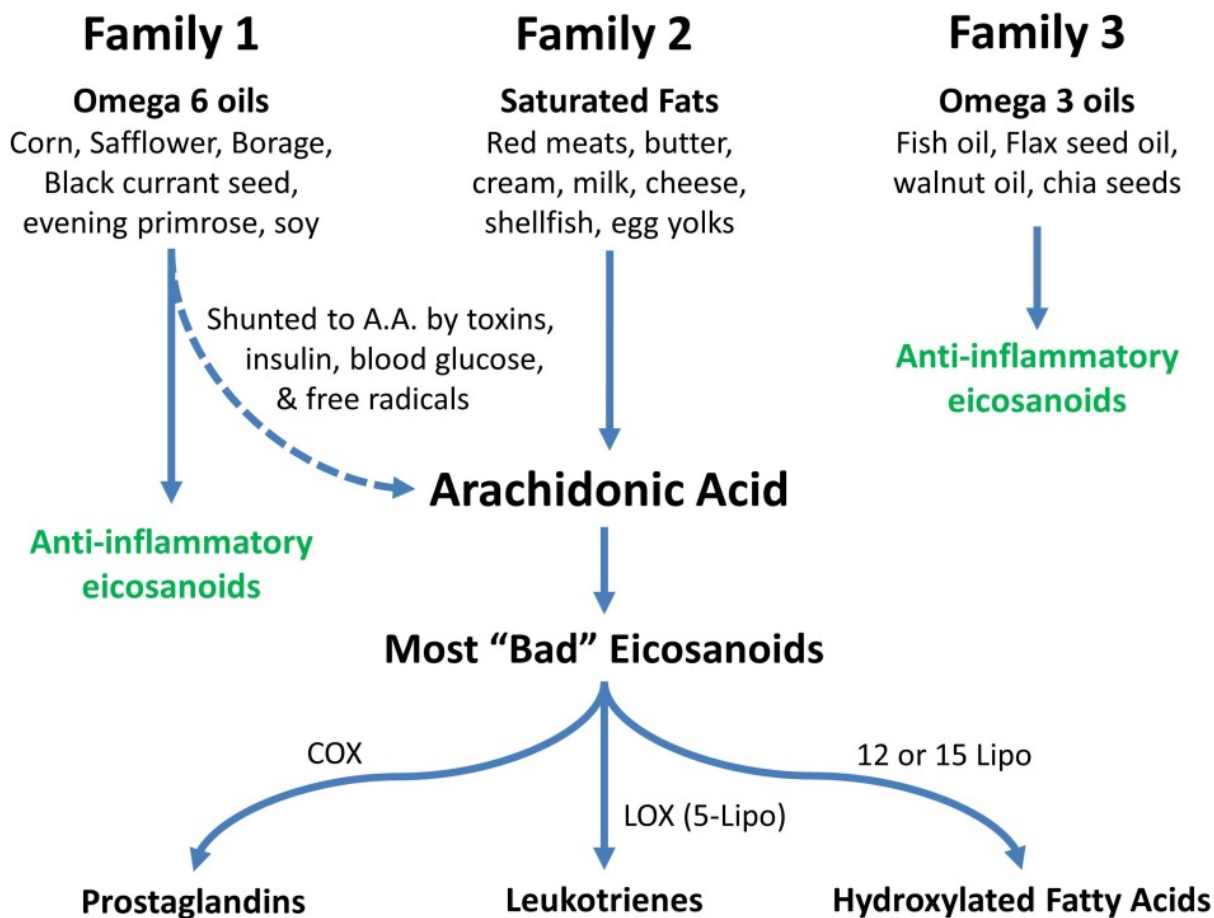


Figure 2: Three Families of Fats

There are three families of oils that can make eicosanoids. Family 1 and Family 3 are where most good eicosanoids come from, while Family 2 produces most bad eicosanoids.

Family 1 is full of omega 6 oils that come from a variety of plants and vegetable-based foods. Family 3 has the omega 3 fats, like fish and flax seed oils. Fish oils have the ability to protect the heart and reduce the incidence of cardiac arrest.^{7 8} They do this by reducing the inflammatory response.^{9 10} However, just taking fish oils is not enough for optimal function. In order for eicosanoids to diminish inflammation, they often need to be present in the correct ratio, balanced against the omega 6 oils of Family 1.^{11 12}

Family 2 are the fats cardiologists want all their patients to avoid, like saturated fats found in red meats, butters, and creams. These fats easily and directly convert into arachidonic acid. While arachidonic acid is critical for brain development in children and has many other important functions throughout life, the eicosanoids from arachidonic acid can make things much worse by increasing pain, constricting blood vessels, and promoting blood clots. This usually occurs when inflammation becomes aggressive.

From the arachidonic acid, three main groups of eicosanoids emerge. The first group is the prostaglandins. These are the eicosanoids whose production is shut down by NSAIDS, like acetaminophen and ibuprofen. They do this by not allowing an enzyme to do its job. Enzymes are like workers on an assembly line. As the protein and fat pieces flow down the line, the enzymes put them together. Drugs like NSAIDS prevent workers from showing up to work. The enzyme responsible for putting together bad eicosanoids is Cyclooxygenase, or COX. NSAIDS are often called COX inhibitors. This may sound like a good idea at first. Who needs enzymes putting together bad eicosanoids anyway? The problem is COX also assembles good eicosanoids, such as the ones that keep the stomach from digesting itself.

Two other eicosanoid groups also come from arachidonic acid: the leukotrienes and the hydroxylated fatty acids. NSAIDS do nothing to help these last two. The pharmaceutical industry is working on a new class of LOX enzyme inhibitors to prevent leukotriene formation. Natural LOX inhibitors, such as curcumin, fish oils, and certain antioxidants, all come from a good diet. However, few in society choose this approach exclusively. If persistent pain is coming from leukotrienes or hydroxylated fatty acids, a common tactic in today's fix-me-now society is to go nuclear.

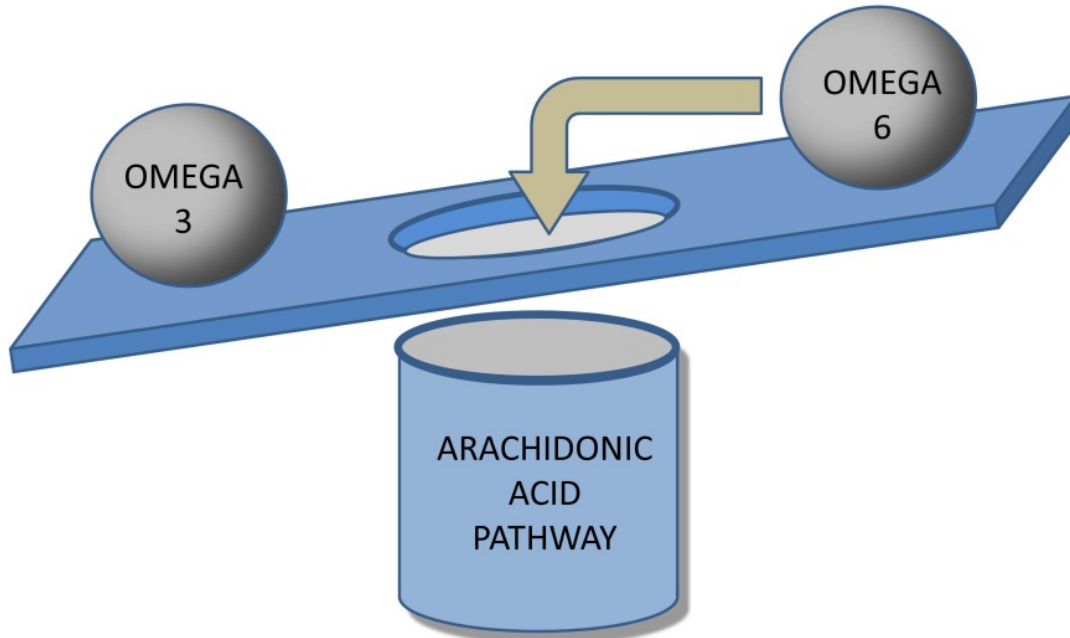
Steroid drugs, like those prescribed by Rheumatologists, do work to stop pain by shutting off bad eicosanoid production. However, they do more than this. Steroids shut off all eicosanoid function—good and bad. People on steroid drugs often gain weight, become depressed, have trouble sleeping, develop brittle bones, and so on. To reiterate, eicosanoids regulate all human function by controlling cellular function. Shutting the inflammatory and anti-inflammatory eicosanoids down at the same time with steroid drugs has a negative impact on the whole body. This will not, and does not, end well.

