

INTERNATIONAL COLLEGE OF APPLIED KINESIOLOGY U.S.A.

Experimental Observations of Members of the ICAK

Volume 1, 2017-2018

Fifty Ninth Collection of the Proceedings of the Annual Meeting

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

Experimental Observations of the Members of the ICAK

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Message from the Chairman

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

*F*or over 53 years, the members of the International College of Applied Kinesiology®-U.S.A. have shared their insights, outcomes, case histories and research through the papers presented in the Proceedings. The ICAK-U.S.A. remains a consortium of academic and intellectual exceptionalism. It continues to thrive as forum of individual observations, clinical results and research. These published works document the first steps toward furthering the application of applied kinesiology in diagnosis and clinical skills ultimately becoming the part of the accepted body of knowledge we embrace.

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

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

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

Dr. Scott Walker said that we must come together so we can take the fire of AK and spread it throughout the world. With excitement, we look forward to seeing you, our AK family, in Washington, D.C.!

Introduction

This fifty ninth collection of papers from members of the International College of Applied Kinesiology®-U.S.A. contains 22 papers written by 16 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.

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.

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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Manuscript Preparation

Authors are requested to submit final manuscripts via email to icak@dc-kansascity.com or on computer disc (CD) to 4919 Lamar Ave., 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; i.e., English units (SI units) or SI units (English units). Nevertheless, researchers and authors considering submission of manuscripts to

the ICAK-U.S.A. should begin to adopt SI as their primary system of measurement as quickly as it is feasible.

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

Title Page

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

Abstract and Key Word Page

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

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

Below the abstract, provide, and identify as such, 3 to 10 key indexing terms or short phrases that will assist indexers in cross-indexing your article and that may be published with the abstract. Use terms from the Index Medicus Medical Subject Headings (MeSH) as much as possible.

Text Pages

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

Please visit the following link online for helpful information on writing patient case reports:

www.soto-usa.org/Newsletter/DCInternetEdition/dc_internet_ed_vol_3_no3Abstrak/Green%20Johnson%20Case%20Reports.pdf

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

Introduction

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

Materials and Methods

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

When reporting experiments on or with human subjects, indicate whether the procedures used were in accordance with the ethical standards of the Committee on Human Experimentation of the institution in which the research was conducted and/or were done in accordance with the Helsinki Declaration of 1975. When reporting experiments on animals, indicate whether the institution's or the National Research Council's guide for the care and use of laboratory animals was followed. Identify precisely all drugs and chemicals used, including generic name(s), dosage(s), and route(s) of administration. Do not use patient names, initials, or hospital numbers or in any manner give information by which the individuals could be identified.

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

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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:

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- 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).
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- 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@dc-kansascity.com.
The Release Form should be completed and signed then fax to 913-384-5112 or mailed to:

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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.

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.

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Table of Contents

Message from the Chairman.....iii

Introduction.....v

Instructions to Authors – Proceedings of the ICAK-U.S.A.....vii

Applied Kinesiology Status Statement – ICAK-U.S.A.....xix

**Adaptation: A Mechanism for Survival and an Obstacle to Applied Kinesiology
Therapeutic Applications..... 3 - 12**

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The Color of Meridians..... 13 - 20

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New Correction of Primary Internal Frontal Cranial Fault..... 21 - 24

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**Behind the A.K. Curtain: When You're Doing It All Right and the Expected
Results Won't 'Take' Old thoughts revisited, New Thoughts to Consider..... 25 - 32**

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Adapting New Ideas, Without Changing How to Think..... 33 - 36

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Interdependence, The Muscle Code..... 37 - 38

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A Sacroiliac Joint Dysfunction: An Applied Kinesiology Approach Treatment 39 - 44
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Low Back Pain with Digestive Issues: An Applied Kinesiology Approach Treatment 45 - 50
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Chiropractic and Applied Kinesiology Management of Acute Neck Pain Associated with a Cervicogenic Headache: A Case Study..... 51 - 58
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New Thoughts on Muscle Testing Positions..... 59 - 60
David Leaf, D.C., DIBAK

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Product Reviews for Office Examination or Treatment..... 61 - 64
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Treating the Ill Patient as a Whole, Not via Lab Results..... 65 - 68
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Double trouble - Valve Dysfunction, Vitamin D and the Inhibited TFL, A Case History..... 69 - 72

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New Techniques for Identifying Infection Susceptibility..... 73 - 76
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Resolving Chronic Pathogen Load 77 - 80
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The Brain-Gut Axis, Restoring CNS-Enteric Nervous System Harmony..... 81 - 86
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**Creation of the Learning Disability Cranial Fault/Ocular Lock and
Cross K27 Switching..... 87 - 94**

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**The Effects of Natural Full Spectrum Light and
Artificial Light on Health 95 - 100**

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Injury Recall Technique: An Alternative Approach A Case Study..... 101 - 106
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Vagus Nerve Injury Recall Technique 107 - 112
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**Chronic Unilateral Neck Stiffness, Otolithic Imbalance
or Universal Fault?: A Case Study..... 113 - 116**

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**Stability Change by Lingual Challenge Measured by Computerized
Posturography 117 - 122**

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*Experimental Observations of Members
of the ICAK*



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Adaptation: A Mechanism for Survival and an Obstacle to Applied Kinesiology Therapeutic Applications

W. David Berglund, D.C., P.Ac., DIBAK

Abstract

Objective

To discuss a systematic approach which delivers the maximum therapeutic benefit with Applied Kinesiology techniques . The Art and Science of Applied Kinesiology developed by Dr. George Goodheart includes postural analysis, T.S. line analysis and manual muscle testing, correlated with standard laboratory and diagnostic procedures. Applied Kinesiology has a plethora of therapeutic options and an equal number of excellent doctors thoroughly knowledgeable in these techniques. A variety of Applied Kinesiology styles exist amongst doctors in relation to patient treatments. When starting with any patient it is important to evaluate their levels of adaptation. Adaptation occurs when the components necessary to repair a tissue are not available and that tissue is placed on hold or becomes adapted. By addressing adaptation indicators and clearing them, the clinician assists the repair of adapted tissues by providing the raw materials, energy and information to initiate and complete the healing process.

Key Indexing Terms

Therapy Localization, Applied Kinesiology, Manual Muscle Testing, Functional Neurology, Adaptation, Switching, Psychological Reversal, Supine, Prone, Standing, Sitting, Right Side Down, Left Side Down, Inverted, Sympathetic, Autogenic Facilitation and Inhibition, Knife Edge Hand Therapy Localization (hand held in a karate chop position), Earthing, Grounding, Kidney 1 Connectors, RNA, Cellular Memory, Acupuncture System, Horary Points, Bonghan Corpuscle, Blocked Autonomic Regulation, Applied Kinesiology, Environmental and Food Sensitivities, Heavy Metals, Toxic Petroleum Solvents, Artificial Sweeteners, Scars, Focus Fields (Root Canals, Dental Cavitation, Infections, Burns, Toxic Nerve Ganglion, Tattoos), TMJ Dysfunction, Mental and Emotional Stress, Geopathic Stress, Neural Therapy, Methylation, Epigenetic

Introduction

“Many patients suffer from many chronic complaints. Many doctors also are unwilling heirs to many chronic complaints. Sometimes these conditions elude the usually successful types of chiropractic care and pose a problem to the patient and the doctor alike.”~George Goodheart Clinical observation along with trial and error has led to the development of a systematic approach to clearing obstacles facing the Applied Kinesiology Clinician. The

body may tend to be a self healing mechanism, but in actuality it is more of a self surviving mechanism which leads layers of adaptations.

Dr. Alan Beardall noted that in the early stages of a disease there is a clear relationship that exists between muscles and the corresponding organs. A thyroid dysfunction would demonstrate a weak Teres Minor and a kidney dysfunction would demonstrate a weak Psoas muscle. However, if the elements necessary for the healing of the kidney are not available, the stress to the kidney may become overwhelming to the organism and a threat thus exists in its survival which forces the organism into an adaptation. Adaptation means that the weight or burden is switched to another organ or tissue. In a successful adaptation, frequently the pain or discomfort leaves and the patient may feel better even though the kidney problems still exist. In Applied Kinesiology one may say the problem has been switched. Switching indicates that a successful adaptation has occurred and the organism survives to live another day. Over time while the disease process continues the musculoskeletal system may show many muscle imbalances. These imbalances are just effects of the adaptation rather than the original cause which is now hidden by the adaptation. Upon manual muscle testing some muscles may display inhibition, some facilitation and some over facilitation. But what does it mean?

The following is a checklist that analyzes the patient's current level of neurological adaptation:

1. Polarity
2. Shock or ligament stretch test
3. Body Memory-RNA-Bilateral Bladder 1
4. Neurological tooth
5. Neurological Posture
6. Chi deficiency
7. Autonomic Regulation
8. Horary Point
9. Emotional Recall
10. IRTs
11. Gait

Discussion

A new patient receives a thorough case history, neurological and vascular examinations. Next, the Applied Kinesiology exam includes a postural analysis, T.S line analysis and muscle testing. After this where does the doctor start?

Step 1, test the polarity of the patient. With a knife edge hand place the palm over the top of the head of a seated patient and test and indicator muscle, Then place the dorsal surface of the hand over the top of the head and test and indicator muscle. A strong indicator should stay facilitated with the palmer surface of the hand over the top of the head and inhibit with the dorsal surface of the hand over the top of the head. There are three possible polarity presentations: polarity, reverse polarity or no polarity. In 1979 Dr. Callahan made a curious

discover which he termed “Psychological Reversal” or reversed polarity. In this case the electrical polarity of the body’s energy meridian system is reversed. Callahan’s patients that displayed this condition had previously been very difficult to treat. In 1980 he invented a new treatment for psychological problems called, “Thought Field Therapy.” The doctor of Applied Kinesiology can use a strong indicator muscle and the Triad of Health to resolve the issues. Also if the patient is not polar a correction is also needed for without polarity the fundamentals of manual muscle testing cannot apply.

Step 2, place a shock into an extremity or stretch the extremity and test an indicator muscle if a facilitated indicator muscle is inhibited that constitutes a positive test. The patient is suffering from stress dynamics causing an erosion of the gastrointestinal tract, atrophy of the lymphatic system and hypertrophy of the adrenals. Provide the patient with appropriate therapy to reverse this trend.

Step 3, check body memory by placing the index and middle finger bilaterally on Bladder 1 and test an indicator muscle. If a strong indicator is inhibited, this is positive for the need for RNA supplementation. Applied Kinesiology investigation has shown an interesting pattern relating to RNA deficiency. RNA has been related to proprioceptive memory of the nervous system published in 1971 in the Goodheart Research Manual. A patient’s history may suggest certain inhibited muscle patterns that may not be present until RNA is chewed by patient. There is also a RNA relationship to the acupuncture meridian system. Dr. Kim Bonghan in his 1962 thesis, stated that a pale colorless non-cellular fluid which circulates in the acupuncturist system through the meridians, just as the blood circulates to the vascular system consists of a large quantity of DNA and RNA. This was a profound discovery since it was believed previously that DNA only existed in the nucleus of a cell and RNA only existed in the cytoplasm of the cell.

Step 4, while the patient is still sitting using indicator and screen for neurological tooth.

Step 5, check the neurological posture of the patient versus their physical posture. With the patient supine and have them place the back of their palm over the forehead, if a strong indicator becomes inhibited than they are in their neurological posture and physical posture.

The seven postures and their therapy localization:

1. Supine - back of the knife edge hand over the forehead
2. Prone - palm of the knife hedge hand over forehead
3. Right side down - palm of the knife edge hand over the right ear
4. Left side down - palm of the knife edge hand over the left ear
5. Standing - palm of the knife edge hand over the top of the head
6. Inverted - palm of the knife edge hand under the chin
7. Sitting - palm of the knife edge hand over the posterior cervical spine or back of the knife edge hand over the anterior of the cervical spine.

Place the patient in the posture that they present in and therapy localize for a structural correction.

An inverted patient is indicative of a imbrication treatment.

Step 6 , test a muscle for each of the acupuncture meridians. Note the inhibited muscles. Connect earthing cables to the patient's feet centering them over Kidney 1. Retest the inhibited muscles. Note any inhibited muscles that are now facilitated. Just like a cell phone that stops working without a proper charge, parts of the body shut down without enough Chi. The body uses both biochemical energy and Chi energy. Grounding charges the body from the earth Chi entering through Kidney 1. The kidney reservoir stores this energy and distributes it to facilitate healing tasks.

Steps 7 and 8, can be taken together and serve as a check for the regulation of the autonomic nervous system and the correct movement of Chi throughout the 24 hour cycle. Have the patient place the center of their palm over their umbilicus and test a strong indicator for inhibition. Therapy localize the Horary point associated with the time the patient is in the office and check for inhibition. If these tests fail to inhibit a facilitated indicator one or more of seven factors are impeding the autonomic nervous system's ability to regulate correctly and inhibiting the flow of Chi through each meridian in its appropriate time of the meridian clock.

Seven major factors are obstructing these systems:

1. Food and Environmental Sensitivities
2. Heavy Metal Toxicity
3. Toxic Petroleum Solvents
4. Artificial Sweeteners
5. Scars/ Dysfunctional Nerve Ganglia
6. Root Canals
7. TMJ
8. Emotional and Mental Stress
9. Geopathic stress

Using an indicator muscle check each factor that may be causing obstruction to the operation of the autonomic nervous system. Fix all positive factors.

Step 9, have the patient place their palm on the forehead over the emotional neurovascular points and check a strong indicator muscle for inhibition. If positive, clear the emotional stress. Repeat till negative.

Step 10, find and fix all injuries using injury recall technique protocols. Note that injuries may include organ injury recall, structural injury recall, biochemical injury recall, emotional injury recall and bioelectrical injury recall.

Lastly, test the gait patterns and fix what you find. Orthotics can be assessed at this point and consider a special type postural control insert designed for Morton's foot.

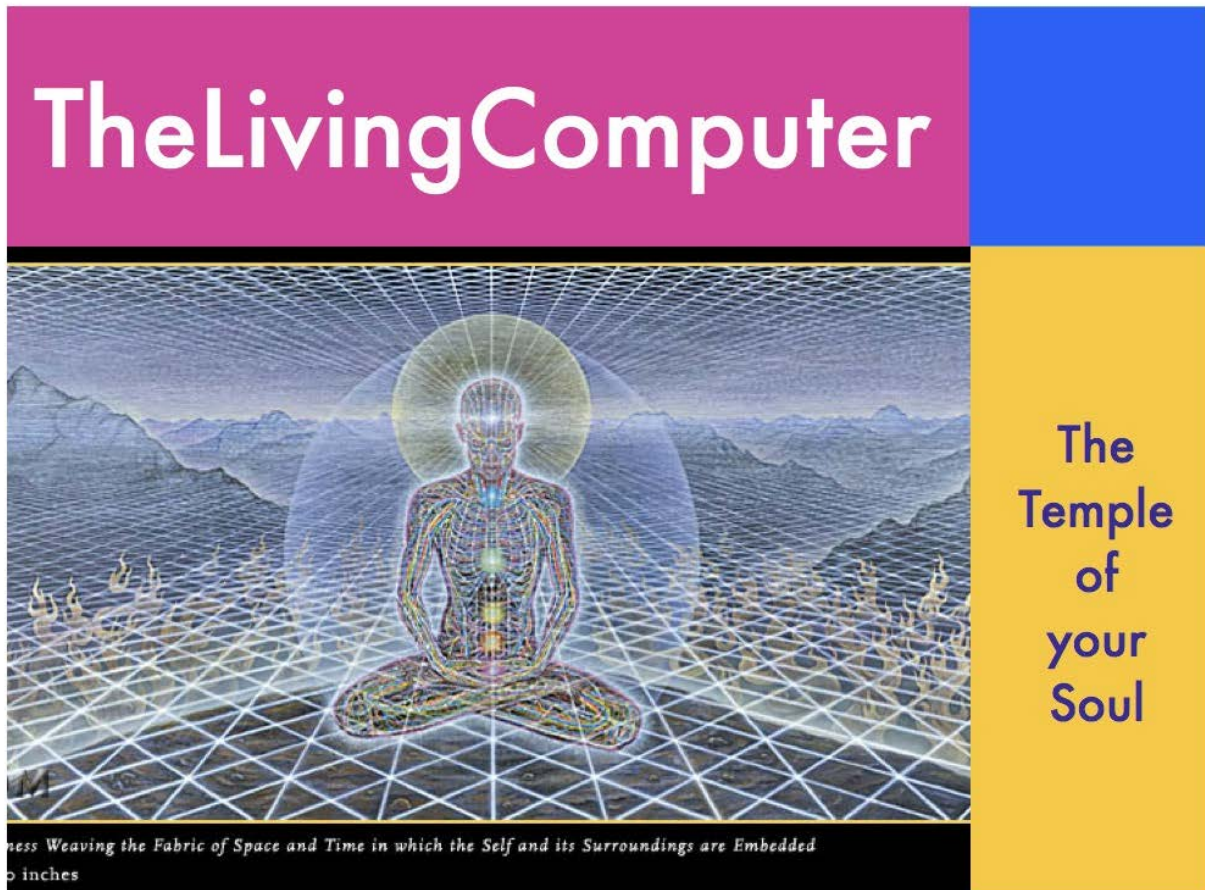
1. Bladder Gait-Adductor Longus and Latissimus
2. Liver Gait-Rectus Femoris and Anterior Deltoid
3. Kidney Gait-Psoas and Pectoralis Major

4. Stomach Gait-Gluteus Medius and Supraspinatus
5. Gallbladder Gait-Gluteus Medius and Rectus Abdoninus
6. Spleen Gait-Triceps Brachii Longhead and Gluteus Maximus

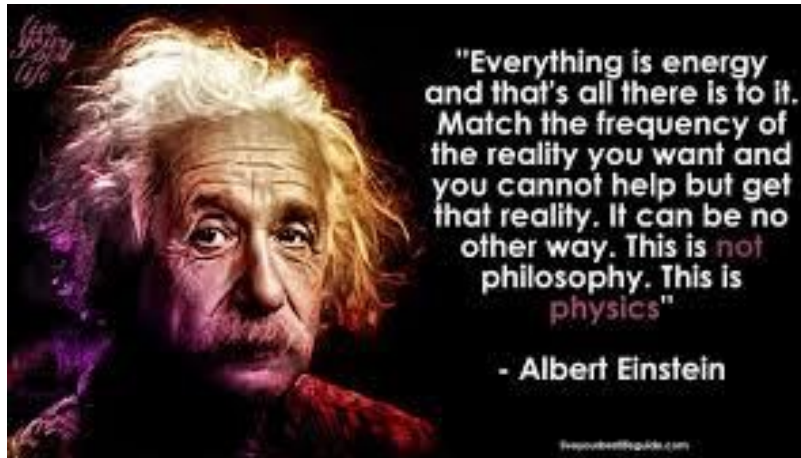
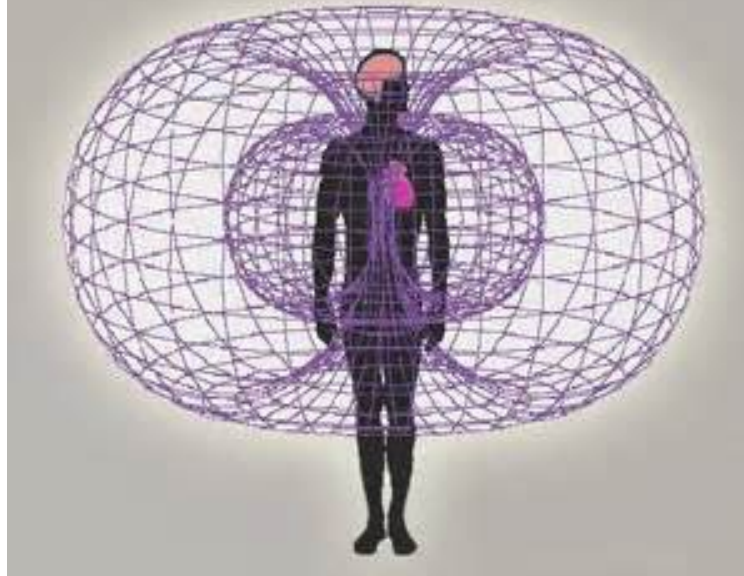
Treat the aberrant gaits with Therapy Localization or Meridian Therapy.