Eat Balanced Amounts of Good Oils

The American diet is full of too many omega 6 oils. All the oils in the boxed and bagged goods of the grocery store are omega 6 vegetable oils. This is undesirable for two reasons. First, these oils are all the same types: corn oil and soy bean oil, mostly. It is never a good idea to eat the same things all the time, even if they are good for you. A variety of good foods is best. Second, oils in processed foods have lost any value they once had due to high heat and exposure to oxygen. High heat changes the molecular structure of the oil, making it poisonous in some cases. Oxygen causes free radical damage, turning the oils rancid.

Besides the two reasons just given, omega 6 oils can easily convert into arachidonic acid with a deficiency of omega 3 oils. This tends to happen in the presence of a blood sugar problem, such as insulin resistance. To balance the teeter-totter, physicians have prescribed heavy doses of omega 3 fish oil. This approach works well at first but soon creates other imbalances. Good eicosanoids come from both the omega 6 and omega 3 oils, not just fish oils alone. Generally, the body wants good sources of both omega 6 and omega 3 oils in order to keep inflammatory eicosanoid levels low. Using both families of oils, along with reducing or eliminating bad fats and heated omega 6 oils is the best approach. However, there are other potholes to watch out for.

Rolling Toward Inflammation



Avoid Bad Fats

Not all fats are equal. Man-made synthetic and processed fats (trans fats) greatly disrupt eicosanoid balance, increase inflammation, and interfere with cholesterol breakdown. As such, people should avoid eating them. The process of partial hydrogenation changes the shapes of natural fats and oils so they interfere with, rather than promote, normal fat metabolism. A study published in the *New England Journal of Medicine* estimates that simply eliminating trans fats from the U.S. food supply could prevent between 6 and 19 percent of heart attacks and related deaths, or more than 200,000 each year.¹³

These processed fats are in nearly everything people buy in the grocery store, from salad dressings to candy bars and from chips to breads. Partially hydrogenated fats and oils block the normal conversion of cholesterol in the liver, causing an elevation of cholesterol in the blood. Margarine, which is often touted for its lack of cholesterol, contains partially hydrogenated fats. One of the biggest cases of misinformation in recent history is the suggestion that eating margarine instead of butter will reduce cholesterol. It is true that butter contains cholesterol and that margarine does not. But, butter also contains high levels of normal fat mobilizing nutrients. It is a whole food designed to take care of its own fats if eaten in moderation. Margarine can actually increase cholesterol levels and heart attacks.¹⁴

Watch Out for Sugar

Some people can eat plenty of Family 2 saturated fat without any evidence of inflammation or its scariest outcome, heart disease. How? Because they don't over-ingest

sugars and have normal blood insulin. Saturated fat by itself is neutral or can be anti-inflammatory but not when combined with sugars.^{15 16} Americans love sweets and grease. In the Standard American Diet, saturated fat is rarely unaccompanied by copious amounts of sugar. With each dessert, Americans increase their risk for heart disease,^{17 18} eating roughly 150 pounds of refined sweeteners each year.¹⁹ Too much sugar leads to spikes in the sugar-regulating hormone insulin. This hormone has the strongest influence over the eicosanoids. Too much insulin as a result of too much sugar is the origin of most functional problems. The majority of people, as discussed in the chapter *Hypoglycemia or Histamine*, have a functional blood sugar problem that is pushing them toward life-altering disease.

Sugars with Family 2 fats are bad enough, but to add fuel to the inflammatory fire, simply change Family 2 fats to bad fats. Since 1920, the percentage of dietary vegetable oils in the form of margarine, shortening, and refined oils increased nearly 400 percent while the consumption of sugar and processed foods increased about 60 percent.²⁰ Studies from around the world have consistently demonstrated that in populations where the diet was high in sugar, processed flours, and heated vegetable oils, deaths from all manner of disease, including heart disease, are much higher.^{21 22 23 24 25}

A Final Piece

In the body, everything is about balance between systems: not too hot, not too cold. Avoiding bad oils and consuming good oils is a great start and will pay dividends. However, maximum effect from oils, the kind of effect that helps cure arthritis, eczema, and colitis, results when people consume both omega 3 and omega 6 oils at the same time *in their correct ratios*.

Diagnostic blood tests can determine the levels of EFAs in the body. However, the levels of these oils are different within different types of body tissues. This means that blood tests, as helpful as they may be, still leave many critical questions unanswered. Which type of omega 3 oil is best: flax seed oil, cod liver oil, or a combined fish oil product? Which type of omega 6 oil is best: black currant seed oil or borage oil? Or perhaps evening primrose oil, wheat germ oil, or some combination of the above? And of course, how much of each? Two fish oil to one borage, or the other way around? Finally, will the patient actually be able to digest all these oils and use them efficiently in the body? The answers to these questions will lay a foundation for health and anti-aging.

AK Assessment

The following 6X biomarkers are necessary to assess the eicosanoids: Prostaglandins, leukotrienes and arachidonic acid. Test kits are available from a variety of sources including www.metabolics.com or www.drmihaellebowitz.com

With the patient free from switching patterns or with GV 20 open, testing can begin.

Step 1: Using a strong indicator muscle (SIM), place the arachidonic acid (AA) vial on the patient or test it over GV 20 and retest. AA usually does not weaken a SIM on its

own, but will in combination with another eicosanoid. Assume for now this is the case and continue with the steps.

Step 2: Test both AA and just one of the other eicosanoids: prostaglandins or leukotrienes. On 95% or more of people, the combination of AA along with one of the other eicosanoids will cause a SIM to weaken.

Step 3: Find the oil that counteracts AA + first found eicosanoid. Test different types, one at a time, looking for a negation of the weakness. It could be either an omega 6 or omega 3. In this author's experience the omega 3s show up first roughly 70% of the time. Now there should be three components: AA + first eicosanoid + negating EFA.

Step 4: Using the three components, add in the last eicosanoid. It will cause a SIM to weaken in more than 90% of patients and will be cancelled by the opposite omega form of oil. For example if omega 3 negated the AA + first eicosanoid in Step 3, then omega 6 will negate the second eicosanoid in this step. Now the combination of the right omega 3 with omega 6 has been found to balance the eicosanoids, but a critical piece remains. What is their correct ratio?

Step 5: Only test AA + first eicosanoid to generate a SIM weakness. Now add one pill at a time of the negating omega until strength returns. With omega 3s this may be only one pill. If the omega 6s showed up first however, this author has found that up to three pills are sometimes required.

Step 6: Add in the second eicosanoid to create weakness and then one by one, find how many of the second form of omegas are required to generate strength. You now have the right combination and ratio of oils for the patient.

Step 7: Recheck the eicosanoid pathway every two weeks. If the ratios do not start off at 1:1, omega 3 to omega 6, then they will move that direction quickly. For example, if the ratio is 1:3 omega 3 to 6, in two weeks it will be 1:2 and then two weeks later, 1:1. The oil forms can change as well. The most common long-term oils in a 1:1 ratio are fish oils with borage oil.

Exception: If AA caused a SIM to weaken by itself, continue on to Step 2 by adding in the first and second eicosanoid. One will negate the weakness and one will not. The eicosanoid, which keeps the SIM weak, is the one to use. So now there should be AA + eicosanoid that keeps the SIM weak. Use this combination and proceed on to Step 3 - testing for the negating oil. This author used to find three oils, one for the AA generated weakness, and one for the each of the two eicosanoids. This is not necessary. The AA weakness will be dealt with completely by the proper combination and ratio of the two omega forms.

Note: The assumption has always been that since there are too many omega 6s in the diet, so adding omega 3s only should be sufficient. Patients will in fact test as though they need the omega 3s (they do), but they will probably have trouble digesting and

assimilating them because they are not paired with the proper omega 6 oil. The body oftentimes wants good omega 6s in higher doses in order to replace and replenish the abundance of bad omega 6s that are the preponderance of the typical SAD. Once this author discovered this pattern, many chronic inflammatory issues began to quickly resolve.

Conclusion

Imbalanced eicosanoids are the cause of many life-threatening diseases. Keeping the plethora of intra and extra cellular processes moving efficiently requires an abundance of essential oils as a raw material for the eicosanoids. From a therapeutic standpoint, the power and success of oils is based upon two important caveats. First, not just any oil will do. Second, the oils used must be ingested in the correct ratios. These ratios can vary from one person to the next, depending on the present state of health.

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Eicosanoid Assessment with AK
Scott Monk, D.C.

Case Report: Applied Kinesiology as an Effective and Inexpensive Means to Treat Conditions Related to Anxiety

David C. Renner, D.C.

Abstract

A case utilizing the techniques of Applied Kinesiology is presented for anxiety and “palpitations.” It demonstrates the effectiveness of Applied Kinesiology, when other treatments had been unsuccessful.

Key Indexing Terms

Applied Kinesiology, Closed/Spastic Ileocecal Valve, Anxiety, Encoded Memory Technique, Psychological Reversal

Introduction

43 year old male healthcare provider and weekend entertainer presents with the following, typed:

Anxiety History

7-8 yo—Class concert for parents. (Vomited onstage)

11-12 yo—Doctor’s physical. During TB test vomited and blacked out.

17 yo—ARMY physical. Blacked out during blood test.

18 yo—ARMY tattoo. (Blacked out)

19 yo—ARMY deployment immunizations. Blacked out

25 yo—Airplane flight. Bad weather dropped plane 30 ft, leading to extreme anxiety and first full panic attack. Full panic attacks from this point on.

35 yo—Wedding... Severe anxiety

40 yo—Wisdom tooth removed... Severe anxiety

42 yo—Reunion concert... Severe anxiety: Awoke with 138 bpm HR. Dry heaves and vomiting for 12 hrs. Unable to stop panic attack.

43 yo—Wedding to 2nd wife. Extreme anxiety all week.

Triggers: Closed spaces with no easy way out.

Situations where I cannot get up and leave (weddings, onstage: presentations, airplanes)

Severe anticipatory anxiety and panic leading up to an event.

Severe anxiety and panic on the day of a big event.

The patient further reports that he has seen multiple chiropractors and allopaths to no avail. EMG, blood work, and other heart diagnostics were unremarkable. He has two sold-out shows this weekend and is anxious he might have another panic attack.

When asked on intake forms to list health concerns in order of importance, he wrote:

1. *Anxiety—panic attacks*
2. *General health*
3. *Pain ascending colon*

Intake forms also noted thinning hair, disturbed sleep, hiatal hernia, PMHx vaccinations. He listed the following supplements: Catalyn, Whole Adrenal, Orchest, Betaine HCl, Congaplex, and RNA.

When questioned about ascending colon pain, the patient clarified the pain as more of an irritation which did not interfere with daily activities.

Findings

Posture: high left occiput, high right shoulder, high left pelvis, anterior head carriage

Paradoxical pupillary response after 15-20s bilaterally

Bp: L-seated 110/80, L-standing 110/80, L-supine 100/80

R-seated 110/80, R-standing 106/80, R-supine 106/80

Oral Temp: 96.8° F

Muscle testing revealed systemic 4/5 inhibition. Therapy Localization was then used to determine the cause: (Pectoralis Major Clavicular Division was singled out as indicator)

“Emotional” Stomach-Bladder neurovascular reflexes—negative

C1 SP (food sensitivities)—positive

ICV—positive, closed variety (static challenge to right hip facilitated indicator)

C3—positive, palpation revealed it to be right anterior

L3—negative

The patient was questioned about diet and the following was learned:

Patient is Italian, but eats no bread, rice, pasta, or potatoes. He generally avoids common sensitive foods like corn, soy, and dairy. One cup of coffee in the morning. Rarely drinks alcohol.

Treatment

Treatment began by correcting RAC3 with chiropractic manipulation. PMC then tested 5/5. TL L3 became positive, as did emotional NV points. Ocular lock was negative.

The following muscles were tested bilaterally in multiple positions:

<u>Muscle</u>	<u>Grade</u>
Psoas	4/5 negated by orally testing bottled water.
Sartorius	5/5
Gracilis	5/5

Latissimus Dorsi	5/5
Teres Minor	5/5
Infraspinatus	5/5

PMC was tested while the patient thought about the following emotional factors:

Money, job, career, finances	5/5
Love, romance, relationships	5/5
Roles as husband, father, son...etc.	5/5
Fear, showing fear	4/5
7-8yo class concert and fear	4/5

Encoded Memory Technique was employed. LPL3 was corrected while the patient thought about being afraid at the concert when 7-8yo. After the correction was made, emotional NV TL was still positive, but L3 TL was negative.

Spondylogenic vertebrae and their Lovetts were then assessed: T3 TL was positive, but did not negate emotional NV TL. T8 was unremarkable, however T9 (adrenal) challenged left anterior and negated the emotional NV TL. EMT was again utilized to correct LAT9 while the patient thought about the first memory when he had the panic attack. Emotional NV TL became negative. The patient was asked to walk. He stated that he felt very relaxed.

T3 TL still showed positive and the patient tested positive for psychological reversal. Indicator became 4/5 when he said, "I'm okay being afraid and others seeing me not in control." This pattern was negated with TL to St 1. St 1 was tapped in 3 sets of 100 repetitions while the patient repeated this mantra. A posterior inferior rib head was found and corrected at T3.

Category I was found and corrected on the right. Upper and Lower gait mechanisms were clear. PLUS was negative. The patient was instructed to switch over to bottled water. No other supplements were necessary.

Outcome

Patient was able to perform two sold-out concerts without any anxiety or previous symptoms. He was comfortable enough to eat before the show-something he hadn't been able to do for 20 years.

Conclusion

Applied Kinesiology is an effective and inexpensive means to treat anxiety.

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**Case Report: Applied Kinesiology as an Effective and Inexpensive Means to Treat
Conditions Related to Anxiety**
David C. Renner, D.C.

Case Report: Applied Kinesiology as an Effective and Inexpensive Means to Treat Knee Injuries

David C. Renner, D.C.

Abstract

A case utilizing the techniques of Applied Kinesiology is presented for a knee strain/sprain. This case demonstrates the ease of treatment when standard allopathic care had been less effective.

Key Indexing Terms

Applied Kinesiology, Strain/Sprain, Origin-Insertion Technique, Fascial Flush Technique, Strain-Counterstrain Technique, Gait, Knee, Sports Injury

Introduction

A 32 yo male presents wearing a metallic knee brace on the right leg, two days after injuring it in a karate match. Patient describes sharp “knife-like” pain at the pes anserine during ambulation, rating a 5/10 on the Verbal Analogue Scale. The patient is a reigning world-champion in the martial arts circuit and injured his knee sweeping an opponent during practice. He reports chronic knee problems ranging from a 2006 ACL surgery on the left knee to a “dislocation” of the right knee two months ago. The patient was treated by other physicians and cleared to train preceding the current injury.

After the injury, the patient was unable to bend the knee and had radiographs taken at the hospital. No osteoligamentous injuries were detected. He was given 800 mg ibuprofen and a prescription to protect, rest, and ice.

Findings

Patient stands with right knee flexed and non-wt bearing
Bp: L-seated 115/80, L-standing 114/80, L-supine 110/80
R-seated 115/80, R-standing 100/80, R-supine 110/80
Oral Temp: 97.9° F

Mild edema was noted over the medial femoral-tibial cleft.

Lachman’s, Posterior drawer, Valgus/ Varus, and Apley’s Compression were unremarkable.

The following tests were done bilaterally. Left lower extremity tested 5/5. Right:

<u>Muscle Tests</u>	<u>Motor-Neuro</u>
Quadriceps Femoris	5/5

Hamstrings	5/5
Gastrocnemius	5/5
Gracilis	5/5
Sartorius	4/5—responding to O/I Therapy Localization
Tensor Fascia Lata	5/5—stretch response: 4/5
Popliteus	5/5
Adductors	5/5—Jones Trigger points palpated
Right neck extensors	4/5—negated by R sacroiliac TL

Treatment

Treatment consisted of Origin-Insertion Technique to sartorius m., fascial flush to TFL, and strain-counterstrain to the right adductors. Treatment was taken back to the spine—RPL1. (Cord innervation for the sartorius m.)

Ocular lock revealed a left posterior occiput. (Indicator weakened eyes up to the left) A right anterior superior sacral fixation was found and corrected, strengthening the right neck extensors.

When asked to walk, the patient's limp was less obvious. However, the patient still reported medial flexor retinaculum tenderness at 2-3/10 VAS.

Ligament interlink technique reduced pain to 0/10 VAS—the patient was able to walk pain free!

Category I was found and corrected on the right. Upper and Lower gait mechanisms were clear. PLUS was negative.

Outcome

Patient was instructed to walk without the brace and reported only mild soreness in the calf the following day. The clinical decision to eliminate pain was made with the understanding that treatment preceded a three-week European Vacation—in which no strenuous activities would occur to re-exacerbate the injury.

Discussion

Dr. David Leaf describes in his Flowchart Manual a strain-sprain triad of muscle dysfunction that occurs with any shearing injury...

First there will be a weak muscle, sartorius in this case. The muscle is weak due to micro-avulsion from its origin, its insertion, or possibly both. Sartorius is a slender muscle compared to nearby muscles, but it is the prime mover when executing a sweep in karate. The patient likely caught his opponent's leg at an improper angle, unsuitable to sartorius' mechanical advantage, or he simply tried to use the muscle beyond its capabilities at the time. The muscle "failed" and micro-avulsed from its insertion, as demonstrated by therapy localization. [The muscle strengthened (5/5) temporarily when

the patient placed his fingers over the insertion of the muscle.] Correction required deep massage over the insertion to “tack the muscle back on”. (Origin-Insertion technique)

Second, its antagonist will weaken after stretching, which occurred with TFL. Sartorius is a medial knee stabilizer. When sartorius weakened, its laterally stabilizing antagonist, TFL, became “tight” by comparison. Trigger points in this muscle represent those noted by Travell and Simons. (Myofascial Pain and Dysfunction) TFL weakened after stretching, indicating a need for Fascial Flush technique. Correction required stripping the muscle toward the heart.