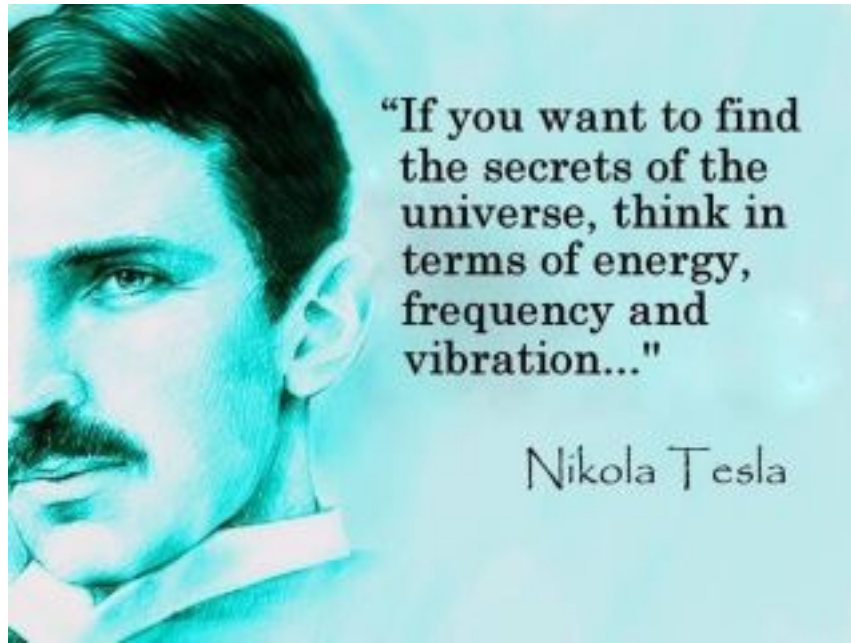
Conclusion

Finding, fixing and clearing adaptations has many benefits. It restores proper homeostasis and allows all tissues, glands and organs to function to their full capacity without relying on assistance from other systems. It creates clear manual muscle testing results using Applied Kinesiology procedures. It allows the clinician to get at the root causes of a problem rather than chasing the symptoms created by multiple adaptations. As we continue to use Applied Kinesiology and observe our results, we can gain an understanding of the miracle we are treating known as the human body.



The electromagnetic field of the heart





Appendix
Measurements showing clinical changes in inflammation.



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Thermographic Impression: The region of greater heat on the right upper outer quadrant qualifies as a thermal factor. Breast findings are consistent with class: TH3: Equivocal

Clinical Impression: This is a repeat study and is compared to a previous study from 2/3/14. The average breast temperature has stayed consistent showing no change in temperature at 29.8 degrees Celsius in the 2014 and 2015 study. This area of greater heat is unchanged in terms of position, size and shape with less heat intensity in the current scan likely representing normal vascular anatomy in which case the TH3 finding is less concerning.

Asymmetric areas of heat should be clinically correlated and possibly investigated further by ultrasound, radiographic mammogram or breast MRI. Follow-up thermographic examination should occur in six months based on a TH3 finding but given the consistency of findings, one year will be adequate. The greatest documented value of breast thermography comes from performing serial images which over time can distinguish normal anatomy, which is consistent and generally unchanging, from new heat patterns which would be suspicious and lead to more detailed investigation. This is the first study which provides a baseline against which future scans will be compared so over time this abnormality may be determined to be normal, or changes may occur suggesting potential issues that need further evaluation. Clients are advised to maintain their regularly scheduled breast examinations and routine radiographic mammography with their primary care physician.

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Interpreted 5/27/2015

CLIENT REPORT

10/17/16

Breasts

Breast views include bilateral frontal, left & right oblique, left & right lateral, posterior and superior in color and black/white palettes. Breast results are graded at TH1: Normal Uniform, Non-vascular; TH2: Uniform Vascular; TH3: Equivocal; TH4: Two factors present (moderately suspicious); TH5: Three factors present (highly suspicious). Patients status post lumpectomy are designated with an "L" and patients status post mastectomy are designated with an "M".

Upper Body Thoracic SSR and Medical Infrared Mammography Findings: Upper Body Thoracic SSR findings are symmetrical. Breast findings show a minimal vascular heat pattern which is mostly symmetrical.

Thermographic Impression: This is normal vascular infrared breast image with no areas of asymmetrical heat. Breast findings are consistent with class: TH2: Normal, non-vascular.

Impression: This is a repeat study and is compared to previous studies from 5/13/16, 2/3/14 and 11/1/11. Overall breast temperature is lower in the current scan. There was a region of greater heat on the right upper outer breast observed in the previous scans which is no longer appreciated, the areas of greater heat noted above being unchanged in terms of position, size and shape with less heat intensity in the current scan likely represents normal vascular anatomy.

Follow-up thermographic examination should occur in twelve months based on a TH2 finding. The greatest documented value of breast thermography comes from performing serial images which over time can distinguish normal anatomy, which is consistent and generally unchanging, from new heat patterns which would be suspicious and lead to more detailed investigation. Clients are advised to maintain their regularly scheduled breast examinations and routine radiographic mammography with their primary care physician.

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Interpreted 10/17/16

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**Adaptation: A Mechanism for Survival and an Obstacle to Applied Kinesiology
W. David Berglund, D.C., P.Ac., DIBAK**

The Color of Meridians

Peggy Creelman, DOM

Abstract

Acupuncture meridians are responsive to distinct colors. These colors show a closer correspondence to the organ colors associated with the chakras than to those given in Chinese five element theory. Color responsiveness of meridians can be used to trace more accurate trajectories for the meridians, and to posit the existence of six new meridians. The pulse positions of Chinese medicine are responsive to the same colors as the meridians.

Key Indexing Terms

Acupuncture, Color Therapy, Medicine: East Asian Traditional, Meridians, Chakras

Introduction

Applied kinesiology techniques can be used to demonstrate all sorts of physical properties of the body, so I thought to use them to resolve a controversy between the Chinese and yogic system of medicine. The Chinese five element system had one set of colors for the organs, the yogic had a different set. Once that question was settled, I looked to see if the Chinese meridians themselves had distinct colors. This paper outlines briefly these explorations of color on the body. Color can be used to confirm the position and colors of the chakras. Color can also then be used to confirm the trajectories of the existing Chinese acupuncture meridians, and outline and develop the location of entirely new meridians.

Discussion

The chakras are a set of seven energy vortexes that the ancient East Indians discovered centuries ago. Each of these vortexes are located on the midline of the body, and follow the rainbow sequence of red, orange, yellow, green, blue, indigo and violet; the first one located over the genital area, and the last one at the top of the skull. Meditation on these energy vortexes was supposed to increase energy and sometimes aid in healing. The location of the chakras can be easily confirmed with AK testing, a set of colored gels, and a small flashlight. Shining an orange light over the orange chakra will strengthen a straight arm test, while shining a blue light over that chakra will not. If you move off the location of the chakra, the arm will weaken. The traditional seven chakras can easily be found more or less where they are supposed to be in this fashion. The only major difference is that you will find that the 3rd eye chakra, the sixth, will strengthen better with a purple gel, rather than with an indigo one; and that the crown chakra will strengthen best with an ultraviolet light.

Further testing revealed that there are actually ten chakras that respond to colors. Over the genital area, infrared is the color that best strengthens a strong-arm test. (I do not have an infrared light, but downloaded a full rainbow spectrum from the internet. Testing with that spectrum you can two-point over pictures to infer that the genitals always align with infrared.) Over the thymus area, you will discover a turquoise chakra, and over the solar

plexus there is a little circular area that will strengthen with lime green or yellow green light. These three new chakras are secondary blends of the major primary colors, but not all the secondary blends have chakras. For example, there is no red-orange chakra.

The Seven Chakras



Certain chakra healers¹ had sensed the presence of a series of chakra emanating from the back of the body directly behind the conventional ones on the front of the body. If you test the colors of these chakras, you will find that the color sequence descends in a reverse rainbow order. Infrared is now the top chakra on the back, and it descends through the rainbow colors (ROYGBIV+) to end in ultraviolet at the sacrum.

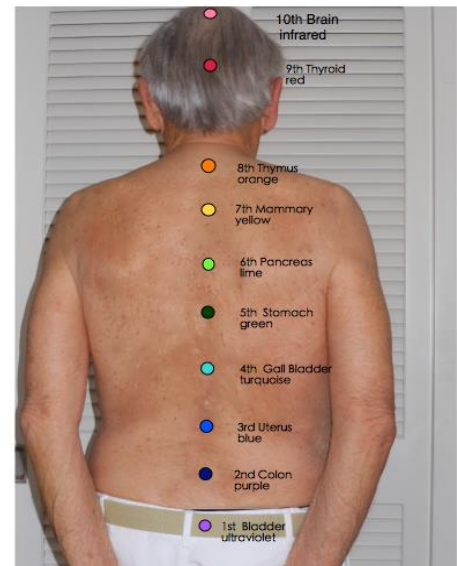
You now have 20 chakras, and there are ten digits on the hands and feet, so possibly two bilateral channels for each digit. The Chinese meridians enter and exit through the digits, but the textbooks²

only recognize 12 channels that exit or enter through the hands and feet. I checked to see if the length of each finger and toe would strengthen with a color. Each of these digits on the yin (palm and sole) side strengthened with a different rainbow color, and another rainbow set with the yang. Extending the range from the fingers, one could illuminate an entire meridian by shining a color through a small flashlight. Twenty distinct meridians could be mapped out with colors. If any of these meridians were stressed by tapping, they show an immediate reflection upon one of the Chinese pulse positions on the wrist. The question was whether these meridians turned out to have the Chinese colors or the chakra colors?

In Chinese medicine, there are certain colors associated with the major organs: the heart is red, the kidney is blue, and the liver is green. These color associations belong to an ancient five element theory that predates acupuncture. In this system blue is associated with water, red with fire, green with wood. In acupuncture schools, much of what you learn is how to nurture wood with water points, or create heat with fire points.

I assumed that the colors of the Chinese meridians would turn out to conform to these five element colors, but they didn't at all. Instead, the colors of the meridians was more in line with the colors of the chakras.

The yogic chakra system of India had a distinct set of colors associated with the organs, though the organs mentioned were often vaguer, such as digestive organs. The heart chakra was consistently green though; the kidney as water was orange; and the pituitary, as the third eye, was indigo. What could be simpler for a muscle tester than to check which system worked?



If you shine a green light over the heart itself, then you get a strong response. Green is the chakra association for heart, while red is the Chinese five element association. Red will not strengthen the area over the heart itself. Score one for the chakra system. The Chinese associated green with Liver, but it is yellow that strengthens the area over the liver. The Chinese associated blue with Kidneys, the yogic system orange; yet neither of those colors strengthened the kidneys directly. Shining a red light of over the kidneys is the only color that will keep the arm strong while testing them. The third eye might be associated with the pituitary glands, and that area does strengthen with purple, which is close enough to its given indigo. Since the brain encompasses several endocrine organs, it is difficult to know which organ the light is stimulating. It is useful to download a picture of the pituitary itself from the internet, and two point it with the colors on a spectrum; you will find it to be purple.

So neither of the systems organ/color associations were particularly accurate, but the chakra system's was more so.

Shining different colored lights over the major organs will help establish a more correct set of chakra/organ associations. Shining a turquoise light over the Gall Bladder will strengthen a weak muscle, while green will not. The Chinese had divided the organs into yin and yang pairs. The traditional Chinese yin organs consistently strengthen with the yin chakras on the front, and all the traditional yang organs strengthen with the yang chakra colors on the back.

There is another way to confirm these associations digitally. All acupuncture points and chakras can be accessed through a machine that emits specific low-level hertz frequencies. The chakra frequencies will resonate with their colors, as will the Chinese organ Shu points along the back. Running an organ's Shu point frequency will resonate with its color as well as strengthen the area over the organ itself. Running a chakra frequency will often only noticeably strengthen its associated organ if the organ is compromised.

It should then be simple, 20 channels and 20 chakras, two channels for each digit, and one rainbow color spectrum for each yin and yang set of channels. When you ran each meridian by its color, all conform to the new set of chakra organ colors. None of the classic Chinese five element colors strengthened either their organ or their meridian.

Red will now illuminate the entire Kidney meridian, and you can use that color to trace exactly where the meridian path leads one. A straight arm test is best for testing the trajectories, because the arm will weaken if you veer off course. The red color will move to the bottom of the foot on the sole, on the lateral side of the fourth metatarsals, and not down the center as the Chinese would have the location of the Kidney channel.

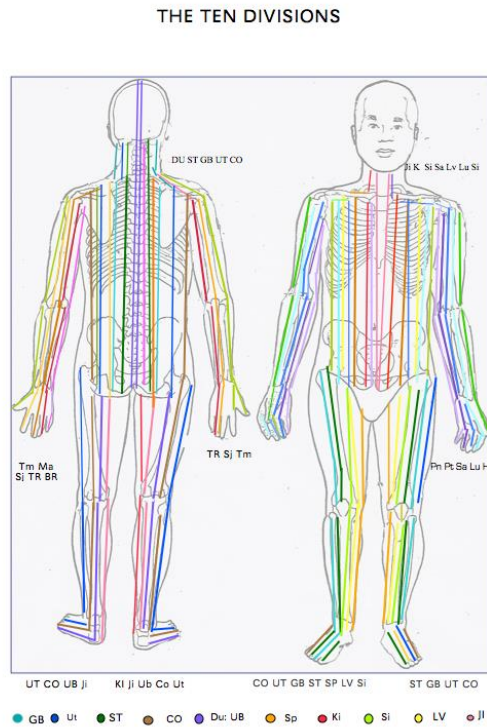
Tracing with color, you find that many of the Chinese trajectories deviate slightly or quite a lot from the actual pathway. For example, the correct color association for the heart organ itself is the green chakra color, yet if you shine green on the traditional Heart meridian, it will not strengthen. The channel that will strengthen with a green light falls to the lateral edge of the ulna and the radius, near the traditional Lung channel. Tapping along this channel to stress it will then reflect on the heart pulse, causing that pulse to weaken momentarily.

The meridian that the Chinese teach as the Heart Channel pertains to the pituitary. The pituitary is often considered to be the master gland, and so might be seen as a more fitting emperor. This Pituitary emperor's channel wears the royal purple.

The Chinese designated one of the yang arm channels as the Small Intestine channel, but the chakra association makes the Small Intestine into a yin leg channel. Two pointing, tapping and digital charting, all prove that the meridian that associates with the small intestine can only be a leg yin channel. The channel the Chinese had designated as the Small Intestine meridian turns out to be a head channel that associates with the brain.

All of the yin pathways now traverse the palms and soles of the feet and hands, while traditionally several did not. Nor were the digital entry and exit points on each digit correct. A couple of the meridians themselves were attributed to the wrong organ.³

The Chinese had 14 channels, but there are now 20 obvious pathways that strengthen with color. There are thus six new channels that need to find organs. The Chinese had no reproductive channels, and no head channels associated with the endocrine organs above the neck. In the new map, there is a Thyroid channel, a Pineal, a Pituitary, a Brain and a Salivary channel, plus two reproductive organ channels.



There are now 20 channels that any half decent muscle tester can follow with pieces of colored gels placed over a flashlight. These 20 channels now need 10 pulse positions instead of six. Traditionally the pulse position corresponded to the location of the channels on the body; the upper pulse was upper torso, mid pulse was mid torso, and lower pulse was lower body. The new head channels needed a new pulse position however, as did the lower reproductive organs. The head channels find a pulse position above the traditional first position, and the sex organs and bladder reflect in a position below the traditional set of pulses.

Originally the central channels, Du and Ren had no pulse position. Dr. Walther's Applied Kinesiology textbook⁴ proposed a Du pulse position on the thenar eminence. This

idea opened worlds for me. The Du/Bladder pulse actually is not found distal to the wrist crease, because it is not a head pulse, but never mind, it allowed me to move outside the box of traditional Chinese thinking. It made me realize there was probably an upper body Du channel, which turned out to associate with the brain. Its pulse is found on the left thenar eminence.