The third element to the triad is a strain-counterstrain phenomenon. Sartorius is a very weak adductor, but when it failed, adductor longus bore the brunt of failed internal rotation. Standard Applied Kinesiology tests for this by having the patient maximally contract the muscle for 3-10 seconds and then re-testing the muscle. If the muscle weakens, treatment consists of “Fold and Hold”. The muscle is shortened for 30-90 seconds and slowly brought back to its normal position. The muscle will also display very tender trigger points of the Jones variety.

Ocular lock, as presented by Dr. Timothy Francis, correlates global muscle inhibition patterns resulting from eye movement to the following structural areas of dysfunction.

Indicator muscle: 5/5 Bilateral Pectoralis Major Clavicular Division

If the patient looks straight up with the head in neutral and PMC weakens bilaterally, the clinician should look for a bilateral inferior occiput or an apex posterior sacrum.

If PMC weakens bilaterally with eyes up to the left or right, then an ipsilateral occiput subluxation should be suspected.

Weakness resulting from looking directly left or right would indicate a C2 malposition—but the clinician should check its Lovett, L4, first.

Weakness when the patient looks straight down with the head in neutral indicates a base posterior sacrum. The clinician should also check retrograde lymphatic drainage.

If looking down to the left or right weakens bilateral PMC, then the clinician should suspect an ipsilateral sacral subluxation.

Ligament Interlink technique was first described by Dr. George Goodheart. It draws upon the embryological connection between the extremities on a quadrupedal basis.

When a ligament is tender, the clinician goes to the corresponding opposite extremity on the other side of the body—in this case the left elbow’s extensor retinaculum. This was palpated and found to be less tender than the knee.

Treatment required massaging the least tender of the two, in this case the left elbow’s extensor retinaculum, while having the patient hold the hyoid bone toward the least tender side (left elbow).

Interesting to note is Rogoff’s dumping blood pressure, especially on the patient’s injured right side. Had orthostatic Bp been re-checked, would there have been a correction? When taking sartorius “back to the spine” (RPL1), its Lovett C5, and spondylogenic correlations T5 and T6 were not checked. Patient will be re-evaluated in three weeks when he has returned from vacation.

Conclusion

Applied Kinesiology is an effective and inexpensive means to treat knee injuries.

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**Case Report: Applied Kinesiology as an Effective and Inexpensive Means to Treat
Knee Injuries**
David C. Renner, D.C.

The Frontal Bone Cranial Fault, Its Causes and Formation

Paul T. Sprieser, B.S., D.C., DIBAK

Abstract

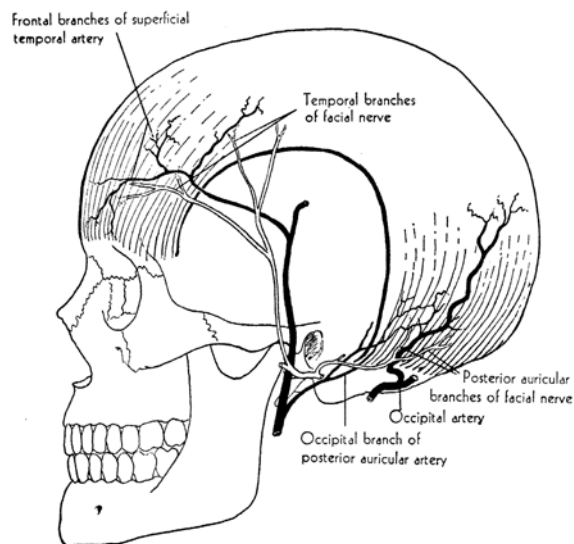
This is an academic discussion of the formation and causative factors of the frontal bone cranial faults.

Discussion

This paper was originally presented in the ICAK Collected Papers, winter 1981 pages 355-358.¹ I believe the biomechanical features present in the original paper were correct in their causative factors explaining how this cranial fault is caused. However, I have learned over the past 29 years many other features that should be added to this paper to bring it up to date.

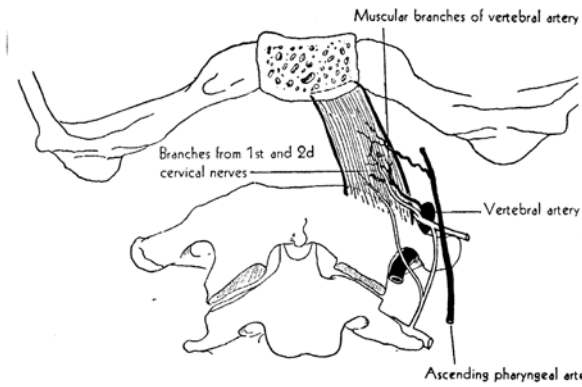
The formation of the frontal bone cranial fault is due to two distinct features; three muscular in origin and one mechanical. The first is the sudden loss of muscle tension of the Epicranius. This is due to the leverage system formed by the cervical spine and the cranium and the pull of the longus capitis and rectus capitis anterior and their effect on the Epicranius.

The Epicranius can be described as the scalp region with its anterior region composed of the Frontalis muscle and the posterior region ending in the Occipitalis muscle and its interconnection of the Galea aponeurotica. The galea aponeurosis is described as a flat fibrous sheet of connective tissue, which serves to attach the frontalis muscle anteriorly and the occipitalis muscle posteriorly to the skull.²

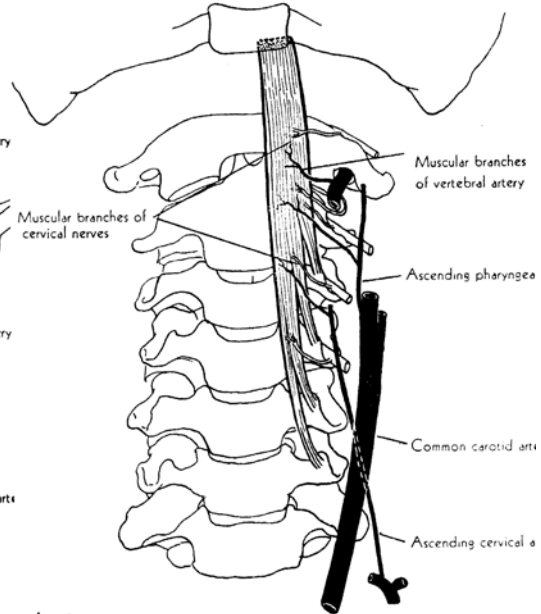


Longus Capitis: Origin-Anterior tubercles of transverse process of 3rd, 4th, 5th and 6th cervical vertebrae. Insertion-Inferior surface of basilar part of occipital bone.
 Rectus Capitis Anterior: Origin-Lateral mass of atlas. Insertion-Base of occipital bone in front of foramen magnum.

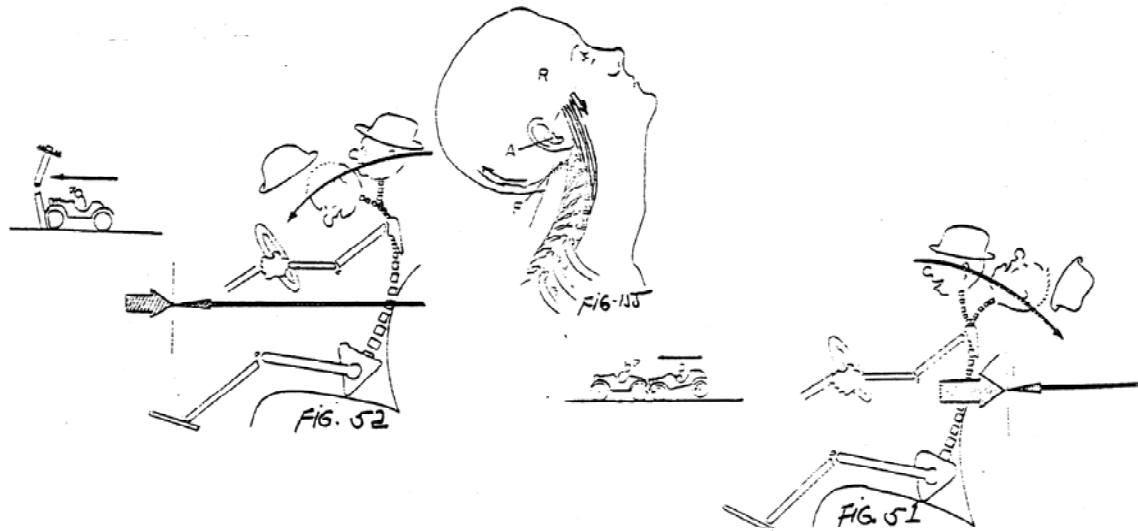
Rectus Capitis Anterior



Longus Capitis



If we look at Figure 155 we can see that the resistance point is near the front of the basilar region. The sudden force caused by the whiplash type of injury in Figures 51-52 shows that the cervical spine is forced into sudden extension.