Not only do the meridians strengthen with their chakra color, but so do the pulse positions. Two rainbow colored sequences can also be found winding back and forth between the left and right pulse positions. One ascending rainbow for the yang, and a descending rainbow for the yin. Many of the traditional Chinese pulse positions were either slightly off or frankly wrong. The color correspondences of the pulses were crucial for me in determining the proper pulse/organ positions.

pulse position	yang left	yin left	yang right	yin left
1st thenar	Brain 11 infrared	Pineal violet 20	Thyroid red 15	Pituitary Indigo 19
2nd wrist	Thymus orange 14	Salivary blue 18	Mammary Yellow 13	Lungs turquoise 17
3rd mid jiao	Pancreas lime 12	Heart green 16	Stomach green 2	Sm Intestine lime 6
4th middle jiao	Gall Bladder turquoise 3	Liver yellow 7	Uterus blue 4	Spleen 8 orange
5th lower jiao	Colon purple 5	Kidney AD Red 9	Bladder ultraviolet 1	Jing infrared 10

pulse position	yang left	yin left	yang right	yin left
1st thenar	Thyroid infrared 11	Pineal ultraviolet 20	Brain red 15	Pituitary purple 19
2nd wrist	Thymus orange 14	Salivary blue 18	Mammary Yellow 13	Lungs turquoise 17
3rd mid jiao	Pancreas lime 12	Heart green 16	Stomach green 2	Sm Intestine lime 6
4th middle jiao	Gall Bladder turquoise 3	Liver yellow 7	Uterus blue 4	Spleen 8 orange
5th lower jiao	Colon purple 5	Kidney AD Red 9	Bladder violet 1	Jing infrared 10

When you get into the digital aspect of the channels (see my book in the reference section), there is also a pattern of how the channel numbers pair together that further cements this new positioning of the pulses. Some truths are self-evident, but many more need confirmation from muscle testing.

Next, I wanted to see if some of the points on each the channels themselves responded to color. It turns out that about every third or fourth point frequency on the channels responded to a chakra color, and that these formed another three sets of a rainbow sequence, ascending and descending the limbs.

What are the uses of color with the chakras and channels? Shining the appropriate colored light directly on a chakra will strengthen both the chakra itself, and the pulse of its associated organ. Shining a colored light on a particular chakra, will strengthen the chakra



below it on the yin side and above it on the yang. Infrared strengthens red, red strengthens orange, orange strengthens yellow, and so forth on the yang side, opposite on the yin. Yin energy descends, and yang ascends, or so the Chinese teach. The same holds true for the chakra colored points on the limbs. I have seen no depleting energy by running frequencies of any sequence of colors; but I don't do work directly by shining lights on chakras or points, I just use frequencies that resonate with colors.

Conclusion

To summarize then, the colors of the meridians turn out to be those associated with the revised chakras. The color that will strengthen, shining over each organ itself, is the organ color of the chakra. The yin color/organ associations belong to one chakra rainbow on the front, yang to another on the back. If the heart chakra color is green, then that will be the color of the Heart meridian. The same color association of each organ is repeated on the Shu points along the spine, and in the color, that strengthens each pulse. The correct trajectory of every meridian can be confirmed by tracing its color pathway.

There may or may not turn out to be healing properties associated with colors. The more interesting question may turn out to be why is nature using color as an organizing principle? I have no answer, I simply wanted to show how color can help reorganize a whole set of pathways and pulse positions that had be fixed through tradition. Proper energetic verification can unmask the inconsistencies of an entire system of healing.

Illustrations are all hand done by the author with written permission given by those illustrated.

1. Chakras
2. Yin and Yang chakras
3. Five elements
4. Meridian map
5. Pulses with colors
6. Leg bands

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The Color of Meridians
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New Correction of Primary Internal Frontal Cranial Fault

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Abstract

There is a neurologic relationship between a primary internal frontal cranial fault and contralateral external pterygoid. There is reproducible neurologic evidence (and muscle-cranial correlation) that applying set point technique to the contralateral external pterygoid corrects a primary internal frontal cranial fault. This technique corrects the cranial fault without having to manually adjust the cranial bone. When applied correctly, manual adjusting of the primary internal frontal cranial fault is no longer needed.

Key Indexing Terms

Applied Kinesiology, Cranial Fault, Primary Internal Frontal, External Pterygoid, Set Point Technique

Introduction

An internal frontal cranial fault is seen when the frontal bone becomes internally fixated and the sphenoid tilts down on the opposite side of the internal frontal¹. Features of an internal frontal cranial fault are ipsilateral neck flexor weakness, tenderness at the supraorbital notch and larger nares on the side of the internal frontal. The orbit on the side of the internal frontal will be smaller from the high sphenoid and eye will appear extruded.²

There are two aspects of the external pterygoid muscle. The origin of the superior aspect arises from infratemporal crest and adjacent greater wing of the sphenoid. The origin of the inferior aspect arises from lateral lamina of pterygoid process. The external pterygoid inserts into the fovea of mandible, articular disc and capsule of temporomandibular joint (TMJ).³

The external pterygoid muscles are the primary opening muscles of the jaw. They protrude and shift the jaw laterally as part of the chewing and grinding aspects of mastication. The innervation is the nerve to external pterygoid from the mandibular division of trigeminal nerve. Sensory information from the cervical spine converges with trigeminal afferents within the spinal tract of the trigeminal nucleus, while fibers arriving in the subnucleus caudalis descend further down to C2-C3 and even C6. The superficial sensory distribution of the upper cervical nerves also innervates parts of the face, especially the mandibular angle.⁴

The external pterygoid is a frequent cause of recurrent cranial (sacral) and temporal mandibular joint problems.⁵ On the side opposite the primary internal frontal, a hypertonic external pterygoid causes a tilting and inferior sphenoid malposition. A TMJ deviation away from the internal frontal side may be seen during opening. Often, tenderness to

palpation of the external pterygoid will be noted.⁶

Materials and Methods

Examination for an internal frontal cranial fault can be done by challenging the maxilla inward with light digital pressure and testing for inhibition of a previously facilitated muscle, upon manual muscle testing.

Once an internal frontal cranial fault has been identified re-challenge the internal frontal with the head in extension. If the inhibition still occurs, this confirms a primary mechanical cranial fault. If the muscle facilitates, the internal frontal fault is secondary and other factors need to be examined.

Traditional correction of an internal frontal is a three-step process. First apply pressure to the ipsilateral hard palate, pulling the frontal and maxilla bones externally. Second apply superior pressure to the contralateral pterygoid plate. Lastly, pull inferior on the ipsilateral pterygoid process. This levels the tilted sphenoid and reduces the internal frontal malposition.⁵

Instead, when a primary internal frontal has been identified, set point to the opposite external pterygoid should be done. With an internal frontal there will be an inhibition of an ipsilateral neck flexor, usually scalene. This inhibition will facilitate with therapy localization to the opposite external pterygoid.

Using a strong muscle, rub over the external pterygoid, opposite the primary internal frontal cranial fault and tap the acupuncture head points on the same side, retesting the strong indicator muscle for weakness. The correct head point will be identified when muscle inhibition occurs upon manual muscle testing. Once identified use Set Point Technique to treat.

Gently tap the head point that generated the muscle inhibition while rubbing the external pterygoid for 30-45 seconds. Re-challenge to confirm correction has been made. Further correction is confirmed when re-challenging for the internal frontal. Resolution of this cranial fault should now be seen. Facilitation of the previously inhibited neck flexor will now be seen. TMJ symmetry should also improve.

Set Point Technique is a pain relief technique utilizing tapping of acupuncture head points with patient or doctor simultaneously touching the area of injury or altered sensation. Set Point Technique appears to inhibit nociceptive transmission.⁶

Discussion

The external pterygoid is the key to understanding and managing TMJ dysfunction syndrome and related cranial mandibular disorders.⁸

Internal frontals can occur for many reasons. Systemically, this can be caused from an injury, pain, or any other causes of neurologic disorganization. With these systemic causes

of cranial faults, procedures such as injury recall technique (IRT), nociception stimulating blocking (NSB), set point, systemic nutritional factors, gut and immune systems need to be investigated and balanced to correct neurologic disorganization. Once these systemic factors have been addressed and treated, often a previous internal cranial fault will be corrected.

If an internal frontal is still present at this time, challenge the internal frontal with the neck in extension. If inhibition still occurs a “primary” mechanical internal frontal cranial fault has been identified. If it does not other factors of neurologic disorganization should be furthered examined. If the inhibition persists a primary internal frontal has been identified. This means the cranial bone itself needs to be adjusted. However, we know that muscles move bones. Therefore, the hypertonic external pterygoid (opposite of the internal frontal) needs a neurologic procedure (set point) in order to reduce the hypertonicity and balance the TMJ and cranial motion, resolving the internal frontal.

With a primary internal frontal an expected neurologic inhibition of the ipsilateral neck flexor, usually the scalene, is seen. This compensatory mechanism from the internal frontal fault is negated with therapy localization to the opposite external pterygoid.

The neurologic imbalance of the external pterygoid causes a discontinuity in temporal mandibular joint (TMJ) movement seen during opening. A noticeable deviation toward the side of the primary internal frontal is seen with opening. This is due to the neurologic inhibition of the contralateral external pterygoid, giving a compensatory hypertonicity of the ipsilateral external pterygoid and a relative deviation to the side of the primary internal frontal. This compensation resolves once the opposite external pterygoid is treated with Set Point Technique.

Set Point Technique causes a net parasympathetic correction, balancing the neurologic input to the muscle and joint mechanoreceptors of the external pterygoid, leveling the sphenoid and correcting the primary internal frontal. It is this author's experience that Set Point Technique of the external pterygoid on the opposite side of the internal frontal cranial fault, corrects a primary internal frontal cranial fault. Any acupuncture head point, on the external pterygoid, side may be the causal factor. The most common acupuncture head points needing treatment are ST-1, LI-20 or SI-19.

Set Point Technique, like injury recall and nociception stimulation blocking technique, reduce cortical and/or cerebellar asymmetry and restores normal muscle spindle cell control mechanisms necessary for muscular and postural control. Addressing these patterns of aberrant neurologic function first optimizes response to subsequent therapies and help avoid recidivism.⁹

Conclusion

We know muscles move bones. Therefore, if a bone is out of place there is neurologic dysfunction of an attached muscle. Cranial bones are no different. If a cranial is present, there must be an identifiable muscle with neurologic dysfunction resulting in that cranial

fault pattern. With a primary internal frontal cranial fault the problem lies within the opposite external pterygoid. Once the neurologic inhibiting pattern is treated, the primary internal frontal is corrected.

There are expected neurologic patterns seen with in primary cranial faults. When these are identified and corrected balance is restored to the nervous system causing optimal and proper joint movement. This negates the need for manual correction of cranial bones and mandible.

Similar expected patterns can be seen in the upper trapezius, levator scapulae, temporalis, neck flexors / extensors, internal pterygoid, hyoid and suboccipital muscles with other primary cranial and TMJ faults. Once neurologic balance is restored to these muscles using this same technique, any primary cranial fault resolves without the need for manual adjusting.

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**New Correction of Primary Internal Frontal Cranial Fault
Adam M. Davis D.C., DIBAK, D.A.B.C.A., D.C.B.C.N.**

Behind the A.K. Curtain: When You're Doing It All Right and the Expected Results Won't 'Take' Old thoughts revisited, New Thoughts to Consider

Scott G. Einhorn D.C., C.N.

Abstract

This clearly is not a formal research document, but rather an exploration into tried and true Applied Kinesiological treatment patterns.

We, as healing arts practitioners, have been fighting the good fight between the forces of entropy and our pursuit of organized complexity / homeostasis.

It has become increasingly difficult, as I am going to presume we all know and have experienced the roadblocks, to 'get' the major and minor office miracles, which seemed to be more common in the Old Days.

This paper will briefly elaborate on some of these roadblocks.

Following that, I will then present functional procedures I have developed, which build upon what I, and most of us here I would think, have learned from some of our well-known instructors.

Nothing presented in this paper is a Be-All or an End-All. Functional Medicine and Functional Neurology specifically, is an ever-changing world unto itself – and well it both should be and must be.

Key Indexing Terms

Functional Neurology, Homeostasis, Entropy, Meridian, Nail Points, Oxygenation, Grounding, Hydration, Rib Compression, Functional Gait Analysis, Teeth

Discussion

On the subject of functional neurology, neurology that we get to actually 'get our hands dirty' with; in modern times, we of course must hearken to all the works of Drs. Goodheart, Jr., David Walther, and so many more who came into Applied Kinesiology closely by their sides, or very closely followed. Who can even tabulate the debt we all owe to the original

Dirty Dozen? In more current incarnations, there remains an equivalent amount of brilliance, there are all manner of new texts, manuals and powerful systems – all with the expressed efforts of taking systems – systems with so many variables it would require a supercomputer to keep track of what was occurring in the cell, picosecond by picosecond, if such a program could even be written - and making these systems something we can touch, and feel, and understand, and gently coerce into a higher level of function. And there is that battle with entropy again.

The Fingers

As humans have continued to move from the industrial age into the information age with alarming speed and we ‘unnaturally’ use our bodies less and less with the expected consequences. While not as dexterous as our close Simian relatives, who seem to be able to build a ship in a bottle with their feet, patients, nonetheless, have opposable thumbs which demand to be used. (Not to mention all the other fingers.) Too many times to count, I have found the lack of finger activity to be strongly complicit in the patient’s clinical picture, though they almost never know it. The expected meridian aberrations are practically 100 percent.

The Toes

In the simplest of explanations, these provide support and balance and all manner of proprioceptive input, as we walk on all the wide varieties of natural surfaces the Earth presents. Can you see where I’m going with this now? Rare is the individual who makes a conscious effort to make sure they live some actual ‘in your face’ outdoor life. And by that, I mean of course, being barefoot. No need to elaborate here. With all this signaling missing from the ‘toes and tarsals’, we have taken away some of the brain’s abilities to monitor and react appropriately, to both surface and postural changes. These pathways will never become entrained, nor even generated in the first place. I have seen hundreds of patients, who literally have never been barefoot in the outdoors for most of their lives. Clinically, metacarpal and even more so, metatarsal mobilization, becomes imperative, along with the obvious ADL instruction to the patient. During the old days, I was always impressed by the sheer number of all manner of positive findings which cleared, when motion *into*, and the likely stimulation of nail points, was administered. During the last decade or more in my office, it is required that every patient has every finger and toe mobilized before any analyses are begun. Functionally this ties in very nicely with Dr. Donofrio’s work with hemisphere integration, which I find neurologically appropriate to check every patient, every visit. This thirty second add-on is invaluable.

Bra Syndrome

I have got to believe that 100 percent of us have all seen this. Obviously and simply, a great percentage of women wear bras which are either too tight, or just ill fitting. The resultant thoracic and costal compression lends itself to all manner of functional respiratory (lymphatic and other) issues. This absolutely gets in the way of our clinical progress. Not to mention the likely non-stop stimulation / fatigue of Spleen 21. This phenomenon must be addressed and corrected.

Hydration

We all know the drill here. Many decades ago it became extraordinarily clear to me that this was the number one functional ‘behind the scenes’ cause of neurologic disorganization. It may be an aldosterone issue, a renin issue, and/or a lymphatic issue. Very often you will find that if you get the patient to just *slow down* when they drink, this is good enough to stabilize a positive kidney 27, regardless of polarity. Along this same line of thinking, I have found that seniors need to be very serious about holding foods and liquids in their mouths before swallowing. This is briefly touched upon in Synopses, 2nd Ed., page 144. But like anything else, I know for a fact the devil is in the details.

Gustatory Timing

Many patients, especially unhealthy senior, have such disturbed zinc, parotid and/or RNA activity, that what we would deem as normal ingestion would be nearly worthless to these patients. If muscle testing is used to evaluate the time required before an appropriate inhibited indicator resolves, be prepared to be stunned at how long it may take. An unwell senior, a highly toxic individual or a strongly disorganized patient becomes a true labor of love. Normal tactics are oft ineffective.

Shoes

There is yet another factor when therapeutic expectations are not being met. Shoes that compress the toes are an enormous problem. We can all understand the neurologic, mechanical and meridian aberrations which are occurring.

It’s a nightmare of a problem for those patients who love these shoes, and it will be the unusual individual who will agree to reduce their time in them. Every person will be different in regards to where their personal tipping point is with these shoes. If they are ‘special occasion’ shoes, the women will usually be able to get away without suffering long term consequences. Pay very close attention to this, and if you don’t actually see the shoes, ask your female patients how often they wear this style. This is an absolute impediment to results.

Eyewear

On the other end of the system, we have another fairly common challenge to the lack of expected results, despite all our magnificent efforts to the contrary; improper prescription eyewear. Need I say more? This is direct input into the central nervous system. If aberrant, we can enumerate all the possible consequences related to vision such as postural issues and all the sequelae of sympathetic stress. It’s very simple to test the patient for near, middle and far sightedness. We are not testing for accuracy, just for neural disturbance. When I have found disturbances, and sent them back for a very careful re-examination of their prescription, I have been right 100 percent of the time. When your results are not forthcoming and this has not been thought of, check their sightedness if they have prescription eyewear. As A.K. practitioners, we can all easily do this.

The Teeth

The only thing which needs to be said here is that it is reasonable that the allied profession with which we should work most closely is dentistry. Cuspation changes resulting from grinding, implants, bridgework, and missing teeth and other dental stressors, will result in changes in cranial pressures and function. I will go out on a limb and say that a patient with neurologically involved dental history will never achieve high level changes. This patient is being pushed into chaos, into entropy, and away from homeostasis. And to make matters worse, corrective dentistry is very expensive; therefore, scarce few can seek proper dental corrections. Explain this to the patient and seriously hope they understand.

Fresh Air

Let's move into a realm a bit more esoteric, but nonetheless, just as applicable when the clinical results are stuck. This point, I can well imagine, will be different depending on where your office is, geographically. A strange and absurdly large percentage of my patients, almost never breathe fresh air as they live predominantly in air-conditioning. This introduces the whole ionization phenomenon and the lack of negative ions. Home, to car, to office, to shopping and back to car to home, with every possible permutation, most people never see the sun and almost never breathe negatively ionized fresh air. Getting patients to slowly shift into making these changes is a lot easier than getting them out of pointy shoes, but nonetheless, if you haven't checked for this in their lifestyle history, it's worth asking about.

Breathing

It has been commonly seen in my practice that almost everyone does *not* use their lower lung fields for breathing. Most are all rib breathers, using the accessory respiratory muscles and the upper lobes only. Those who do breathe deeply are *usually* pulling in their abdominals instead of doing what it is that human animals are supposed to do, relax them. The diaphragm is inhibited and the clear and obvious result of either or both of these, is poor oxygenation. You can throw Cataplex E2 at the patient all day long, but it makes a lot more sense to get the all lobes involved. On a side note, there is the whole traditional Chinese medicine perspective on pumping chi. There is also the effect of volumetric pressure changes in the abdominal cavity, allowing for visceral massage with normal (*read*, deep) respiration.

Concluding this section of the discussion, when we have done all the right work, and fought the good fight, I would daresay that behind the A.K. curtain, there may very well be multiple other factors, some mentioned above, and others, that may potentially bring you to a clinical halt. You are all invited to, as Dr. Goodheart was so fond of saying, to "take a step backward, and say why is that?"

The above has largely been about what the patient can and should do to move their own lives toward homeostasis, and away from chaos.

Technique Pearls

Now we look at the updating of some classic techniques, to reflect what I am terming, a deeper integration of function. For me, I implicitly trust the nervous system. I strain at both gnats and camels when it comes to what a variable may be (hence, the aforementioned-

ed need for a supercomputer).

Weight Bearing- Where You Live

Neuromusculoskeletal lesions exist in any number of somatic patterns, and if one does not think this through and alter one's examination perspective, a great many puzzle pieces will remain obscured. Life is lived weight bearing. Not only that, life is lived in all possible combinations of motion axes.

Either sitting or standing or both, after clearing the spine of all lesions in neutral posture, put the patient through flexion in all planes; forward, backwards, rotation and laterally. Re-evaluate for new single plane spinal involvement. Then start combining the axes. Laterally flex (each side) WITH both right and left torso rotation, on each side. Check spine for involvement. Then flex & extend the spine, adding in bilateral rotational components, and again, re-assess for spinal & costovertebral involvement, **in position**. Do not return to neutral. I can guarantee that for those practitioners who have evaluated their patients through all these planes and axes of motion, it will be a brave new world in the effort to bring order to entropy.

The argument can fairly be made that with attention to systemic pH, tonic labyrinthine reflexes, Pitch Roll Yaw & Tilt, equilibrium reflexes, and others, the above multi-axis 'chaos' will be self-corrected. The core question to all the above, is the spinal chaos causal, or just reactive? Just as we know that associated points and subluxations are either ends of a double-sided arrow, the above certainly warrants investigation on larger scale.

Along those lines, this would be a good time to evaluate the anterior rib heads. Above, I mentioned my implicit trust in the central nervous system. This is where the rubber meets the road. We find a spinal or costovertebral lesion during the above planar challenges. In my work, I have made the process easier using either a percussive instrument or an Oster strap on hand massager (also fantastic for stress receptors!) I will apply the instrument to the joint in question, in the plane in question, in the respiratory phase in question (if there is one) and test an inhibited indicator for resolution. I do not assume to know which is more appropriate at any one moment in time. I let the central nervous system answer that question. Again, this is done both posteriorly and anteriorly.

Gait Analysis

This can be supine with blocks, mimicking what a postural analysis found, or it can be done standing, putting either leg forward, splitting the weight distribution, putting the arms where they should be.

When I first started to practice in Boulder, I was involved in Motion Palpation. It only took me a few months to decide that this made no sense to me, as it did not account for what I suspected were all manner of spinal variations. Yes, I know the experienced motion palpator will respond by stating that with practice, one will be able to feel the individual variation in a person's spine, as separate from fixations or subluxation. Yes, this occurred to me. Carrying that memory with me, fast forward many years, I altered what I was doing

with standing gait. It made much more sense to me that it would be more accurate to check the patient in the gait pattern they live in.

Yes, in The 2nd Ed. of Synopsis, Dr. Goodheart's 'walking gait' is described. But, here I must quote Dr. Walther as he writes, put the patient in a "simulated gait position...". Due to my thoughts of spinal variation, I needed to expand upon a static weight bearing posture for gait analysis to evaluate the patient 'where they lived'. From the perspective of central nervous system stressors, I have the patient walk down and back, and stop, with one of their legs (and arm) forward, and then do the usual testing of the latissimus, the sternocleidomastoid and, the upper trapezius. I have them repeat it, but turning the other way before the return trip. Then it all repeats, landing with the other leg forward. What you do about any newly found lesions, which were not there with the standard 'walking gait' analysis, per Synopsis is up to you. Find the need, fill the need, prove that you did it, then move on. In my work, I use the Oster hand massager at the spinal lesion, while 'in pattern', if it is not intra-osseous. But I am not discussing treatment here, just a way to dig deeper diagnostically, under the aegis of Functional Neurology.

Injury Recall Technique

Don't leave home without it. Injury recall technique is an utterly fascinating process for digging into the central nervous system, setting events to right. But what happens when your practice is largely non-musculoskeletal, but visceral/systemic, and it's the organs which have been traumatized? To some extent this is addressed on Pg 185 of Synopsis, 2nd Ed., "Stimulation over the trauma area stimulates mechanoreceptors to block a pathway." So the problem remains how to therapy localize the deep target tissue specifically? Dr. Schmitt, in his 2015 presentation in Steamboat Springs, introduced various topics relating to the purpose of and using for therapy, the insular cortex. I am not discussing any details presented at that event. Interested parties can meet with Dr. Schmitt and get that information. But for me, I needed something to get into the deeper target tissue. Combining parts of the insular cortex procedure with the injury recall technique, worked fantastically for this purpose. This is something of a missing link for me that needed to be filled. So far in my experience, this works wonderfully.

Neuro-Emotional Technique.

There is no doubt that Dr. Walker has got the goods. The BASIC procedure of holding the pulse point during an neuroemotional complex correction, localizing the emotional neurovasculars while tapping out the spine with proper respiratory phases worked, but I wanted to modify this technique to enable a deeper resolution.

My update on the now classic neuroemotional technique procedure is twofold: 1. I simultaneously use flower remedies, or essential oils, nasally (not topically). 2. I have expanded the range of tapping points. I am an enormous believer in the 'why not' attitude, so I use the entire governing vessel, not just the spinal levels, for the tap out. If I need to access governing vessel 24 (upper or lower), I have the patient spread their fingers while I tap between them. So far, this has worked excellently. The addition of the extra cranial governing vessel points to the previous spinal set (only) is amazing. You are all encouraged to be doing this, if having taken this work already.

Just as computer technology progresses exponentially, our knowledge base of how to literally put our hands on the central nervous system to elicit appropriate changes has accelerated beyond many of the classic A.K. procedures. This fact has nothing to do with my preferences or my opinion. It's just the way it is, the natural order (homeostasis) of things.

Conclusion

In regards to having experienced and practiced Applied Kinesiology, and yet, not always having the desired health results we look for, we must at this point in human history acknowledge a final chapter in the struggle. In my opinion, we must not forget that we are dealing with a global threat. Detailed elaboration is not germane here, as all the statistics can be looked up, but the Fukushima radiation disaster is planetary and it is ongoing as we speak. It is primarily a disaster of the northern hemisphere, but soon enough, as all things do, it will spread as the energies from this 'global lesion' searches for its own entropy. It's a difficult energetic event and there is a planetary lesson here somewhere. The radiation is obviously a very, very powerful oxidant; high energy, very yang. But now that it has a life of its own. Like a living creature searching for food, it is spreading through the planet's largest ocean, and throughout all of the American land mass, diluting itself, lowering its potential, becoming more yin. People are sickened. Systems are burdened. We are all being affected, one way or another. It would be irresponsible of all of us to not keep this in mind, when our patients come ring our bells.

Einstein said that imagination is more important than knowledge. If we don't combine and recombine, and then do it all again, someone else will. AK will, then, forever be in a catch-up mode. We absolutely must stay scientifically accurate and defensible whenever possible. But truth to power, that will never happen as much as we would like it to at our current level of bio-scientific assessment. The technology will need to catch up to the art and imagination of dealing with humans and our billions of neuronal interconnects. There is no end to that which can be tested when one's motive is creativity for the sake of the patient and their healing.

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Behind the A.K. Curtain
Scott Einhorn, D.C., D.N.

Adapting New Ideas, Without Changing How to Think

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

Discussion

1964 Dr. Goodheart created a whole system of thinking called Applied Kinesiology, Applied Kinesiology or AK for short, was more than just manual muscle testing. It was a way of listening and understanding what the Human body wants. AK in its interpretations includes the triad of health, the three diagnostic methods and five factors of correction. My assertion is even with an ever-new and adapting world, as well as new tools in our tool bag, we should not forget the priority of fixing muscles like Dr. Goodheart did in 1964.

I have seen in the modern era of AK a temptation to simplify and streamline as well as avoid more detailed muscle testing, and I think our Applied Kinesiology health-care suffers when we do so. I'm not taking away from the myriad of new techniques, from unofficial but valid neurological models to chemistry flow charts. However, at the end of the day, therapy Localization from a generic universal muscle tests are meant to be just a time saver and not replace good muscle testing.

I have taken many Applied Kinesiology off shoot techniques and muscle testing derivatives, which are very valid in their own right, yet not what I would call Applied Kinesiology or Professional Applied Kinesiology.

In this paper, I will purposely not name other muscle testing techniques rather just explain some of my observations and affirmation of what Applied Kinesiology is. This discussion is not meant to say or judge other techniques in any way as invalid, only clarifying how Applied Kinesiology is and should be the "Gold Standard."

My first Observation is a lack of standards. In Applied Kinesiology, we officially have three standards or windows to guide our evaluation of what muscles to test. They are: Temporal sphenoidal Line, Pulse point Diagnosis, and Posture/Gait analysis. While we are an eclectic field of Medical doctors, Chiropractors, dentists to name a few, we would not or should not take an allopathic assumption from our examination and only test those ideas. For example, suspecting our patient has a thyroid problem, so we only test teres minor muscle. We must not ignore what the "body via muscles" are communicating to us. The body never lies, but we need to listen to the whole story. I have on countless situations made the clinical diagnosis of a thyroid or adrenal problem and the muscles to no avail

didn't give me a thyroid and/or adrenal muscle. Absolutely, we want to include the teres minor in this example. But far too often I see students and doctors create the problems they think of, and wonder why their results are poor.

My goal is treat the patient with the problem, not the problem. If in the above example, the thyroid is not fixed via some remote or misunderstood biological problem, then it will still be there to fix when you are almost done in fact it usually knocks you over if you are still looking.

We can and should do provocative testing, but fix the basics first. We learned from the basic 100-hour course that provocative tests like the "Homocysteine" challenge test can find us a hidden metabolic heart issue. However, we need to "make sure it fits the big picture." I can challenge not just my elderly patients, but children too for example. Both groups may need B7/ B12, even though the elderly group may seem more likely. Does this mean we should give it? Careful here, I suggest two things from 1964 AK. First, fix what you find, and then perform the "temporal tap technique" by again doing the oral Homocysteine challenge. In my 19 years of practice, this has saved my patients lots of unnecessary nutrition. If the body has another priority, we owe it to our patient to correct them first and see if the human body can't fix its own B7/ B12 deficiency. The biggest trend is to do homeopathic north/south pole testing. Some very smart clinicians have entire protocols on this kind of provocative testing. The problem is the same. We can ask a question with a stress test. Does mercury stress you out? Ok, what potency is it adaptive or insulting? What counter or antidote corrects this test? This is dialoguing with the human body and very advanced work. My contention is to please fix what the body is asking for first. Use your skills to test a variety of muscles, and have a standard for testing them as we were taught such as posture. I say this because far too often I see muscle testing out in practice which addresses some awesome findings from the doctor, yet the patient walks away with the same torqued and bent over posture. Priorities first. First fix the body, then use shortcuts for whatever techniques you are good at. If in the end, we meet both objectives then your work is finished. For me this is akin to listening to your husbands and wives, children and yes patient's needs from a compassionate place. Not just doing what you think is best. Often times these basic things like posture is seen as compensations or even adaptations. There has been much debate about this known as switching or neurologically disorganized etc. We do need to translate the language of the body first and allow it to start the healing process. Then, we can move into advanced procedures for very specific problems.

Conclusion

The basic tenet of chiropractic is that the body has an innate intelligence. That is to say, it is the best doctor in the room. Yes, better than us, if it has accurate information to go about

its business. I see many students and doctors treating the kitchen sink and disallowing the patient the empowerment of healing themselves. Integrity lies not in the doctor with the busiest repeat customer that needs our help forever, or the doctor who makes the most volume of nutrition sales. Integrity is found by earnestly looking for answers and giving them to our patients affordably with the idea of getting them better as quick as we can. It is a righteous goal to consider ourselves as the human translators restoring the body's discord in communication. Being in awe with the miracles and taking no credit but the credit of doing our work as Applied Kinesiologists.

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Adapting New Ideas, Without Changing How to Think
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Interdependence, The Muscle Code

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Abstract

In the study of Traditional Chinese Medicine and in furthering my Applied Kinesiology (AK) "Tool Bag," I have found and incorporated a few extra tools. In teaching the basic 100 hours, we dedicate one full weekend to AK's synthesis and use of our oldest holistic healing medicine we entitle as: Meridian Theory. In AK, we learn how to muscle test for the most deficient meridian in minutes which can take many years as an acupuncturist to do. This is one of the most useful gifts of AK to evaluate the meridian system deficiency all in one step. To be fair, an acupuncturist is looking and feeling for more than just deficient meridian energy flow. There is somewhere between 27-29 different pulse qualities, times 18 different pulse positions. This can multiply very quickly with each unique pulse of a person.

Discussion

I will add one more simple skill and interpretation besides the AK doctor's deficient channel.

First, I would like to discuss How we diagnosis as AK doctors (subsequent discussion in my other proceedings entitled "Adapting new ideas, without changing how to think.") In Applied Kinesiology we officially have three standards or windows to guide our evaluation of which muscles to test. They are: Temporal sphenoidal Line, Pulse point Diagnosis, and Posture/Gait analysis. From this we draw on many muscle imbalances from "Weak" or neurologically non-facilitated to "Too Strong" or over facilitation. It is a good idea to correlate with as many other findings as possible, like outside lab work, proper history taking, chief complaints, range of motion and the like. Once these factors are considered, we then have many advanced techniques and methods to go about correcting all the above. From this standpoint, I would like to add another skillset.

Years ago, I started trying to feel the "most deficient pulse point." and then using the standard AK method to confirm or deny. I was surprised that after a few months my accuracy improved dramatically. Now if I can get you to feel and test, then feel for one more thing. Is the pulse fast, slow or normal? In 8 principal diagnosis of Traditional Chinese Medicine from the "Yellow Emperor's classics," rapid vs. slow can be interpreted as a global excess or deficiency. If we go back to the 100 hours we learn that the "Taji symbol" of yin and yang, is an image of yin inside yang, and yang inside yin at all times, interdependent of each other.

In other words, there is a big difference between a deficient or excess individual channel and the whole system. As chiropractors, we can maybe even interpret this as sympathetic or parasympathetic dominance. The applications are huge with a creative mind if you look at balancing the channel and entire system in harmony. The obvious combinations are

deficient channel in a deficient overall system state, or deficient channel in an overall excess system state. Or deficient channels in a relatively balanced system state. While less common, all of the above options can be dubbed with an excess channel.

Conclusion

In another super simple step, albeit palpation, we have increased our diagnosis skillset. I hope this opens some creative doors to practicing. I can absolutely validate the benefits my practice has seen using this simple distinction.

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**Interdependence, The Muscle Code
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A Sacroiliac Joint Dysfunction: An Applied Kinesiology Approach Treatment

Judith Genest, D.C.

Abstract

Objective

The purpose of this case report is to describe an applied kinesiology management of a patient with sacroiliac joint (SIJ) dysfunction.

Clinical features

A 19-year-old patient experienced moderate right SIJ symptoms. Clinical testing revealed right gluteus medius, right gluteus minimus and the right external oblique on manual muscle testing (MMT). Range of motion was complete without any pain and there was not positive finding upon neurological exam. Orthopedic evaluation revealed a positive thigh trust, Gaenslen's and FABER (Patrick's) tests.

Intervention and outcome

A diagnosis of a right SIJ dysfunction was made. The patient was treated with an applied kinesiology approach, which included injury recall technique, stomatognathic manipulation and pelvis/soft tissue correction. After two treatments, the patient reported a complete resolution of the disorder.

Conclusion

This patient, treated with an applied kinesiology approach, reported a complete resolution of the right SIJ pain.

Key Indexing Terms

Sacroiliac Joint Dysfunction, Applied Kinesiology, Musculoskeletal Manipulation

Introduction

Low back pain (LBP) is a very common condition for which people consult a health care practitioner. It is the most common cause of disability worldwide¹ and a major cause of work absenteeism.^{2,3} There has been increasing interest in the sacroiliac joint (SIJ) in recent years, as an under-recognized cause of chronic low back pain. In patients presenting for evaluation of low back pain, the SIJ was determined to be the source of pain in 14%–22% of cases.^{4,5} Currently available treatment options for SIJ dysfunction include physical therapy,⁶ SIJ steroid injections,⁷ radiofrequency ablation of the SIJ,⁸ and open or minimally invasive⁹ SIJ fusion (SIJF). Differential diagnosis includes: discogenic syndrome, lumbar zygapophyseal joint dysfunction, myofascial syndrome and inflammatory arthritis.¹⁰

Presently, there is an interest for spinal manipulation (SM) and chiropractic care in the treatment of LBP and SIJ dysfunction.¹¹ Studies confirm SM to be effective and safe in the treatment of SIJ dysfunction.^{12,13} Low side effect and beneficial economic impact is also suggested.¹³ The purpose of this case study is to describe a chiropractic treatment using an applied kinesiology technique on a patient with SIJ dysfunction.