If you suddenly thrust your neck into extension as shown in Figure 155 you will feel the force in the frontal bone region.

(The illustrations presented with the permission of the following publishers Epicranium, Rectus Capitis Anterior and Longus Capitis, Lea & Febiger, The Head, Neck and Trunk, John H. Warfel, Ph.D. Figure #155 W.B. Saunders Company, Kinesiology, Katharine F. Wells, Ph.D., and Figures #51-52, F.A. Davis Company, Neck and Arm Pain, Rene Cailliet, M.D.)

Formation of the frontal cranial fault is due to the natural leverage system shown in the textbook Kinesiology by Katharine F. Wells, Ph.D., in Figure 155. The sudden pull placed on the longus Capitis and the Rectus Capitis Anterior pulls down on the basilar portion of the occiput. As the head is suddenly thrust back into extension, both of these muscles attachment to the basilar portion of the occipital bone pulling the sphenobasilar junction into extension causing the occiput to move superior, which causes the loss of the muscular tension of the Epicranium. This in turn allows the natural leverage system to cause the formation of the frontal cranial fault.^{3,4}

Having observed hundreds of patients over the past 41 years in practice that were in the most minor accidents with literally no damage to their vehicle, I wondered how they all sustained a frontal cranial fault with no direct trauma to the skull. This paper attempted to give a rational explanation to this observation. The paper does not contain how to diagnose or treat this fault this should already be known by those who read this paper.

Addendum

When this paper was first written I was interested in the formation of this cranial fault from the most minor type of front or rear end car accidents and how this “whiplash” type of injury could occur. The explanation that I used certainly is a valid one. However, there are a lot of other factors that are also associated with this cranial fault that I want to include in the paper. The additional muscle and fascial patterns as found in the “Anatomy Train”, which includes the Sternocleidomastoid muscle as shown. Along with the Posterior Superficial Line structural pathways especially, when a seat belt is worn places the focus of stress at the frontal bone during a whiplash injury.⁵

(Sternocleidomastoid Muscle illustration present with the permission of Churchill Livingstone Publisher, Anatomy Train)



Conclusion

The importance of recognizing and treating this fault should already be known, but to recapitulate the Frontal cranial fault cause significant weakness in the anterior neck flexor muscles and this is important in all contact sport to prevent injuries. The fault also associates with chronic headaches and sinus problems and may have effect on vision. This fault when hidden and not diagnosed will cause the repeated return of the PRY-T patterns of Pitch and Yaw #1.⁶ These patterns associated with neck pain and headaches and their correction rarely required more then one treatment application and usually last six moths to a year.

The diagnosis and treatment has been covered in the basis 100-hours AK course and it originally appeared in 1970 Applied Kinesiology Workshop Manual pages 48-57 and in Synopsis, 2nd Edition, pages 392-394.^{7,8}

The occurrence of this fault is quite common and the amount of trauma to cause can easily be overlooked. It is always found with no exceptions in front and rear end car accidents and it usually will not correct itself. However there are other factor other then injury for its occurrence that of uneven stride lengths, any fall on ice, malocclusion and here may be allergy or emotional cause. Therefore every patient should be evaluated for this fault on the initial visit with no exceptions.

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The Frontal Bone Cranial Fault, Its Causes and Formation
Paul T. Sprieser, B.S., D.C., DIBAK

Understanding the Glabella Fault

Paul T. Sprieser, B.S., D.C., DIBAK

Abstract

The exploration of the Glabella cranial fault, its causes, identification its corrections, and its correlation to TMJ problems, hypertension and athletic injuries.

Introduction

My study was carried out because of my curiosity about the respiratory challenge causing a strong indicator muscle to weaken with oral inspiration or breathing in through the mouth that is associated with the Glabella fault.

Walther's statement in the Synopsis 2nd Edition under Glabella Cranial Fault states that "this fault is characterized by a previously strong indicator muscle weakening as a result of the patient breathing. Under the heading of Breathing Pattern he states that a patient takes a deep phase of inspiration through either the nose or mouth and holds it while testing a strong indicator muscle for weakness. There will not be weakening on both oral and nasal inspiration; it is more common for the weakening to develop with oral inspiration. It is best for the examiner to pinch the patient's nose closed during oral inspiration to ensure that all air is coming through the mouth".^{1,2}

I wondered why inspiration through the mouth caused a strong muscle to weaken? I knew that each nostril would ionically charge the air passing through it positively on the right and negatively on the left, but what was different if the inspiration was taken exclusively through the mouth? This made me ask myself, what Dr. Goodheart would always say, "Why is that"? What was different other than the nasal ionization effect of the nasal inspiration to oral inspiration?^{3,4} Was there a difference? What I discovered was that it was the opening of the mouth rather than inspiration through the mouth that caused the strong indicator muscle to weaken. So what is the mechanism that causes this phenomena?

Discussion

I found the presence of the glabella fault was almost always positive in athletes who were in contact sport where the skull might receive some trauma regularly (i.e. football, soccer, wrestling). I had never found any participants in any of these sports that did not have this fault.

Its causes seemed to be blows to the skull. The amount of force required did not necessarily equate with the patient remembering specific incident in which it took place.

The importance of this fact, in my mind, was the increased change of injury. If a player were traumatized while taking an oral inspiration, his or her chance of injury would be

greatly increased due to the muscular weakness that occurs with orally inspiration. All these sports, because of their anaerobic nature would necessitate more oral breathing especially with a mouth guard being worn.

Part of my information came from my studies of the TMJ dysfunction and observations. When I corrected the retraction phase of this dysfunction (temporalis muscle) it always seemed to correct the glabella fault with no cranial correction required.

Method of Identification of TMJ Involvement

Patients that had both TMJ dysfunction and glabella faults were tested. There were fifty cases at the time of this study in 1980. Over the past thirty years I have continued to note these observations so it is fair to say that I have seen this at least 2,500 or more times.

1. Indicator muscle used in this study was the Tensor Fascia Lata.
2. TMJ was examined by Therapy Localization (TL) to the joint while the jaw was placed in various positions of motion-open, closed, right and left lateralization, retraction and protrusion.^{5,6}
3. Glabella cranial fault was examined by TL to the glabella region with the finger tips of the right hand placed on the frontal bone and the finger tips of the left hand placed on the external occipital protuberance (EOP) of the occiput. This caused a strong indicator muscle to weaken.⁷

TL and Challenge-Fig. 1

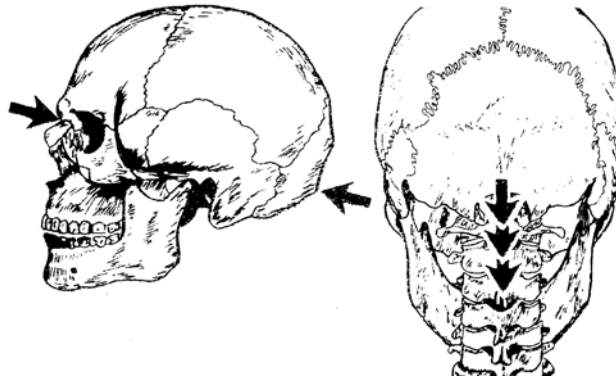


4. Respiratory challenge of an oral inspiration was used to verify the presence of this cranial fault causing a strong indicator muscle to weaken.

(Illustration that follows Figures 1, 2,3, and 5 with permission of David S. Walther, D.C. taken from Applied Kinesiology-The Advanced Approach in Chiropractic, 1976, page 138. Figure 4, Applied Kinesiology-Synopsis, 2nd Edition, Systems DC, 2000, page 409.)

1. Osseous challenge was done using pressure on the glabella region and simultaneous pressure on the EOP with both hands pressing toward each other would cause a weak indicator muscle to strengthen.

Challenge and Correction-Fig. 2 & 3



2. Spindle cell technique was used on the belly of the temporalis muscle of the TMJ on the side that showed positive TL. This would negate the positive TL and respiratory challenge. Pulling apart on the spindle of the temporalis muscle would reestablish the positive TL pattern and oral respiratory challenge.

Treatment of Temporalis-Fig. 4



3. Patient was then asked to take a deep breath through the nose to re-check glabella fault to rule out that deep inspiration caused muscular weakness.
4. Patient was then asked to just open mouth to rule out that opening the mouth did not cause the indicator muscle to weaken.
5. Patient was finally asked to place teeth together without biting and take a deep breath through the teeth and a strong indicator muscle was tested. In all cases no weaknesses were noted.
6. Another factor was to prove that the positive respiratory challenge of this fault was opening the mouth and inspiration either oral or nasal. This fact was checked by having the patient who showed the fault present by all of the above-mentioned means do one more screening test. The respiratory challenge was done by opening the mouth and then covering the mouth, with the hand and inspiring through the nose, which caused a weakening of the indicator muscle. Patient was

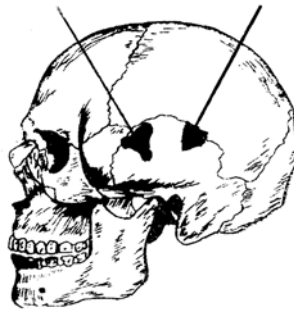
first checked to make sure that placing the hand over the moth did not cause a positive TL because of some other factor present.

Method to Check Trauma

An observation I have been more aware of is that many of my TMJ patients originally were negative to the presence of a glabella fault both to respiratory challenge and therapy localization. These same patients showed it being presence when the TMJ was active and had retraction as one factor on one or both sides. These patients did not have any trauma that effected the head region.

It has been mentioned that the glabella fault was also due to trauma to the skull. Its presence was most often found in athletes who participated in football, soccer and wrestling. This would seem to indicate that the force most likely responsible for the glabella fault formation would be the oblique vector from A to P or P to A towards the sphenobasilar junction.

Trauma Challenge-Fig. 5



I tested this thesis by having athletes wear football or hockey helmets and using a moderate concessive force to helmets in the region near the anterior or about 4 inches above the posterior fontanel. As shown in the above illustration.

1. Patient was again tested before to make sure no glabella cranial fault or TMJ dysfunction were present especially in retraction.
2. A concessive force was applied through the helmet. The patient was then tested to see if this produced the glabella fault both by respiratory challenge and therapy localization.

Findings

This study consist of fifty cases consisting of 17 female and 33 males ages from 16 through 25, all having both components of this study present, that of the glabella fault and TMJ dysfunction at the time of the initial examination.

1. All cases that had TMJ with retraction therapy localized positive for temporalis muscle involvement were treated with spindle cell technique to the involved muscle side. This corrected the glabella fault in every case without any osseous correction

having to be done.

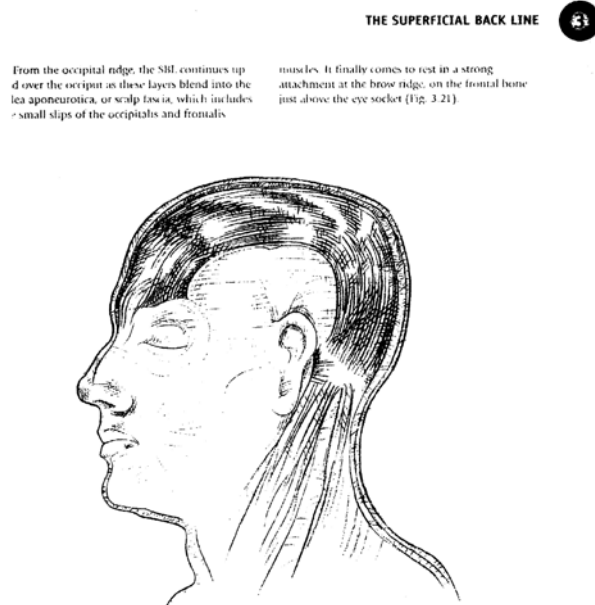
2. When the spindle cells of the temporalis muscle on the involved side (pulled apart), the glabella fault returned, as well as the TMJ dysfunction positive in retraction.
3. Correction of any other phase of TMJ muscular dysfunction (reactivity) did not correct the glabella fault.
4. After a concussive force is applied all tested parties showed the presence of the Glabella fault and a return of TMJ dysfunction in retraction.
5. Other vectors of concussive force were tried from vertex of skull toward the foramen magnum and from side to side at the squamous suture at the junction of the temporal-parietal bones, none of which seem to reproduce the TMJ dysfunction or the glabella fault.

Conclusion

1. The glabella fault was caused by the imbalance of the temporalis muscle either unilaterally or bilaterally.
2. The imbalance of the temporalis muscle causes the condyle of the mandible to be drawn upward and posterior into the fossa causing a decrease of the anterior to posterior size of the skull and increase of lateral dimension.
3. The respiratory challenge was not oral inspiration, but rather the opening the mouth, which is done by contraction of the lateral pterygoid muscle and its effect on the pterygoid process of the sphenoid bone.
4. Glabella fault could be corrected by just balancing the muscle spindle of the involved side of the temporalis muscle. This is similar observation of Dr. Goodheart had with the jammed sagittal suture being released with the spindle technique on the temporoparietalis (superior auricle) and its effect on the galea aponeurotica. This was done instead of pulling the suture apart.⁸
5. Concussive force to the skull in the area near the anterior and about four inches above the posterior fontanelles that were directed diagonally downward were causative factors of the glabella fault and the TMJ dysfunction in reaction.

Addendum

Additional factors that were not known at the time of publication (1980) in this paper and our present knowledge come from Thomas Myers' work, Anatomy Train. The posterior superficial line is a continuum of muscle and connective tissue that runs from the sole of the foot all the way up to the forehead. In particular the galea aponeurosis as shown in the illustration when the force is applied toward the sphenobasilar junction and this places pull on both end and effects the dural membranes.



(Galea aponeurotica illustration present with the permission of Elsevier and Churchill Livingstone, Anatomy Train)

The continuation of this original study led to very interesting observations that I had not noted when this paper was first done. I standardized the force by using the activator device on the lowest setting. The placement of the device can be on or near the sagittal suture the vector of force is diagonally directed toward the sphenobasilar junction. This will immediately cause the formation of the glabella fault with positive TL to the glabella region on the frontal bone and the EOP of the occiput. There will be a positive response to the respiratory challenge causing a strong indicator muscle to weaken, when the mouth is open and an inspiration is taken in.

The muscular imbalance of the temporalis muscle (reactive muscle) causes the mandible condyle to be drawn up and back into the fossa locking the cranial movement flexion at the sphenobasilar junction. Open the mouth for oral inspiration causes the pterygoid muscles to pull on the pterygoid plates of the sphenoid bone causing further flexion forced to be applied the junction. Finally the natural action of inspiration causes the sphenobasilar junction to go into flexion. All of these factors occurring at the same time

are what causes the weakening of strong indicator muscle when oral inspiratory challenge is preformed.^{9,10}

When this paper was first written the formation of the fault through slight trauma to the skull was found to a consistent factor. This could be reproduced over and over again with predictable outcome. One of the factors I did not know about was the existence of the Posterior Superficial Line of the Anatomy Train¹¹ and its upper terminal end at the occiput into the occipitalis muscle and across the galea aponeurosis into the frontal bone and the frontalis muscle causes tensional change. This slight trauma triggers the temporalis to become reactive and pulls the condyle of the mandible back into the TMJ articulation locking the skulls respiratory motion causing the glabella fault.

I have recently been experimenting and I have been creating the fault with a activator device at the lowest setting. When this was applied from the front on the saggital suture region it causes a temporalis malfunction consistently on the right when applied from the rear it causes the temporalis to malfunction bilaterally. This effect can be block if the patient take a deep expiration and hold it while the force is being applied to the skull.

The final observation was the insalivation of (Standard Process Laboratories) Ostrophin PMC will block the formation of the fault, which implication that the effect is a reactive pattern to the temporalis muscles.

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Understanding the Glabella Fault
Paul T. Sprieser, B.S., D.C., DIBAK

Functional Hallux Limitus Review: A PAK® Perspective

Barton A. Stark, D.C., DIBAK, DIAMA

Abstract

Functional Hallux Limitus (FHL) was emphasized by Goodheart as an important clinical finding. Review and clarification of the diagnosis and treatment of this common condition is presented from a PAK perspective. Differentiation of FHL from another medical condition, Hallux Rigidus, is also given.