Case Report

A 19-year-old patient consulted complaining of a pain located over the right SIJ. The pain appeared a month before, while the patient was performing a squat during training. There was no irradiation in the lower extremity. The value given on a 0-10 visual analogue scale was of 6. The aggravating factors included prolonged sitting (approximately 30 minutes) and standing from a chair. Walking, lying on her back, heat and stretching reduced the pain.

The patient did not suffer from any disease. She took birth control pills. There was not any finding on the systematic review. X-ray of the lumbar and pelvis area did not reveal any anomaly. Blood tests realized by the physician were negative.

The posture revealed a levelled pelvis, a low right shoulder and a low right head tilt. Result of range of motion evaluation of the thoracic, lumbar, and hip was normal. Orthopedic evaluation was performed with positive thigh trust, Gaenslen's and FABER (Patrick's) tests were positive, whereas the Kemp's, Valsalva and straight leg raise tests were negative. Neurologic exam did not reveal any finding. Palpation of the right SIJ reproduced the pain (6/10), while tenderness in the gluteus medius and gluteus minimus (6/10) was detected. The right gluteus medius, right gluteus minimus and the right external oblique were weak on the manual muscle technique (MMT). The technique of muscle testing used was that of Kendall and Kendall.¹⁴

A diagnosis of right SIJ dysfunction was established by the fact that 3 positives stressing tests were positive (thigh trust, Gaenslen and FABER (Patrick's)). [15] Diagnosis differential included discogenic syndrome, facet joint syndrome, myofascial syndrome and inflammatory arthritis.¹⁰

Management and outcomes

On the first visit, the three weak muscles – the right gluteus minimus, the right gluteus medius and the right external oblique – were treated by a technique developed by Walter Smith D.C, the Injury Recall Technique (IRT).¹⁶ This technique is based on the fact that a neurological inhibited weak muscle should strengthen after a spreading manipulation of the neuromuscular spindle cell located in the belly of a muscle, otherwise IRT is needed. The technique consists of pinching, rubbing or cold application of a previously injured area while the ipsilateral talus is pulling inferiorly. It is believed that the ankle is related to trauma by the withdrawal reflex mediated through flexor reflex afferents.¹⁶ In this case, applying IRT over the right temporo-mandibular joint (TMJ) strengthened the three weak muscles. Based on this finding, evaluation of the right TMJ, upper cervical area and the cranium was performed as well. Treatment of the right posterior temporalis by origin insertion, a technique which consists of a deep massage of a nodule located at the origin or insertion of a muscle,¹⁷ was applied, while a C2 anterior subluxation was corrected with a

HVLA (high velocity low amplitude) manipulation. Cranium evaluation, based on Sutherland observation,¹⁸ revealed a glabella fault which is a restriction of the antero-posterior movement of the glabella. A glabella fault is corrected by contact on the glabella and the external occipital protuberance with the two hands pressed toward each other, while the patient inspired orally or nasally. This manipulation is accompanied by an inferior pressure on the first three upper cervical vertebrae (C1-C2-C3).¹⁶ Finally, pelvis correction with DeJarnette category I was made. Pelvic category fault is a system developed by DeJarnette.¹⁹ Category I is a torsion of the pelvis without osseous misalignment at the SIJ.¹⁶ In this case, correction was made with a Dejarnette block placed under the right anterior superior iliac crest and the left acetabulum, while a pumping movement was applied over the left posterior superior iliac crest.¹⁶

On her second visit a week later, a re-examination indicated improvement of pain. The patient reported a 70% improvement and rated her pain as 2 on visual analogue scale of 0 to 10. The three orthopedic SIJ stressing tests remained positive, while palpation over SIJ reduced to 2/10. Tenderness over gluteus minimus and gluteus medius was rated at 2/10. MMT of the external oblique was still weak, while MMT of gluteus minimus and gluteus maximus remained facilitated. The patient reported being able to stay in a seated position for a longer period of time without any pain (60 minutes). Standing from a chair did not reproduce any pain. A sacrum HVLA manipulation was performed with a posterior anterior thrust with pisiform over S2 level. Facial release, which is a deep massage designed to break adherence between facial layers,¹⁶ was also applied on the right piriformis muscle. Category I, TMJ and glabella cranium fault remained corrected.

On her third visit a week later, the patient reported a completed resolution of pain. The three orthopedic SIJ stressing tests were negative, while palpation of SIJ, gluteus minimus and gluteus maximus were rated at 0/10. MMT of the external oblique was strong. The posture was levelled. The patient was able to remain seated without any restriction. Sacral subluxation remained corrected.

Discussion

The efficiency of an applied kinesiology treatment on SIJ dysfunction requires further validation due to its growing popularity. Presently, there are some cases reported and observation made by doctors. In this case, the pain disappeared after two treatments. No adverse reaction has been observed. IRT, stomatognathic system correction and pelvis/soft tissue manipulation have been administered.

The first correction performed, IRT, is a technique introduced by Walter Schmitt²⁰ in applied kinesiology, but originated from the work of podiatrists Robert P Crotty and Bronston.²¹ The objective of this technique is to remove memory of previous trauma recording in the nervous system. The symptom related by the patient could be anywhere in the body, for the nervous system encodes the trauma memory and creates compensation in the body. In this case, trauma in the right ATM could have created a compensation that affected muscles surrounding right SIJ.

In the same vein, treatment of the stomatognathic system, which included TMJ, cranium

and neck structure,²² was done in order to correct imbalances created by the previous trauma. Stomatognathic system correction is also well known to impact the pelvis and lumbar area by its connection from the dura mater and the Lovett Reactor phenomenon (LRP).²³ LRP is described as the movement where the upper cervical vertebrae and the lower lumbar vertebrae move in the same direction and influence each other.¹⁶ For example, C1 and L5 are coupled and move together. This relationship, observed during the walking gait, is extended as the sacrum reacts with the occiput and the ilium with the temporal bone. LRP has been supported by the studies of Inman, where metal pins were inserted into the spinous processes of human subjects and their motion was studied.²³

Finally, pelvis correction by DeJarnette category I, sacrum HVLA manipulation and soft tissue therapy has been administered. As we know, earlier studies have reported the physiologic or functional outcomes of SIJ manipulation, which include reduced muscle inhibition, improved periarticular muscle performance, improved gait symmetry and increased range of motion.²⁴ Furthermore, myofascial therapy, such as the facial flush used in this case, is reported to be effective in musculoskeletal conditions.²⁵

Limitations

Limitations of this case study include the lack of outcome measurements, such as questionnaires and pre-and post SIJ provocative injection evaluation. Furthermore, a combination of IRT, stomatognathic correction, pelvis and soft tissue correction was used, rendering it difficult to distinguish which intervention had the best outcome. Finally, it is possible that a spontaneous resolution of pain is attributable to the normal course of the disorder. In this case, generalization should not be made to similar cases. Additional studies should be carried out in order to obtain accurate conclusions.

Conclusion

The purpose of this case was to describe an applied kinesiology management of a patient with SIJ dysfunction. Successful results were recorded after two treatments, which included IRT, stomatognathic manipulation and pelvis/soft tissue correction. No adverse reaction was reported.

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A Sacroiliac Joint Dysfunction: An Applied Kinesiology Approach Treatment
Judith Genest, D.C.

Low Back Pain with Digestive Issues: An Applied Kinesiology Approach Treatment

Judith Genest, D.C.

Abstract

Objective

The purpose of this case report is to describe an applied kinesiology management of a patient with low back pain and digestive symptoms.

Clinical features

A 61-year-old patient experienced moderate low back pain with bloating and constipation symptoms. Clinical testing revealed a weak left psoas, right rectus femoris and right rectus abdominis upon manual muscle testing (MMT), which responded to therapy localization (TL) over the ileocecal valve point. Range of motion was completed without any pain and there was no positive finding upon neurological exam. Orthopedic evaluation revealed a positive L3-L4 Kemp's test.

Intervention and outcome

A diagnosis of L3-L4 facet joint syndrome was made. The patient was treated with an applied kinesiology approach, which included treatment of the ileocecal valve by spinal manipulation (SM) of L3, right psoas strain counterstrain (SCS) and DeJarnette category III pelvis correction. After one treatment, the patient reported a complete resolution of the low back pain and the constipation has resolved. There was a 50% reduction of the bloating symptoms.

Conclusion

This patient, treated with an applied kinesiology approach, reported a complete resolution of the low back pain and constipation symptoms, whereas the bloating symptoms were improved by 50%.

Key Indexing Terms

Low Back Pain, Applied Kinesiology, Spinal Manipulation, Facet Joint Syndrome, Constipation, Bloating, Ileocecal Valve

Introduction

Low back pain (LBP) is an extremely common problem that most people experience at some point in their life. It is the most common occupational disorder in North America; a major cause of work absenteeism^{1,2} and a leading cause of disability worldwide.³ The 2010 Global Burden of Disease Study revealed that the LBP disability-adjusted life years increased from 58.2 million in 1990 to 83 million in 2010.⁴ The majority of LBP patients

experience non-specific symptoms that cannot be attributed to a serious disease.⁵ A prevalence up to 84% is established in the adult population.⁶ Studies have found the incidence of low back pain is at its highest in the third decade, and overall prevalence increases with age until it reaches the 60–65 year age group, and then gradually declines.⁷

Evidence suggests effectiveness and low adverse reactions of the conservative therapy.⁸ A beneficial economic impact is also suggested.⁸ The purpose of this case study is to describe applied kinesiology care of a patient suffering from chronic low back pain.

Case Report

A 61-year-old biologist consulted for insidious chronic low back pain. Pain was located at L3-L4 level on the right side. The value given to a 0–10 visual analogue scale of her back was of 5. Insidious pain began when the patient was approximately 20 years old. No referred leg pain was reported. Aggravating factors included prolonged static posture for only 20 minutes and lumbar extension. Heat application, flexion and lumbar stretching reduced the pain. No trauma to the lumbar region was noted.

The posture revealed a right internal hip rotation, a left hyperpronation foot, a low right pelvis and a right spine deviation. The head and the shoulder were levelled. There was no restriction with the standing active and passive lumbar range of motion. The complete active and passive extension reproduced the pain. An orthopedic evaluation revealed a positive Kemp's test at L3-L4 level. The Valsalva, straight leg raises, sacral provoking and Faber Patrick's tests did not reproduce any symptoms. There were no findings during the neurologic exam. Palpation of L3-L4 joint and intrinsic muscles reproduced the symptoms the patient grades the pain at 5/10 on the numeric pain rating scale. The left psoas, right rectus femoris and right rectus abdominis were weak upon manual muscle testing (MMT). The technique of muscle testing used was that of Kendall and Kendall.⁹

A diagnosis of L3-L4 facet joint syndrome was established. Facet joint syndrome is a very common cause of LBP, and it has been estimated to account for up to 30% of LBP cases.⁶ Differential diagnosis included sacroiliac syndrome, discogenic syndrome and myofascial pain syndrome.⁶

Management and outcomes

During the first visit, the objective of the treatment was to balance the weak muscles implicated in the problem. There were 3 weak muscles: left psoas, right rectus femoris and right rectus abdominis. A therapy localization (TL) over the ileocecal valve (ICV) strengthened these three muscles. The TL is a discovery from Georges J Goodheart Jr D.C.,¹⁰ where a muscle that is previously weak becomes strong after the patient touches an area in dysfunction linked to the weakness of the muscle.¹¹ The technique is called therapy localization.

The ileocecal valve is a true sphincter existing in the ileum cecum transition zone which has been observed by *in vivo* studies.¹² Its function is to control movement of matter from the small intestine into the colon and to prevent reflux.^{13,14} In applied kinesiology, TL of the ICV is located over the lower right abdominal quadrant.¹⁵ In this case, pulling down

the lower portion of the cecum strengthened the three weak muscles. This challenge indicated a closed ICV.¹⁵

Treatment of the ICV in this case included correction of an anterior L3 subluxation and strain counterstrain (SCS) on the right psoas. Before the treatment, there was a pain over the anterior neurolymphatic or Chapman reflex¹¹ of the rectus abdominis and the quadriceps femoris. The patient graded the tenderness at 6/10 for both reflexes. Strain counterstrain is a muscular therapy developed by Jones on an hypershorted muscle^{16,17} where the central nervous system maintains the intrafusal fiber in an hypershorted state.¹¹ Goodheart developed an applied kinesiology approach for the diagnosis of this condition.¹⁸ He stated that a muscle needing a SCS will be a muscle that will be strong in the clear, but that will weaken after a 3 second maximal contraction.^{18,19} Treatment described by Jones was administered.¹⁷ A tender area graded at 6/10 was located in the belly of the psoas.

After these two corrections, the left psoas, right rectus femoris and right rectus abdominis tested strong upon MMT. The Chapman reflex previously painful at 6/10 diminished to 2/10. There was no positive TL and positive challenge over the closed ICV. Pain at L3-L4 level established at 5/10 was reduced to 2/10. Kemp's test did not produce any symptoms, whereas active and passive extensions were negative. The foot, the pelvis and the spine were on the level upon postural analysis.

Contrariwise, no changes were observed on the right internal hip rotation and with a L5 spinous process, tenderness appeared graded at 4/10. A Category III correction made this ultimate finding disappear. Pelvic category fault is a system developed by DeJarnette.¹¹ The Category III is a dysfunction of L5 on an intact pelvis or vice versa.²⁰

After this correction, symmetry in hip rotation on postural analysis was observed and tenderness was gone when performing the L5 spinous process. Furthermore, the pain over the rectus femoris/rectus abdominis Chapman reflex and L3-L4 level disappeared.

The patient came back one week after the treatment. A disappearance of the pain was reported in the lower back, while the visual analogue scale reduced from 5 to 0. The patient was able to sit and stand without any restriction and pain for as long as the patient wanted. A reduction of 50% of bloating symptoms was noted, and the constipation went away. In fact, the patient was able to eliminate stools daily without any effort. Beforehand, there was a frequency of defecation every 3 days with difficulty. The stools were also well-formed, in contrast of the small balls of feces previously experienced. Postural analysis did not reveal any imbalances. The orthopedic Kemp's test was negative, whereas active and passive lumbar ranges of motion were completed without pain. There was no pain at any lumbar vertebral area level. Psoas, rectus femoris and rectus abdominis remained strong upon MMT. No muscles in the lumbar, pelvis and hip area tested weak upon MMT. TL over the ICV remained neutral. No adverse reaction was observed. Six months after the treatment, low back pain did not return. Intestinal transit was still positive with daily stools. Bloating symptoms did not worsen.

Discussion

The efficiency of applied kinesiology treatment on low back pain requires further validation due to its growing popularity. Presently, there are some cases reported and observations made by doctors. In this case, after only one treatment, low back pain and constipation disappeared, while bloating symptoms were reduced by 50%. No adverse reaction was observed. Treatment of the closed ICV, in this case, seems to have contributed to the resorption of the low back pain and the reduction of the bloating.

To understand the mechanism of the treatment, we have to know the function of the ICV, which is to control the movement of the chyme from the small intestine to the colon, and prevent back up into the ileum.¹² When it does not function properly, alteration of the microbiota¹⁷ and toxic products¹¹ could increase in the small intestine. Bloating symptoms could be a result of that microbiota alteration,²⁰ while fluid retention, on the other side, could be a strategy from the body to reduce the toxicity by diluting it.¹¹ Swelling of an intervertebral disc could be a consequence of that mechanism¹¹ and could cause a facet joint syndrome and intervertebral disc syndrome, which are often observed together.¹¹

In this case, treatment by spinal manipulation (SM) of anterior L3 could have optimized the nerve supply of the ICV by stimulating a viscerosomatic reflex.²³ Parasympathetic stimulation is also well known to create a neurological relaxation of the ICV by the activation of the vagus nerve.¹¹ Category III correction, performed in this treatment, could have activated the vagus nervus and the parasympathetic system by its impact on the dural and the jugular foramen.¹¹ Constipation symptoms expressed by the patient could have been helped by this parasympathetic activation as well.²¹ Furthermore, psoas therapy could have balanced the kidney meridian, which is implicated in acupuncture medicine with ICV treatment.¹¹

On a biochemical perspective, on the other hand, SM^{8,22} and soft tissue therapy²² have demonstrated a positive effect on low back pain by their impact on the joint mechanoreceptors, which result in an optimal vertebral integrity.²³

Limitations

Limitation of the case study includes a possible spontaneous resolution of the symptoms and the results of this report should not be generalized to other patients. Additional case studies are necessary to prove the effectiveness of applied kinesiology management. It is difficult to determine which intervention had the most important impact.

Conclusion

The purpose of this case report was to describe an applied kinesiology management of a patient with LBP and digestive issues. Successful results were recorded after one treatment, which included therapy over the ICV by correction of L3 anterior subluxation, SCS of the psoas muscle and DeJarnette Category III. LBP and constipation disappeared, and there was a 50% improvement with regards to the bloating symptoms. No adverse reaction was

reported. Additional research on the relationship between ICV syndrome and LBP must be carried out for a better guidance of clinicians and improved care for patients.

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Low Back Pain with Digestive Issues: An Applied Kinesiology Approach Treatment
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Chiropractic and Applied Kinesiology Management of Acute Neck Pain Associated with a Cervicogenic Headache: A Case Study

Justin Jefferson-Falardeau, D.C., M.Sc

Abstract

Objective

This report describes the case of a patient with acute neck pain associated with a cervicogenic headache who was managed with chiropractic care and an applied kinesiology approach.