Key Indexing Terms

Professional Applied Kinesiology™, Foot, Functional Hallucis Limitus, Hallux Rigidus, Extensor Hallucis Longus, First Toe, Gait

Introduction

Functional Hallux Limitus, as described by Dananberg, DPM, is the “...inability of the hallux to properly extend at the metatarsophalangeal articulation at the proper stage of the gait stance phase.” (1) In other words the lack of 1st MTP ROM in FHL is **weight-bearing only**. This condition is not the same as Hallux Rigidus where the lack of ROM is weight-bearing and non-weight-bearing. (4)

At one point in gait the entire body weight is pivoting over the MTP joint. The plantar fascia, with its’ largest insertion at the proximal phalanx of the 1st toe, originates on the other end from the anterior-inferior calcaneus. As the lower limb is extending during gait the extreme power of the gastrocnemius-soleus complex is applied to the posterior calcaneus. If the first MTP joint dorsiflexes in time during the second half of the single support phase of gait, then this power is appropriately transferred through the foot as a hard lever against the ground. (2) The lever pivots over the effectively singular column of bones made up of the 1st metatarsal, cuneiform, navicular, and talus. When the mechanism functions properly the kinetic energy “...is sequentially dissipated within the foot and leg.” (1)

In FHL the hallux still can extend except during a portion of stance phase of gait that may be only 100 msec in duration. This dorsiflexion limitation at the MTP joint slows the simultaneous conversion of the foot from a soft flexible structure to a hard, rigid, vertical lever (Windlass effect). (1, 2) This slowed conversion allows the gathering forces of forward propulsion to be absorbed by the yet unprepared foot ligaments and joints causing eventual midfoot collapse, or flat foot. (2) Symptoms of FHL are usually not in the foot but **may be in any other area such as neck or low back**. (1, 2)

Dananberg describes four typical changes that occur over time in this condition:

1. Delayed heel lift
2. Absence of heel lift during single support phase
3. Inversion compensation
4. Abduction compensation (2)

Discussion

Typical PAK® observations in Functional Hallux Limitus are listed below:

- Extensor Hallucis Longus and Brevis inhibition & Flexor Hallucis Longus strain
- Chronic pain in lower leg, knee, thigh, sciatic nerve, low back, neck, TMJ, chronic headache
- **With patient standing in gait pattern: limited extension of big toe at MTP joint**
 - Alternatively, in the supine position one can usually observe the limitation by maintaining superior pressure to the metatarsal heads and calcaneus simultaneously while testing the ROM of the MTP joint in extension
- Any structural correction that won't hold
- Extended pronation
- Improper “vertical” toe-off, often abducted or adducted
- Shortened stride
- Painful heel spurs and/or planter fasciitis
- Excessive lateral shoe wear in forefoot area (1)

Typical PAK® diagnosis and treatment procedures in FHL are listed below:

1. Primary factor is **EHL inhibition**
2. If EHL not weak in clear try with TL to LV alarm point – often requires treatment to LV3
3. Treat involved 5 IVF Factors and any other related factors, including foot subluxations
4. Retest after walking (1)

Common EHL inhibition factors:

- Liver meridian imbalance
- myofascial derangement of EHL, interosseus membrane, and/or flexor hallucis longus
- origin / insertion technique
- RMAPI (O&I, water, WGO)
- Strain-Counterstrain
- Rib pump technique (ribs 4 & 5) (1)

Additional PAK® Treatment factors:

- Adjustment to approximate distal tibia and fibula helps relieve entrapment of deep peroneal nerve
- Tape distal tibia-fibula for one week with Elasticon tape

- Test for inhibition of bi-pennate fibers of posterior tibialis which help approximate tibia and fibula
- Support foot with flexible orthotic with added triangular pad under 2-5 metatarsal heads (see Walther Synopsis) (1)
- Another important muscle to test for inhibition is Peroneus Longus Metatarsal division as inhibition allows lack of inferior stability of 1st metatarsal which ultimately impairs toe-off

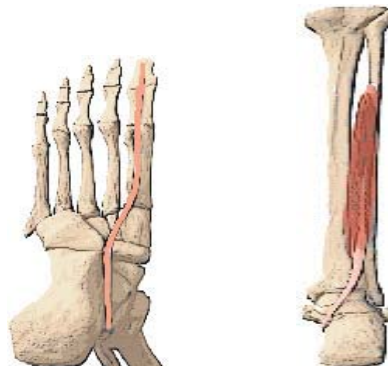
It must be noted that **Functional Hallicus Limitus is not the same condition as Hallux Rigidus** (Aka: Skier's Toe). Hallux rigidus is a traumatic arthritis of first metatarsophalangeal (MTP) joint which occurs secondary to repeated dorsiflexion stress and results in **restricted ROM of great toe in all positions.** (4)

Conclusion

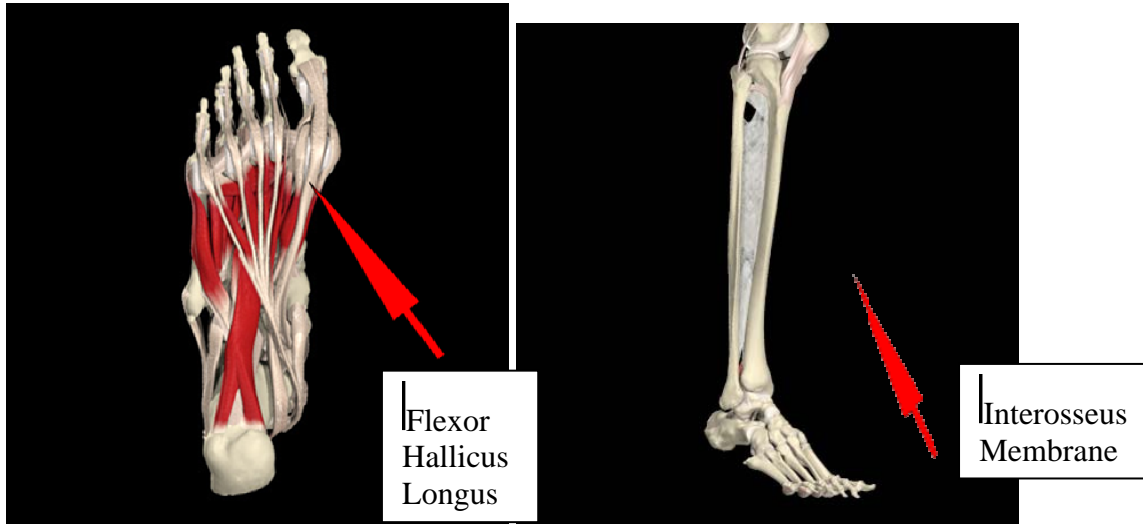
On the purely structural level FHL can potentially be a cause of or aggravating factor in any neuro-musculo-skeletal problem. Professional Applied Kinesiology (PAK) practitioners can dramatically improve their patient outcomes by including the analysis and treatment of FHL as part of their practice routine for every patient.



Extensor Hallicus Longus (EHL)
(3)



Flexor Hallicus Longus (FHL)
(3)



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Interactive Foot and Ankle 2 © 2000 Primal Pictures Ltd.

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Functional Hallux Limitus Review: A PAK® Perspective
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A Proposal for Revising the Description of Neuromuscular Function Outcomes During Manual Muscle Testing

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Abstract

For many decades the terms used by the International College of Applied Kinesiology (ICAK) to describe manual muscle testing (MMT) outcomes or results have been debated and revised. These descriptions of muscle function and dysfunction to doctors and patients are in terms that are somewhat ambiguous. This paper proposes that a new and more accurate set of terms be used so that both doctors and patients are able to familiarize themselves with what is actually occurring when a manual muscle test is performed.

Key Indexing Terms

Manual Muscle Testing, MMT, Neuromuscular Function, Muscular dysfunction, Applied Kinesiology, AK

Introduction

Historical context: The author's first experience with Applied Kinesiology (AK) was in 1975 with two ICAK doctors and a nutritional company. The terms used at that time described muscles as either testing "strong" or "weak".

Recently, more AK doctors have adopted the term "facilitated" for a muscle testing strong and "inhibited" for a muscle that tests weak. Dr. David Walther wrote in his AK Synopsis second edition, "In most cases, the results of a test do not depend on whether the muscle is strong or weak, but how the nervous system influences the muscle". The changes in muscle function observed in applied kinesiology manual muscle testing are assumed to be associated with changes in the central integrative state of the anterior horn motoneurons. The central integrative state is defined as the summation of all excitatory inputs (EPSPs) and inhibitory inputs (IPSPs) at the neuron. The terms "conditionally facilitated" and "conditionally inhibited" are more descriptive than strong and weak, respectively. Although the terms "strong" and "weak" have generally been maintained in keeping with their general use in clinical practice, one should think in terms of the nervous system rather than the actual power the muscle is capable of producing. Occasionally in this text the terms "conditionally facilitated" and "conditionally inhibited" are used interchangeably with "strong" and "weak".¹

Although all these terms continue to be used both in public lay lecture situations and

professional education classes, neither of these sets of terms does enough to accurately describe what happens on a neuromuscular basis. If the ICAK, as a research organization, wants to communicate with the scientific community at large, it is time to accurately describe the manual muscle test outcome that is observed.

Discussion

Six texts are reviewed that are popular within the ICAK community. Each has a completely different way of describing the outcome of a manual muscle test. The following is what was found.

1) “Each workbook will contain muscle worksheets which identify factors contributing to muscular HYPOKINESIA.” Beardall, Alan. *Clinical Kinesiology* Vol. II. 2

Dorlands Medical Dictionary defines Hypokinesia as: abnormally diminished motor activity. 3

As applicable as this term is, it does have its limitations. Although very scientific, it lacks specificity as to differing neurological conditions.

2) “Muscle testing is an integral part of physical examination. It provides information, not obtained by other procedures, that is useful in the differential diagnosis, prognosis and treatment of neuromuscular and musculoskeletal disorders.” “Many neuromuscular disorders are characterized by muscle weakness. Some show definite patterns of muscle involvement; other show spotty weakness without any apparent pattern. In some cases weakness is symmetrical, in others asymmetrical. The site or level of a peripheral lesion may be determined because the muscles distal to the site of the lesion will show weakness or paralysis.” Kendall, Florence., McCreary, Elizabeth. *Muscles Testing and Function*, fourth edition. 4

In the course of this text, this is the first mention of muscle “weakness”. The authors assume these terms are descriptive enough to build their knowledge base on. This text was published in 1993; long after the original editions, including the second edition that has become the ICAK standard for muscle testing. In the second edition the exact same words are used to introduce the fundamentals of manual muscle testing. The terms used by these authors need to be expanded on and updated. 5

Further on in the fourth edition, page 188, there is a grading scale introduced. This scale uses the words normal, good, fair, poor, trace, and zero. Each of these grading words describes varying levels of strength of a muscle contraction. The book also refers to a list developed by Robert W. Lovett, M.D. published in 1932 using the same words except for ‘gone’ instead of ‘zero’. The book ends up with a scale of words with plus and minus ratings to arrive at enough terms to equate them to a scale of zero to ten, i.e. poor- or poor+ . All of this deals with the examiners discernment of the ability of the tested muscle to contract under various gravitational and applied pressure. Of note, on page 186,

is the use of the word 'normal'. "The grade normal means that the muscle can hold the test position against strong pressure... In terms of judgment, it might be described as strength that is adequate for ordinary functional activities. To become competent in judging this full strength, an examiner should test normal individuals of various ages and sizes."

Where applied kinesiology as taught by the ICAK differs is that the muscle may have an internal fault or injury: origin-insertion, fascial flush, spindle cell or golgi tendon organ. These types of factors create sensory feedback or a roadblock that ultimately affects the central integrative state, CIS, of the anterior horn motorneurons. There can also be extrinsic factors influencing the nerve signal to the muscle. It would be helpful to distinguish the difference between a muscle that can't contract correctly and a muscle that is getting incorrect nerve signals.

3) Facilitation: The increased excitability of a neuron after stimulation by a sub-threshold presynaptic impulse. Dorlands Medical Dictionary. 22 Ed. 3

This definition describes an action of a nerve, not a muscle. A muscle contracts, it does not facilitate. Nerves are subject to facilitation, not muscles.

4) "...a neuron in a given pool receives impulses from a primary source and from two accessory sources...However, in many parts of the nervous system the accessory source 'number one' only supply a few nerve fibers to the pool, not enough usually to cause excitation but yet enough to facilitate the neurons...a much weaker signal from the primary source is able to excite the postsynaptic (motor) neuron."

"...stimulation of the inhibitory fibers from accessory source 'number two' strongly inhibits the neuronal pool so that a strong signal from the primary source is required to cause normal output." Textbook of Medical Physiology. Guyton, M.D., Arthur C., Fifth Ed. 6

Here we can start the dialog of using a descriptive term for muscle action (contraction) versus a descriptive term for a nerve influence (facilitation and inhibition) on that muscle action. The opposite of muscle contraction is muscle relaxation. This does not describe a muscle that is not contracting when it should. Excitation of a nerve causes a muscle contraction. Facilitation of a weak excitation signal boosts the impulse to cause a muscle contraction. With enough inhibitory nerve activity, like mechanoreceptors, even a strong excitatory signal has rightfully no effect in contracting a muscle.

5) A more current text describes in better detail the aspects of neuromuscular activity. 'Principles of Neural Science'. Kandel, Eric, Schwartz, James. Second Ed. PP 444-445

The Nervous System Can Grade the Force of Muscle Contraction in Two Ways: (1) Through RECRUITMENT, it increases the number of active motor units and thereby increases the force of contraction. (2) Through RATE CODING, it increases the frequency of activation of individual motor neurons; when the motor neurons fire faster,

they increase muscle tension.

Recruitment: the size principle-

As the afferent input increases in strength, it recruits progressively larger motor neurons. Because larger motor neurons innervate fast muscle fibers, which develop greater tension, each motor unit that is recruited adds a larger increment in force than the last one. This stereotyped recruitment order is known as the **SIZE PRINCIPLE** and applies equally to reflex activation and to voluntary contraction.

Rate Coding-

The second way that the nervous system can command greater muscular force is by increasing the firing rate of motor neurons...The rate of stimulation of a muscle nerve affects the tension produced isometrically in the muscle. 7

A more commonly used term for rate coding is spatial and temporal summation.

Here is an up to date description of what happens when a MMT is performed. Again muscles are described as contracting, not being strong or conditionally facilitated. Indeed there is a grading scale for how hard a muscle will contract. Additionally the use of the term “firing rate” could be applied to the activity of a muscle.

6) Lastly, from: The Central Nervous System by Per Brodel.

Contractions: Concentric, Isometric, and Eccentric

Whether or not a movement is to occur depends on the magnitude of the force produced by the muscle contraction and the external forces acting on the joint. When the external force is smaller than the muscle force, the muscle shortens and movement occurs; this is called concentric or isotonic contraction. When the external forces equal the force of the muscle contraction, no movement occurs; this is called isometric contraction. When the external force is greater than the opposing force produced by the muscle contraction, the muscle lengthens; this is called eccentric contraction. 8

Conclusion

The following terminology changes are proposed:

Normal Contraction: This describes a normal isometric strengthening of the muscle during a manual muscle test. A descriptive term to patients and the public could be ‘normal muscle contracting or normal muscle firing’. This would replace what is normally now called a “strong” MMT or the term Dr. Walther uses in his previous quote; “conditionally facilitated” MMT.

Contraction Error: This is descriptive of a state where even though a patient is attempting to contract a muscle, the doctor or examiner will observe an inability of the muscle to maintain its contracted state. A descriptive term to the patient could be a ‘contraction

error or firing error'. This would replace the usual description of a 'weak' or a 'conditionally inhibited' MMT. This is an observed eccentric muscle contraction under the same relative load that would normally allow an isometric contraction to occur.

These two terms would be a description of what is occurring at a muscle function level and are proposed to be adequate for a patient or student to grasp the true concept of what is being observed.

Facilitation: Describes the motor neuron pathway of a normal nerve signal firing a normal contraction MMT.

Facilitation Error: Is a spatial and temporal summation error that relates to the majority of AK treatment protocols. This would be observed as a contraction error.

Inhibition: A term that describes a normal nerve function to keep a muscle from contracting. There are numerous examples of this especially in normal gait related muscles. Neuromuscular inhibition describes a healthy state. We could describe to the patient that some muscles are 'supposed to turn off' during certain circumstances.

Inhibition Error: This term also allows our educators to concisely convey a complex neuromuscular mistake that is in need of correction. Again gait related muscles should be rightfully turned off during certain phases of alternate leg weight bearing. If the muscle stays contracted when it should not with a proper MMT, it is an indication for corrective procedures.

These four terms are more descriptive of the neuromotor aspects of the outcome from a MMT. These advanced terms create an accurate understanding of various forms of muscular function and dysfunction.

Lastly, there are descriptions for an examiner's protocol:

Induced Facilitation Error: There is also a need to describe what has been called the Challenge or Vertebral Challenge. An examiner that has tested a normal contraction muscle can induce a facilitation error by increasing a suspected area of lesion or rebound, often in a specific direction.

Induced Facilitation: Describes an involved muscle that tests with a contraction error that becomes a normal contraction (strong) with a Challenge or Vertebral Challenge. This is currently described as "a weak muscle tests strong."

Induced Inhibition: Therapy localization of an involved meridian point, Chapman's, or Bennett's reflexes can also cause any normal contraction muscle to test with a contraction error.

Induced Inhibition Error: As above an involved muscle with a contraction error would show a normal contraction with therapy localization. This is currently described as "a

weak muscle tests strong” with the patient touching an involved reflex point.

Ideally, in an educational setting the proposed use of this type of description would greatly enhance a student’s understanding of Applied Kinesiology.

None of these revisions have any bearing on doctor induced or gamma 1 and patient induced or gamma 2 testing. G1, G2, and G2 sub-max also known as Type I, Type II, and Type III respectively, are all types of muscle tests and not descriptive of the outcome of a MMT.

This paper has been written as a consolidation paper. The intent is to update and clarify a subject on A.K. that can be used to improve the teaching of other diplomats.

The author would invite the ICAK community to comment on these proposals.

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