Clinical Features

A 41-year-old woman presented to a private chiropractic clinic with pain in the upper cervical spine associated with a headache in the right orbital zone for 7 days. The patient rated her neck pain at 7 on a pain intensity scale of 0 to 10 but 9/10 when she tried to turn her head to right. Her headache was scaled 3/10 and increased at 5/10 when she moved her neck. Neck range of motion (ROM) showed restricted right rotation (45/70°), extension (30/55°) and left lateral flexion (30/45°) with pain on the right upper cervical. Orthopedic examination revealed the right cervical compression test created pain at the level of the right C2-3 facet joint. Pressure on the trigger points in right sub-occipital muscles increased the patient's symptoms in her right orbital zone.

Intervention and Outcomes

Chiropractic management was performed including myofascial therapy, spine adjustments, emotional technique and home recommendations. After 5 days (2 treatments), patient showed no neck pain and no symptoms of headache. Neck ROM became normal and pain-free.

Conclusion

In the present case, traditional chiropractic management combined with an applied kinesiology approach resulted in a complete recovery for that patient with acute neck pain associated with a cervicogenic headache. Patient's emotional status was relevant to this case and should not be overlooked by applied kinesiologists.

Key Indexing Terms

Neck Pain, Cervicogenic Headache, Chiropractic, Applied Kinesiology

Introduction

Neck pain and its associated disorders (NAD), including headache and radiating pain into the arm and upper back, are common and result in significant social, psychological, and economic burden. The annual prevalence of nonspecific neck pain is estimated to range between 30% and 50%.¹ In 2008 the Bone and Joint Decade Task Force on Neck Pain and Its Associated Disorders reported that 50% to 75% of individuals with neck pain also report pain 1 to 5 years later.² Twenty-seven percent of patients seeking chiropractic treatment report neck or cervical problems.³ Thus, treatment of neck pain is an integral part of chiropractic practice. Many options of treatment have been suggested in regard to the classification of the NAD: manipulation or mobilization, range-of-motion home exercise, stress self-management, soft tissue therapy, supervised yoga, supervised strengthening or muscle relaxants.^{4,5}

More specifically related to headaches, Coulter and Shekelle report that it is third among reasons for seeking chiropractic care in North America.³ Recurring headaches negatively impact family life, social activity and work capacity.⁶⁻⁷ Among the different headaches, cervicogenic headaches are secondary headaches commonly treated by chiropractors.⁸ The prevalence of cervicogenic headache has been estimated to be 1% to 4% in the general population.⁹⁻¹⁰ The International Headache Society (IHS) recognizes a cervicogenic headache when there is evidence that headache can be attributed to a neck disorder or lesion based on history and clinical features (history of neck trauma, mechanical exacerbation of pain, reduced cervical range of motion, and focal neck tenderness, excluding myofascial pain alone).¹¹ Studies suggest that the C2-3 zygapophysial joints are the most common source of cervicogenic headache.¹²⁻¹³ Therapeutic options include spinal manipulation,⁸ specific exercises and intra-articular injection of steroids¹⁴.

In applied kinesiology (AK), there is a strong emphasis on examining all three sides of the triad of health (structure, chemical and mental) in order to direct the therapeutic efforts to the cause of a problem. A health problem could start on one side of the triad but eventually involve all three aspects. The neuromuscular reaction of the body to the patient's emotional status can be obtained via manual muscle testing (MMT).¹⁵ Unfortunately, Walther recognizes that emotional side of the triad of health is the one frequently overlooked by applied kinesiologists.¹⁶ To the best knowledge of the author, among the case reports exploring the management of headaches using AK techniques (e.g. 17-18), none of them described the implication of the emotional status in the management of a patient with acute neck pain associated with a cervicogenic headache using AK techniques.

The purpose of this case study is to describe the chiropractic management, using standard chiropractic and AK techniques, of a patient with acute neck pain associated with a cervicogenic headache.

Case study

A 41-year-old Caucasian female presented to a private chiropractic clinic with pain in the upper cervical spine associated with a headache in the right orbital zone. The pain appeared suddenly seven days ago during the night and awakened the patient. The patient rated her neck pain at 7 on a pain intensity scale of 0 to 10 but when she tried to turn her head to

right, the pain was scaled 9/10. Her headache was scaled 3/10 with an increase to 5/10 when she moved her neck. It was the first time that the patient felt those symptoms but she recalled slight neck pain a month ago while making a rapid head movement during a dance class. The pain lasted a few seconds.

Vital signs (blood pressure, cardiac and pulmonary auscultation) and abdominal evaluations showed no significant clinical evidence. Neurologic exam was negative. No diplopia, drop attacks, dysarthria, dysphagia, ataxia of gait, nausea, numbness or nystagmus was noted. Postural evaluation revealed head rotation to the left and head elevation to the left. Range of motion (ROM) was taken by visual analysis. Neck ROM showed restricted right rotation (45/70°), extension (30/55°) and left lateral flexion (30/45°) with pain on the right upper cervical. Orthopedic examination was performed and the right cervical compression test created pain at the level of the right C2-3 facet joint (patient's head is extended and rotated about 45° toward the right and the examiner gently pressed the head caudally). The palpation revealed trigger points in right sub-occipital muscles (rectus capitis posterior major and minor) and the pressure increased the patient's symptoms in her right orbital zone. Subluxations was found at C2 (anterior-right).

A complementary functional neurologic assessment was done using an AK exam on this patient. The objective was to see the neurological integrity of cervical muscles and their involvement in the C2-3 facet irritation. MMT showed conditional inhibition of the left sternocleidomastoid (SCM) (both heads) and the long extensors of the neck bilaterally. A conditionally inhibited muscle is one that tests weak in the clear but strengthen with neuromuscular spindle cells spread-apart manipulation (autogenic facilitation).¹⁹ MMT also showed a hypertonic (or hyperfacilitated) right anterior scalene. A hypertonic muscle is strong in the clear and does not weaken when approximating neuromuscular spindle cells²⁰.

Based upon these findings, the patient was diagnosed with acute C2-3 facet syndrome associated with cervicogenic headache. According to the classification on NAD proposed by Guzman and al., it was a recent NAD grade I (less than 3 months duration NAD with no signs or symptoms suggestive of major structural pathology and no or minor interference with activities of daily living).²¹

Management and Outcomes

On the first treatment visit, balancing muscles of the neck was the priority. Origin-insertion (O-I) technique was performed on the left SCM (both heads) and the long extensors of the neck bilaterally. Originally described by Dr Goodheart, O-I technique consists of deep massage of nodules found at the origin or insertion of the conditionally inhibited muscles.²² This brought the conditionally inhibited muscles back to a normotonic state (or facilitated). A facilitated muscle is strong in the clear but weakens when approximating neuromuscular spindle cells.¹⁹ Trigger point technique was done on the right sub-occipital muscles to relieve the trigger points. Trigger points are identified by a small and localized fibrous area of tenderness.²³ Pain frequently radiates from these points in a specific reference zone.²³ In the intrinsic muscles of the upper cervical vertebrae, this technique done by holding

prolonged and heavy digital pressure over the trigger point until the pain in the reference zone subsides.²⁴

Surprisingly, the hypertonic right anterior scalene was still hypertonic after balancing all the other muscles. Positive therapy localization (TL) was found on the neurovascular (NV) reflexes of the pectoral major clavicular (PMC) located bilaterally on the frontal bone eminence. TL is a diagnostic procedure unique to AK which consists of placing the patient's hand over areas of suspected involvement and observing for a change in the MMT.²⁵ A positive TL occurs when either a hyperfacilitated, facilitated or conditionally inhibited muscle changes strength as the patient touches the area in question. It is pointing to dysfunctions involving any of the following: reflexes, subluxations, soft tissue injuries, meridian points, and nerve receptors.²⁵⁻²⁶ In this case, the right anterior scalene changed from hypertonic to normotonic. Discovered by Dr Terence Bennett, the NV reflexes are locations about the head that he felt influenced the vascularity of organs and structures. They were adapted into AK by Dr Goodheart.²⁷ More specifically, the NV reflexes of the PMC are strongly associated with emotions.¹⁶

The chiropractor told the patient that there was some type of emotional factor related to her neck pain and asked the patient to think of what could be emotionally detrimental to her with her eyes closed. The patient told the chiropractor that she had been feeling anxiety related to family problems for two weeks. The observation of the patient's close eyes for rapid eye movement (REM) was positive and it is often a signal that the patient is actively reliving the emotion.¹⁶ Furthermore, the right PMC, previously normotonic, became weak. The REM and the PMC weakening indicated that the emotional neurovascular technique was indicated.¹⁶ The emotional neurovascular technique consists of stimulating the NV reflexes of the PMC by a very light touch, tugging contact on the skin until an equal pulsation is felt in both fingertips. Having the patient think about the emotional problem during the treatment appears to improve treatment effectiveness but it is not necessary. The reflexes are usually held for approximately twenty seconds.²⁷ In this case, the patient thought about the emotional problem during the technique and it took one minute to feel an equal pulsation in both fingertips. At the end of this technique, the right PMC stayed normotonic while the patient thought about her family problems which is a sign that the contacts on the NV reflexes have been held long enough. The right anterior scalene was now normotonic without any TL.

The right anterior scalene now tested positive to muscle stretch reaction.²⁴ A positive muscle stretch reaction is found when previously strong muscle is stretched and then tests weaker. This is based on the idea that the muscle and fascia are not functioning in harmony and the shortened muscle limits range of motion of the affected joint. Treatment requires deep massage of the muscle in a stretched position to release myofascial adhesions (fascial release). Axis (C2) was corrected using standard chiropractic adjustment technique. Following these corrections, head position was leveled, neck ROM was normal and neck pain was at 1/10 with no headache. As suggested by Schmitt,²⁸ the patient was informed to hold the NV reflexes of the PMC at least once a day before going to bed or at any time she is confronted with excessive stress.

On the second visit, 4 days later, the patient reported no neck pain and no symptoms of headache. Reexamination indicated negative right cervical compression test and neck range of motion were normal and pain-free. The same trigger point technique was done on the right sub-occipital and C2 correction was performed. The patient continued with elective care at the clinic. No further symptoms of neck pain or headache came back during the last two months.

Discussion

Muscle imbalance is primary to most structural deviations, from vertebral subluxations to major postural imbalances.¹⁵ In this case, the muscle imbalance could have led to the C2-3 facet irritation which created the cervicogenic headache. The mechanism underlying the pain in cervicogenic headache involves convergence between cervical and trigeminal afferents in the trigeminocervical nucleus.²⁹⁻³⁰ In this nucleus, nociceptive afferents from the C1, C2, and C3 spinal nerves converge onto second-order neurons that also receive afferents from adjacent cervical nerves and from the first division of the trigeminal nerve (V), via the trigeminal nerve spinal tract.¹⁴ This convergence allows the referral of pain signals from the neck to regions of the head innervated by cervical nerves (occipital and auricular regions) or the trigeminal nerve (parietal, frontal, and orbital regions). This mechanism could explain the pain of the patient in the right orbital region and the relief after balancing the neck muscles and correcting C2. Origin-Insertion technique, trigger points technique and facial release treatment were all useful in order to balance the patient's muscles. Multimodal manual therapy including manipulation and mobilization with light soft-tissue massage has also been advocated by a number of authors in the management of recent NAD grade I⁴⁻⁵ and cervicogenic headache.⁸

In AK, once a dysfunctional muscle has been identified, the use of MMT and TL as a functional neurological examination tool helps the clinician to identify which treatment options should be selected for the patient.^{15, 25} In this case, it was especially of value in balancing the hypertonic right anterior scalene because the therapeutic effort to balance the weak antagonist muscles (neck extensors) was not enough to relieve the hypertonicity. The positive TL on the NV of the PMC gave the indication that patient's emotional status was relevant to this case. Stimulating the stomach reflex, also known as the emotional NV reflex, improved the function of the right anterior scalene and was useful to overcome emotional stress that interferes with patient's health. Nutrition has not been investigated as the patient chief complaints resolved in 2 visits.

The SCM, scalenes, sub-occipital muscles and the extensors of the neck were all involved in this case of acute neck pain associated with a cervicogenic headache. The same muscles are also associated with the stomach meridian according to the muscle-meridian association found by Goodheart.³¹ As emotions are often considered one of the causes of stomach problems,^{15, 28} further research should investigate the implication of emotional status in the management of a patient with acute neck pain or cervicogenic headache using AK techniques.

Limitations of this study include the lack of outcome measurements (e.g. questionnaire for

neck pain and headache) and the multiple approaches used as a chiropractor/AK practitioner. A combination myofascial therapy, spine adjustments, emotional technique and home recommendations was used in the chiropractic management, making it difficult to distinguish which intervention had the best outcome. As in any case study, the natural resolution of symptoms in the patient cannot be ruled out.

Conclusion

In this case of acute neck pain associated with a cervicogenic headache, the patient benefited of chiropractic management, using standard chiropractic and AK techniques. Patient's emotional status was relevant to this case and should not be overlooked by applied kinesiologists in order to consider the emotional stress that could interfere with patient's health in their therapeutic efforts.

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**Chiropractic and Applied Kinesiology Management of Acute Neck Pain Associated with a Cervicogenic Headache: A Case Study
Justin Jefferson-Falardeau, D.C., M.Sc**

New Thoughts on Muscle Testing Positions

David Leaf, D.C.

Abstract

There are times when a muscle needs to be tested at the extreme of its length. This testing position can uncover inhibition patterns that are not found with the normal muscle test.

Key Indexing Terms

Muscle Testing, Biomechanics

Discussion

Since the work of the Kendall's, muscle testing has basically been taught and used in one position for each muscle. The work of Beardall showed that muscles could be subdivided and sections tested. Occasionally, muscles are tested in different parts of their range of motion. Goodheart added testing muscle fiber types, aerobic and anaerobic muscle testing. He also introduced the concept of quickly testing muscles to see if an abnormal inhibition could occur on motion. This paper will introduce another variable in muscle testing.

One problem in treating athletes is that the function of the muscle through the range of motion can be inhibited. It is not unusual to find a person with a short range of motion in their stride length, or an athlete with a tight hamstring. A weight lifter can have problems with a bench press at the initiation of the lift.

These conditions can be related to a failure of the muscle to fire at its extreme range of motion.

For example, the psoas contracts at the beginning of the forward motion of the leg after toe off. Testing the psoas in its normal testing position does not stress the function of the muscle in this position. The normal testing position has been shown to be effective in testing for nerve, related organ imbalances and other reflex problems. Unfortunately, the standard test position does not stress the muscle in its functional motion.



To test the functioning of the psoas in this activity, let the leg fall off of the examining table back to its activation in toe off. Bring the leg slightly forward and test. If the muscle is inhibited in this position, perform cross frictional massage over the muscle tendon area or percuss the area with motion.



For the person having difficulty with the bench press, take the humerus into extension and test the pectoralis clavicular for function. The treatment is usually performed near the insertion on the humerus.



The hamstrings contract prior to heel strike. This action slows the forward motion of the lower leg. Testing of the muscle in the normal testing position may not uncover inhibition of the muscle during this function of the muscle.

To accurately test for this function, the femur needs to be brought into flexion close to the angle that is encountered prior to heel strike. Failure of the muscle to function at this angle is common in individuals with a short stride or the athlete with a history of a hamstring strain.



This type of testing of the muscles should be considered when you are confronted with a muscle that tests normally with the standard muscle test, but the patient presents with a complaint of either a decreased range of motion with muscle tightness or weakness of the extremity near its full range of motion.

Conclusion

Variations in the position of the extremity in muscle testing can uncover abnormal inhibition patterns that will require special treatment to normalize function.

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New Thoughts on Muscle Testing Positions
David Leaf, D.C.

Product Reviews for Office Examination or Treatment

David Leaf, D.C.

Abstract

This paper describes devices that can be used in the office for examination and treatment of patients. Four devices are reviewed. An electronic goniometer, a digital hand dynamometer, a laser thermometer, and a device for treating acupuncture points and scars.

Key Indexing Terms

Examination, Dynamometer, Digital Thermometer, Scar, Goniometer

Discussion

Dr. Goodheart would say repeatedly measure measure, measure. However, measuring accurately the range of motion has always been a problem. Most scales are bulky and give only rough measurements. Mediguage has an electronic device that was designed for carpenters to accurately measure cuts in their work. Simply, turn the device on and move the two blades and you have an extremely accurate measurement of the movement of the body part to a tenth of a degree. With this, there is no estimation of angles to record and small changes in ROM are easily documented.



Medigauge Electronic Digital Goniometer

Hand dynamometers of quality are expensive. A new electronic one has been easier to use and record. It is lighter for the patient and more comfortable. Being digital, the unit allows the patient to place the extremity in different positions and have the measurement taken. Camry 200 Lbs. / 90 Kgs Digital Hand Dynamometer Grip Strength Measurement Meter Auto Capturing Hand Grip Power.



The third device was designed to find heat loss in a house. There are two common types. The first has a laser beam that you aim and it gives you the temperature at that spot. In the office, it has two uses. One is used to place a marker over the umbilicus and have the patient bend their knees and test to see if the person deviates to the side. Any laser pointer will do this. The second use is to rapidly compare temperature

changes down an extremity, on both sides of the head, or around an injured part. The patient can easily see the change as you measure the temperature of a leg or arm. It takes the temperature at the site that it is aimed at so the distance from the body part does not matter. You can start an inch away and move up the extremity or down without worrying about how far from the skin it is aimed. Like any laser pointer, it cannot be aimed at the eye. For example, Goodheart wrote about comparing the temperature at the glabella and the EOP. This can be done quickly and accurately in less than a minute. Black and Decker have a model without the laser pointer but changes color when a change in temperature is recorded. For example, it is green where you first aim it. The color will go to red when the temperature rises and blue when the temperature decreases. If you use this model you have to stay within 12 inches or 30cm of the body part and closer if measuring the foot or the hand and fingers. The advantage of this unit is that the patient and you can see where the temperature changes due to the color change. It is not as good as the first at measuring a small area like a ligament on the ankle or a joint of the finger.^{2,4}



The final device is called a Dolphin. It has two parts and is used to treat acupuncture points and scars.

It is the second use that will be described here. If you palpate many scars, you will find that they are stiff and adhere to the underlying tissue. This results in abnormal functioning of the underlying tissues. Using this device, you place the 2 electrodes along the scar and activate the devices by pushing the buttons for 2 seconds and moving along the scar. This is a fast and efficient method instead of needling, the vapocoolant method or the hard cross-frictional massage that have been describe. The patient will feel a slight tingling sensation when the microcurrent is being applied. In almost 2 years of using this, there has not been one complaint as the intensity can easily be adjusted.^{1,3}



After treatment, the scar will move easily.

Conclusion

I have found these devices to be helpful in the office.

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Product Reviews for Office Examination or Treatment
David Leaf, D.C.

Treating the Ill Patient as a Whole, Not via Lab Results

Michael Lebowitz, D.C. and Noah Lebowitz, D.C.

Abstract

Applied Kinesiology has always taught to “fix what you find”. Oftentimes the findings aren’t obviously related to the patient’s complaint yet through indirect connections we can resolve symptoms without specifically addressing the area of complaint. A case history of this type is presently regarding elevated lipids, blood sugar and inflammatory markers.

Key Indexing Terms

Dysbiosis, Functional Medicine, Food Sensitivities, Triglycerides, C-reactive protein, inflammation

Introduction

In some ways, the advent and growth of functional medicine has been a major addition to the “traditional” allopathic medicine model. One of the drawbacks that happens too often is we treat lab values. For instance, taking red yeast rice for elevated cholesterol or milk thistle for elevated liver enzymes. While more natural supplements are used as a substitute for pharmaceutical substances, the mindset of the treating physician hasn’t changed models. This is most apparent in the prescription of natural or compounded hormones to correct low lab hormone levels despite the fact that it may cause inhibition of the bodies ability to make the hormone and not address why it is low in the first place.

The “Lebowitz” protocol, which has been evolving over the past 30 years, was founded on removing the stressors placed on the body. These stressors include dysbiosis, toxic metals & chemicals, and foods the patient is negatively reacting too. We also replenish the body with nutrients it is deficient in based on applied kinesiology (backed by a detailed patient history) and remove any structural abnormalities. We find that by doing these things labs often normalize without treating the issues directly. One of many case studies is presented to demonstrate this.

Case History

Lenny, a 50-year-old male, flew in from Central America to see Drs. Michael and Noah Lebowitz. I (Michael Lebowitz) first saw him in the early 1980’s when I was living in West Virginia as was he. He came in for one treatment for severe depression and I never heard from him again. Turns out he credits me with saving his life. By 2012 he had become a successful casino owner in Nicaragua and developed quite a number of health challenges. He found that I was living in Hawaii and he and his family came for treatment. I treated him over a few days. He was doing wonderfully well but then crashed a year later and came to see us in Scottsdale AZ.

His complaints were as follows. He would get out of breath while going up a flight of stairs, had severe fatigue, brain fog, and both depression and episodes of unprovoked aggression. Our findings on applied kinesiology vial testing showed reactions to the following vials: Parasites 1 and 2, Protozoa, Rickettsia, Virus 1 and 3, Fungus 2 and 3, Mycoplasma, H. Pylorii, nightshades, dairy, corn (zein), peanuts, chicken, and caffeine.

We also ran a few labs. Significant findings were triglycerides 402, hs-CRP 1.35 (ref <0.30), glucose 122. He has a strong family history of heart disease. Besides our structural treatment for knee and shoulder problems we prescribed the following herbs, vitamins and minerals: Melia, Schisandra, Oral Defense, Tulsi, and Takesumi along with Magnesium Citrate and Pyridoxal-5-Phosphate (P5P). We didn't receive the lab results till after he left town, and thus didn't address the labs specifically, just the dysbiosis and removing the positive testing foods (ones that cause inhibition or hypertonicity).

He had to be back in the US 9 days later so we decided to redo labs at that time despite the short time period between them. He had been 100% compliant for the 9 days. Triglycerides were 185 (a 54% decrease and absolute decrease of 217), hsCRP was 0.12 (a 91% decrease, well below the <0.30 limit) and glucose was 108. He felt great and was asymptomatic. It was interesting that such a change could happen in nine days. Lenny in general ate a clean diet though recently he started ingesting 2 cans of caffeinated soft drinks daily. He now tested negative on all the vials but needed to stay on all the supplements except Schisandra and P5P. He lost 13 pounds in 2 ½ weeks following treatment (not uncommon when clearing fungal dysbiosis).

Lenny continues to do well and either comes for treatments about twice yearly or flies us down to treat him, his family, and casino management.

Discussion

It has been our contention and observation for many years that treating dysbiosis and foods will correct a host of problems. Dysbiosis (fungal, bacterial, parasitic, etc.) byproducts are both inflammatory and toxic in many cases. We often liken it to having a chemical factory like DuPont or Monsanto living inside your body. These substances can stress most organs and glands, deplete nutrients, and cause about any symptom. We feel that clearing it is one of the most important things you can do on a patient.

Fast and successful treatment involved correctly identifying the type of organism(s) involved, putting the patient on the appropriate diet, and at times treating sources of exposure (sexual partner, pet, sick building, etc.).

Eating foods you are reactive to can deplete folic acid, zinc, P5P, as well as other nutrients. The inflammatory byproducts (histamines, kinins, prostaglandins, and cytokines) can also compromise organ function as well as deplete nutrients even further. Our protocol has focused on techniques to enhance our ability to find these problems (false negatives can be a problem within Applied Kinesiology) as well as being thorough enough with our therapeutic program to clear it quickly and lessen the chance of recidivism. In

some cases like Lenny because he lives in a wet tropical environment, works in a high EMF environment (a casino) and keeps very irregular hours we do find recidivism and need to retreat periodically (though the treatment will vary time to time).

Conclusion

Fixing what you find instead of treating lab values and symptoms is probably a more effective way to treat patients with chronic fatigue and organ distress. The above demonstrates fast effective changes in lab values when just treating dysbiosis and removing offending foods.

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Treating the Ill Patient as a Whole, Not via Lab Results
Michael Lebowitz D.C. and Noah Lebowitz D.C.

Double trouble - Valve Dysfunction, Vitamin D and the Inhibited TFL, A Case History

Tyran G. Mincey, D.C., DIBAK

Abstract

The objective is to share two case histories of vitamin D deficiency and their presentation of a valve syndrome as a familial trait. It is well known that there is an overwhelming number of people who are vitamin “D” deficient. The purpose of this paper is to show two examples of the impact that vitamin D can have on function of the, ileocecal valve, valve of Houston, and the tensor fascia lata muscles.

Key Indexing Terms

Chiropractic, Applied Kinesiology, Herbs, Manual Muscle Text, MMT, Nutrition, Physiological Phenomena, Functional Medicine, Large Intestine, Colon, Ileocecal Valve, Valve of Houston, Vitamin D, Cholcalciferol

Introduction

Vitamin D has been newly discovered. The current interest has inspired many doctors to begin supplementing patients as a result of several important health related factors. While there seems to be some consensus on the need and some of the resultant pathology that ensues if the need is not met, there is little discussion on its role in some functional types of illness. This paper will explore two cases in a family, and the relationship their vitamin D status has on their individual expression of health and recovery from apparent sickness.

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. Functional illness precedes poor function and then leads to pathology. 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 nexus of abnormal physiology, nutritional status as well as history and presentation. Both the ileocecal valve and Houston’s valve are such structures. 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 Vitamin D.

Vitamin D is also known as cholecalciferol, chemically 0H 25 and 1,25 cholecalciferol. Intestines refers to small and large intestines. The Ileocecal valve also abbreviated “ICV”, is located at the junction of the ileum and cecum. The Valve of Houston is a large intestine flexure typically located in left lower quadrant of the abdomen and in the sigmoid colon. In reference to the aforementioned valves. “Open” means the opening is dilated; “closed” means the orifice is approximated or contracted so nothing or little can pass through. 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 clinician palpates this line for nodules that correspond with muscle and possible organ imbalance.

Case report – 1

In the month of January, a 16-year-old male athlete presents to the office after visiting his medical doctor. His chief complaint is head cold which will not go away. He was given a prescription that was symptomatically helpful, but the issue persisted for more than a week after taking the prescription. He was still able to participate in sports but was playing while sick.

A standard examination was performed. The patient was nasally congested, vitals were normal but there were obvious indications of congestive and respiratory distress. On abdominal exam while palpating the right lower quadrant the patient gave vocalized response expressing pain on palpation. The right TFL was inhibited in the clear and facilitated on ingestion on vitamin D, and therapy localization to the area of involvement; a vitamin assay was ordered and the value was returned as 24mg/dl. The patient was supplemented 5000mg of vitamin D daily. A challenge of pushing in an oblique and inferior fashion from the umbilicus to the ASIS on the right side caused the motor testing of the right TFL to go from 4/5 to 5/5 – 5 being maximal strength against resistance. The patient was instructed to do the same daily and take the supplement. The patient swiftly recovered within 3 days’ time.

Case report - 2

In the month of January, 2 days after his brother, a 16-year-old male athlete was taken to the emergency department after complaining of a severe non-traumatic headache, fever, and weakness. This 14-year-old African American male presented to our office. A complete neurologic work-up including CT and MRI were performed and no diagnosis was made by the ER prior to presentation. The patient was discharged and advised to take acetaminophen, a COX III inhibitor which seemed to take the edge off the headache but they still persisted for several days. This response seemed indicative of an unlikely cephalgic genesis from a cyclo-oxygenase- III enzyme overabundance. Still desiring

relief, the patient presented to our office.

Using standard medical physical examination and abdominal examination no abnormalities were detected, except for severe left lower quadrant tenderness, and a inhibited left TFL. The muscle was graded 4/5.

A vitamin assay “D” was drawn immediately and ordered; it returned with a value of 18 A challenge of pushing in an oblique and inferior fashion from the umbilicus to the ASIS on the left side caused the motor testing of the left TFL to go from 4/5 to 5/5 – 5 being maximal strength against resistance. The patient was instructed to do the same daily and take the supplement. The patient swiftly recovered within 5 days’ time.

Discussion

There are many different spin offs of Standard Applied Kinesiology Management of an ileocecal valve syndrome. There is very little discussion of the management of Valve of Houston dysfunction nor the relationship between race, vitamin D levels, nor season and valve functions. Our management consisted of following standards set by the ICAK per Walther’s Applied Kinesiology Synopsis for Ileocecal valve management. The standard indicator muscle is the right tensor fascia lata, the reflexes used were also standard.

The valve of Houston was named after anatomist John Houston. The Valve of Houston is actually “valves” – not a valve. They number anywhere from 2-3 folds, and at times 4; they are located in the sigmoid colon. They are not mucosal but are instead made of smooth muscle. The current medical think is the function is involuntary and causes evacuation to be delayed. Not much else is understood about its function. This valve appears to respond to many of the same reflexes as the ileocecal valve and requires the same nutritional protocols. It appears to at times and after manipulation stimulate the entire enteric nervous system and alter distant enteric functions such as those of the stomach, iliocecel, gall bladder and large intestine. This statement is based on patient feedback and muscle testing outcomes pre-and post manipulation, as well as symptomatic relief from many digestive conditions that are remote to this valve.

The ileocecal valve does not always give symptomatic pain at the anatomic location of the valve; the pain in this area must be differentiated from other conditions which would refer pain into the region at and around McBurney’s point. These include disorders of the right ovary, mittlschmitz, appendicitis, inguinal hernia, and gastritis. Furthermore, a rather challenging differential diagnosis exists with a variety of problems that mimics the dysfunction of both valves 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. In this case the parents had been long time patient s and did not use AK methods first but did arrive at the office eventually. Vitamin D problems arise in all races above 37 degrees north latitude and present a unique opportunity for clinicians residing in those areas because all people - especially those of Middle Eastern or African descent are likely to have low vitamin D levels by the time January and February arrive as they are not supplementing. They will not have disease from this but some unexplained nonresponsive immune problem or intestinal issue, or any of the many problems listed above.

Frank pathology should always be ruled out. Part of the work-up should include an evaluation by an applied kinesiologist or an appropriate referral to one, afterwards. Having an early examination for ileocecal valve involvement is a practical approach which will save thousands from suffering.

Conclusion

Valve syndromes represent a condition that can have a broad and significant impact on a wide array of human biological dysfunctions. Race, location, and season makes many a candidate for vitamin D related valve dysfunction which may be mistakenly diagnosed as another malady. Clinicians must add standard management of valve syndromes to their armamentarium after having appropriately ruled out more dangerous conditions that may have a similar presentation.

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**Double trouble - Valve dysfunction, Vitamin D and the inhibited TFL, A Case History
Tyran G. Mincey, D.C., DIBAK**

New Techniques for Identifying Infection Susceptibility

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Abstract

Using different challenges to the body while checking for infection susceptibility has shown previously undetected reaction to the indicators for this susceptibility. Two additional methods of detection are presented to help in showing susceptibility. One method is to check with manual muscle testing (MMT) or body indicators for a reaction to DHEA plus infection susceptibility indicator exposure. The second method is to use the beginning and end (B&E) acupuncture meridian points on the face while checking the infection susceptibility indicator and observing body indicators or using MMT.

Key Indexing Terms

Infection Susceptibility, Beginning Points, End Points, DHEA, Applied Kinesiology

Introduction

In 1989, Michael Lebowitz, D.C. first presented methods for testing for infection susceptibility in patients and then finding methods for alleviating that susceptibility.¹ His work began with testing for *Candida Albicans* and has evolved over the years to the point that susceptibility to many infections can be found using different biochemical challenges. I have found that using DHEA in conjunction with exposure to various dilutions of microbes has shown susceptibilities beyond prior testing methods. Likewise, having the patient contact one of the B&E points on the face in conjunction with the microbe dilution has also shown further susceptibilities. The susceptibility is measured by MMT and/or by the patient's body indicators. The body indicators can be any change in the preexisting measured parameters such as leg length, range of motion, and change in pain parameters.

Materials and method

Diluted microbes are available from several sources. One may use a diluted DHEA source, or full strength is also available in a supplement form.

When conducting a patient intake and exam, it can be ascertained from patient history and complaints whether an infection is a likely possibility. Chronicity of presenting issues, degree of inflammation, history of types of treatments administered, autoimmune disease, or immune system dysfunction all can point to the possibility of an underlying infection. Physical measurements should be noted such as range of motion, leg length discrepancies, and motion induced pain. A facilitated indicator muscle should be found via MMT. This should be a muscle that is fully facilitated and can be inhibited by compressing spindle cells in the belly of the muscle being tested.

The patient is then exposed to a form of DHEA, and the indicator muscle is tested for facilitation. If no inhibition is observed, continue by exposing the patient to a source of a

diluted microbe along with the DHEA, and observe for inhibition. If one is using body indicators, no change in indicator when exposed to DHEA would then allow you to progress to testing with the source of microbe(s) plus the DHEA. A reaction to this combination would be a change in the body indicator(s) from what was initially observed. If more than one source of microbe is available, continue to test them individually with the DHEA, noting which microbe changes the indicator(s) you initially observed. Once all microbe sources have been tested, expose the patient to all of those that were positively identified together with DHEA. The indicators should still be positive at this point; the MMT should be inhibited and/or any body indicators will show an observed change. Remove one source at a time and recheck the muscle and/or indicators. They should not change. Then replace the microbe source that was removed, and immediately recheck your parameters. If there is a change, note the microbe and repeat this procedure until all the positive microbes have been tested. Typically, one source of microbe will change the MMT and/or indicators. This is the priority microbe that would be the primary infection susceptibility indicator. This method of priority determination is known in Applied Kinesiology as “two-pointing”. This infection susceptibility indicator would be the one to treat.

At this juncture, one may check for additional microbe susceptibility by using the B&E technique, or just treat the findings made with the DHEA. If the B&E is used as continuation of identifying infection susceptibility, keep the patient exposed to the sources of microbes found using DHEA or any other method of susceptibility detection. In that manner, any further findings would have priority over those sources of microbes already identified. If MMT is being used, note whether the indicator muscle is facilitated or inhibited. Either state of muscle function is fine. Any positive findings from this point will change the muscle from its last state when beginning the next phase of testing. For instance, if the indicator muscle is facilitated, then a positive finding would result in an inhibited indicator and vice versa. The same would be true for body indicators in that any change would be a positive finding.

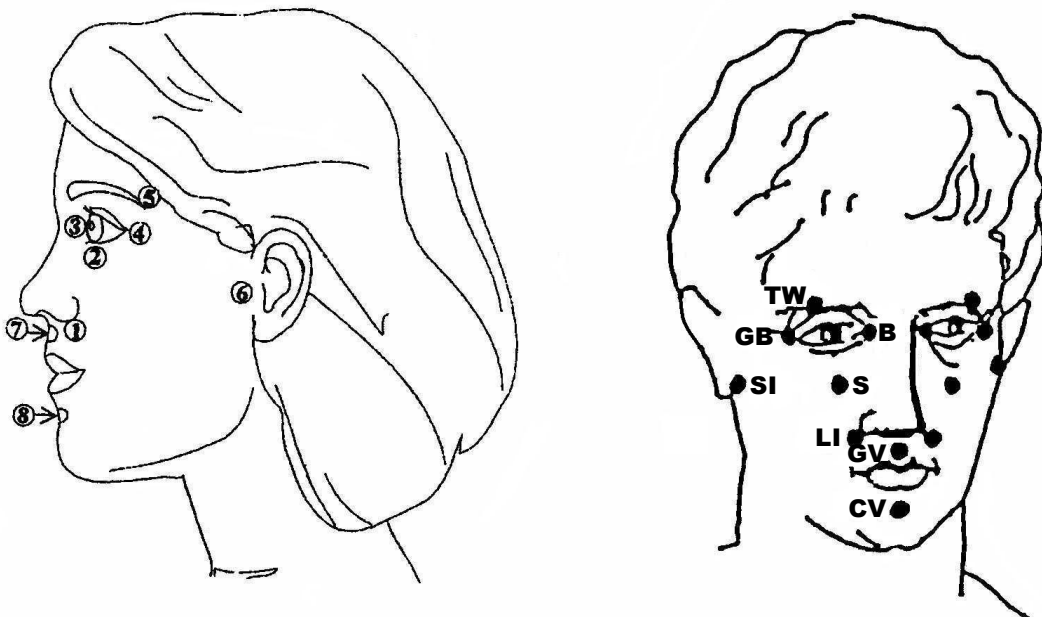
For the sake of clarity, assume the indicator muscle to be in a facilitated state. To begin the B&E method, the patient touches one of the B&E points on the face (figure1) and the indicator muscle is tested for facilitation. If no inhibition is observed, the patient continues to touch the same B&E point. Expose the patient to a source of a diluted microbe and observe for inhibition of a MMT. If one is using body indicators, no change in indicator when patient touches one of the B&E points would then allow you to progress to testing with the source of microbe(s) at the same time the B&E point is being held. A reaction to this combination would be a change in the body indicator(s) from what was initially observed. If more than one source of microbe is available, continue to test them individually with each B&E point noting which microbe changes the indicator(s) you initially observed. It appears that once the microbe sources are found by this method, the B&E point no longer needs to be touched to change the body parameters. As with the DHEA/microbe source once all microbe sources have been tested, expose the patient to those that were positively identified with B&E point. The indicators should still be positive at this point. The MMT should be inhibited and/or any body indicators should continue to show an observed change. Remove one microbe at a time, and recheck the muscle and/or

indicators. They should not change. Then replace the microbe that was removed and immediately recheck your parameters. If there is a change, note the type of microbe and repeat this procedure until all the positive microbes have been tested. Typically, one source of microbe will change the MMT and/or indicators. This is the priority microbe that would be the primary infection susceptibility indicator. Again, this method of priority determination is known in Applied Kinesiology as “two-pointing,” and this infection susceptibility indicator would be the one to treat.

Of the fourteen acupuncture meridians, eight either begin or end on the head: TW-23, LI-21(or 20), SI-19, GB-1, St-1, B-1, GV-27, and CV-24. (See figure 1). Dr. George Goodheart has called these the "B and E" points for Begin and End points and originated the concept that they were related to the hypothalamus.²

Figure 1

ACUPUNCTURE HEAD POINTS (4)



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A. ACUPUNCTURE MERIDIAN HEAD POINT TRANSLATION KEY

- | | |
|----------------------------|------------------------------|
| 1. LI – Large Intestine 20 | 5. TW – Triple Warmer 23 |
| 2. S – Stomach 1 | 6. SI – Small Intestine 19 |
| 3. B – Bladder 1 | 7. GV – Governing Vessel 27 |
| 4. GB – Gall Bladder 1 | 8. CV – Conception Vessel 24 |

Discussion

Using DHEA and the B&E points have shown a microbe susceptibility not previously found by current Applied Kinesiology methods. These patients often suffer from chronic unresolved symptoms. Exposing the patient to DHEA, either in a diluted or supplemental form, and the source of microbe can result in a positive MMT change or a change in the patients physical or pain parameters. Often these patients are under considerable chronic

stress. It is possible that temporarily changing the DHEA/Cortisol ratio toward positive resolution removes the inhibition to the immune system thus allowing further discovery of microbe susceptibility.

The B&E points were first associated with hypothalamic function by Dr. George Goodheart.² Further work with these points was done by Dr. Walter Schmitt and Dr. Michael Lebowitz in terms of resetting systems and pain control. It appears from the results of using these points that they add a further sensitivity to testing with the diluted microbe.³

When introducing these techniques to the previous manner of testing for microbe susceptibility, further microbe reactions were found. Occasionally these techniques will show a reaction when all other tests were negative.

Lastly a method of removal and reintroduction of the microbe was introduced to find a priority microbe. This method of two-pointing can narrow the search for the appropriate botanical or supplement to offset the susceptibility. For example, it is often the case that a very different herb may be useful in helping reduce a reaction to bacteria than would reduce a fungal reaction.

Conclusion

The immune system is critical for proper body function. Identifying possible susceptibility to infections can be useful in determining which treatment is optimal for the patient and his/her biochemical individuality. Using Dr. Lebowitz's method of testing for microbe susceptibility has proven very helpful in treating chronic conditions in many patients. The two techniques presented here expand on his work.

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New Techniques for Identifying Infection Susceptibility
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Resolving Chronic Pathogen Load

Dale Schusterman, D.C., DIBAK

Abstract

This paper will show how to use cytokine test vials to evaluate past infections that were not completely resolved by the body. When the immune system does not complete its process in killing a pathogen, there often remains an ongoing stress in the body that may not appear as a specific syndrome or illness, and is often opaque to manual muscle testing.

Discussion

The immune system is quite complex, yet in applied kinesiology we use fairly blunt instruments in our balancing of immune patterns. It is right that we focus on the thymus, spleen, gut and lymphatic systems as well as endocrine imbalances. These are often effective ways to strengthen immune function in the body. Methods taught by many of our excellent doctors (Schmitt, Lebowitz, Smith, etc.) show more advanced ways to find hidden patterns of immune stress and provide unique methods to balance the body. However, the immune system is much more complex than our current methods are often able to address.

A new course on functional immunology has recently become available, taught by Dr. Sam Yanuck.¹ This excellent self-learning course consists of around 200 online videos and is quite comprehensive in its depth and approach to immune physiology and repair. This course presents the latest information and research in this rapidly expanding body of knowledge. There is nothing like this available elsewhere. The simple technique that follows is one insight, of many, this author has gained from taking this course.

The immune system consists of many different parts—innate, adaptive, T and B cells, antibodies, etc. This paper will briefly focus on several aspects of T cell polarizations. Naïve T cells are cells that have the potential to morph into different kinds of immune cells. When acted upon by the tissue environment these naïve cells can polarize into at least 7 unique cell populations, each performing a different immune function. The resulting T cell polarizations are called Th-1, Th-2, Th-9, Th-17, Th-22, Tfh, and T regulatory cells. The naïve T cell shifts into its new form when it comes into contact with antigen, cytokines, and a co-stimulation signal.

The Th-1 cell population is the part of the immune system that fights intracellular pathogens. A different polarization (Th-17) fights extracellular pathogens. A Th-1 cell is able to engulf a bacteria, or virus and then begin a cascade of events to eradicate the pathogen throughout the body. When a naïve T cell is presented with a pathogen, the cytokines Interleukin-12, (IL-12) and interferon gamma (IFN γ), and a co-stimulation signal, it becomes a Th-1 cell. Th-1 cells then produce more IL-12 and IFN γ , thus perpetuating the immune response through this autocrine loop. This is a greatly simplified

explanation of the process, but it is enough to know that Th-1 cells fight infectious agents and are activated by these two cytokines.

It would not be good for a Th-1 response to continue forever, so after a while another cytokine is secreted, transforming growth factor beta (TGFb), which turns down the immune response. TGFb is immunosuppressive. It promotes immune tolerance. Many things can activate TGFb as the interaction of the T cell types and the cytokines is an elaborate matrix of checks and balances. When the checks and balances don't work properly there can be serious consequences to health. Too much TGFb can suppress issues that may yet need to be resolved. Not enough TGFb can allow inflammation to run rampant.

Vitamins A and D, probiotics and fish oil all promote TGFb and thus immune tolerance. This is a good thing in certain conditions and possibly dangerous in other situations. It would not be appropriate to put all patients on these substances in order to promote immune tolerance. Some people have T cell polarizations that need to be resolved **before** promoting immune tolerance. For instance, if you promote TGFb in a Th-2 polarized environment, you can cause a serious aggravation of symptoms. Likewise, if the body has not completely resolved an infection, then TGFb could prematurely diminish the ability to fight the pathogen.

Glutathione is excellent in counteracting excess TGFb. Generally, when lab values show high TGFb, the glutathione levels in the body are low. Giving glutathione may be a good strategy if TGFb is high. Glutathione also tends to support the Th-1 pathway, so it could be useful when the body needs help fighting infection.

Many people have chronic unresolved viral and bacterial infections. Epstein Bar Virus (EBV), herpes, cytomegalovirus (CMV), streptococcus, and staphylococcus are among the commonly found unresolved infections. Bad reactions to vaccinations can also leave the immune system with unresolved immune toxicity. The simplified version of events outlined above give us some tools to evaluate these immune patterns through manual muscle testing.

When a person gets EBV, or CMV, the immune system launches a Th-1 polarization to create the cells that will fight the infection. If the immune response is adequate, after a while the pathogen is eliminated and then TGFb is secreted to diminish the Th-1 response. If the immune response is inadequate for some reason, then the infection will not completely resolve. Eventually the Th-1 polarization may wear out, as the Th-1 cells that fight the pathogen can only last a certain number of generations. There are many other scenarios, but for this example we are only exploring the situation where the pathogen is not completely cleared out of the system. The patient might feel much better, but they will often say that 'they were never the same after getting mono (EBV).'

If you have a vial of homeopathic EBV, or CMV, or other pathogen, it is possible to test it under a magnet to see if the patient has a muscle indicator change when exposed to that frequency. Then we can find some herb, or other supplement to support the body. Many times we can find these patterns in our patients. Often these vials do not show indicator

weakness even when there has been past infection. Dr. Michael Lebowitz has excellent procedures to find hidden infections in the body.

Based on information from the Functional Immunology course, we have another good way to evaluate for past viral or bacterial load by using the Th-1 cytokines, TGFb, and glutathione. IL-12 and IFNg are the two major Th-1 cytokines. Place these on the body, under a magnet. Since we don't want to suppress the Th-1 response, we want to make sure that TGFb is not in excess. A way to do that is to place some glutathione under the magnet along with IL-12 and IFNg. Now the body has the information that it can fight pathogens without immunosuppression. The final step is to add under the magnet a vial of EBV, or whatever pathogen you find that tests positive. These 4 vials together will cause an intact indicator muscle to inhibit if there is some unresolved pathogen load. EBV by itself may not show a muscle indicator change.

Place under a magnet and check a strong indicator muscle:

IL-12

IFNg

Glutathione

Pathogen

The question you are asking the body is, **'is the pathogen fighting part of the immune system (IFNg and IL-12), without being suppressed (glutathione), able to fight a pathogen?** An indicator muscle will inhibit if the unsuppressed Th-1 response is inadequate for the pathogen. Glutathione counteracts the TGFb, thus removing immunosuppression of Th-1. If you were to use TGFb instead of glutathione, you would find that various muscles would over-facilitate, but that is more difficult to work with, so it is easiest to use the weakness generated by using glutathione.

It is also possible to place both TGFb and glutathione under the magnet along with IL-12, IFNg, and a pathogen. In this case, you can work out of strength as opposed to weakness, or over-facilitation. Now, you can scan the body to find out which organ systems are involved as only those related muscles would inhibit.

Once you have an indicator muscle that inhibits, look for substances that neutralize the weakness. It could be anything and there is no way to give a list of what to try. Each patient is different. Experience shows that herbal tinctures are often useful as they help nourish and detox the system. The answer isn't always an immune supporting herb. Many times, the kidneys, large intestine, or other systems show priority. You have to find something specific for each individual. You might find that the body requests something completely different from anything else you have ever given the patient.

Sometimes it is necessary to make spinal adjustments or rub Chapman's Reflexes related to the inhibition caused by these 4 test vials. Then it becomes easier to find supplements to support the weakness. Long held immune toxicity may lead to compensations in the spine and among various organs, so that correcting these first may be necessary to find the biochemical support that is needed. It is also good to warn people that they may feel

sluggish or uncomfortable as their immune system ramps up to fight a battle once lost. There may be more than one infectious agent that needs clearing in this way, each requiring different nutritional support.

Conclusion

This author has observed that clearing long held viral and/or bacterial load from the body often resolves many other problems and is often behind many chronic issues that people have. Also, keep in mind that a comprehensive understanding of the immune system can provide a good holistic view of how to treat patients from this perspective.

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Resolving Chronic Pathogen Load
Dale Schusterman, D.C., DIBAK

The Brain-Gut Axis, Restoring CNS-Enteric Nervous System Harmony

Dale Schusterman, D.C., DIBAK

Abstract

This paper will demonstrate a novel way to use IRT to activate and balance the central and enteric nervous systems to each other. Brain reflexes show in the body, and gut reflexes show in the head and neck. Using this principle allows a much deeper balance in the body.

Discussion

The brain-gut axis is currently getting a lot of attention in the research literature. Studies demonstrate that people with autism, Alzheimer's, Parkinson's, and numerous psychiatric diseases have changes in gut flora specific to their illness. Some studies show improvement in central nervous system disorders with the use of probiotics. While much research is still in its early phases, we have known for years in the natural health field that 'disease begins in the gut.' In AK we work on correcting dysbiosis, ileocecal valve, and other gut problems, with great success for our patients.

The brain-gut axis includes the CNS, ANS, ENS (enteric nervous system), the gut microbiota, and the HPA axis. Therefore, it is quite worthy of our attention and should be a central focus in our treatment procedures. The enteric nervous system is an autonomous collection of neurons in the gut that extend between the esophagus and the anus. There are five times as many neurons in the gut as there are in the spine. Although the ENS communicates with the CNS via autonomic connections, it can operate on its own if the connections are severed, which is why it has been called a 'second brain.'

What follows is a functional way to reset the imbalances in the brain-gut axis. Hormones, dysbiosis, and other issues also need to be addressed, but this functional balancing approach can bring much clarity to the body.

IRT

Injury Recall Technique (IRT) as developed by Dr. Walter Schmitt, Jr. is an indispensable procedure for an applied kinesiologist. Dr. Schmitt developed this amazing procedure based on the research of two podiatrists, Dr. Gordon Bronston and Dr. Robert Crotty. If you are not using IRT, then you are probably working harder than necessary to correct downstream problems on which you lack the proper leverage. You can contact Dr. Schmitt (www.drwallyschmitt.com) for more information on this technique.

There are two forms of IRT. The talus bones are gently lifted to diagnose, via muscle testing, areas of trauma below C7 and then tractioned downward to reset those injury patterns. For injuries above T1, the occiput is extended on the neck for diagnosis and flexed to reset the injury pattern.

Diagnostic IRT: Lift talus; extend head on neck (gently push occiput forward)

Treatment IRT: Pull talus downward; flex head on neck (gently lift occiput)

As a general rule, the occipital IRT works better for cervical, cranial, and coccygeal injuries, whereas the talus IRT works better for injuries below the neck. In balancing the brain-gut axis we will do just the opposite. We will do the talus IRT for the supraspinatus (brain) Chapman's Reflexes (CR), cranial and neck injury patterns. Likewise, we will do the occipital IRT for the gut CRs, thoracic and lumbar spines, and the pelvis. This will correct the brain to the gut and vice versa.

Autogenic Facilitation and Autogenic Inhibition

Pinching the spindle cells in the belly of a strong muscle should inhibit the muscle one time if everything is operating normally. If inhibition does not occur, then the muscle is over-facilitated and autogenic inhibition (AI) failed. This is usually an indicator that IRT is needed somewhere in the body, especially when AI fails globally.

Pushing apart the spindle cells in the belly of a weak muscle should facilitate the muscle one time if everything is operating normally. When facilitation does not occur, then autogenic facilitation (AF) failed. This is also often an indicator of the need for IRT.

Brain-Small Intestine

This procedure originated with the brain and small intestine; so let's take a look at this connection first. One way to show the connection between the two is by testing the corresponding muscles; the supraspinatus for the brain and the quadriceps for the small intestine. First test the quads and the supraspinatus to make sure that autogenic facilitation or inhibition is working normally. If the muscles fail AI, or AF, you need to correct an injury pattern somewhere in the body using IRT. It is always best to correct injuries before starting any treatment protocol. If we rely on muscles to get information from the body, then we should fix our tools (muscles) first. If the muscles are inhibited to start with, correct them using AK techniques.

Now, rub the supraspinatus CR and then pinch the muscle spindles of the quadriceps. The quads will remain strong (over-facilitated) if there is an issue between the brain and small intestine (supraspinatus-quadriceps). In other words, stimulating the brain CRs cause the small intestine muscles to over-facilitate. Likewise, if you rub the CR of the quadriceps you will find that the supraspinatus fails AI. Both patterns should show since it is a dual relationship.

Another test that sometimes shows up is to have the patient therapy localize (TL) to the supraspinatus CRs while you repeatedly test the quads. After 4 or 5 tests the muscle will

often inhibit. The reverse happens with a TL to the quad CRs and repeated testing of the supraspinatus. These two ways of testing demonstrate the relationship between the brain and small intestine. You can go back and retest these patterns after the balancing procedures to see that the two systems have returned to normal function with respect to each other.

Brain-Small Intestine Procedure

PART 1

The full procedure will be discussed in a moment, but for now we will stay with the supraspinatus-quadriiceps to illustrate the techniques. The small intestine often shows up with the supraspinatus. The other gut related muscles are discussed below.

The first part of the procedure is to establish a relationship between the brain and the small intestine. The head IRT pattern is normally associated with the brain and the talus IRT is associated with the gut reflexes. Here, we will do the opposite. Activate the brain in the lower body compartment: patient TLs to the supraspinatus CRs while the doctor does treatment IRT to each talus (gently pulling each talus to the inferior). Then activate the gut to the upper body compartment: patient TLs to the quadriiceps CRs while the doctor gently flexes the occiput on the atlas.

These two maneuvers do not correct anything, but they do activate the relationship between the brain and the small intestine. This focuses the nervous system on the connection between the supraspinatus and quadriiceps. **AI will now fail when you test the supraspinatus or quadriiceps if this axis needs balancing.** In other words, the muscles will test over-facilitated.

The correction of this pattern also uses the principle of treating in the opposite location for traditional IRT. Gently lift a talus for diagnosis while the patient TLs to her neck or head. One vertebra in the neck, or location on the skull, will show indicator muscle inhibition when you simultaneously lift the talus. Treatment involves the patient touching the cervical vertebra, or skull location while the doctor does bilateral talus treatment IRT.

The same idea works for the occipital IRT. Have the patient extend her neck to activate the diagnostic pattern while you scan the spine below C7 to find a vertebra that inhibits a muscle. Then have the patient touch the spinal area, if she can reach it, while you do the occipital treatment IRT. If the patient cannot reach the spinal area, then the doctor can touch the spine with one hand and gently lift the occiput with the other. After these two IRT corrections the supraspinatus and quadriiceps will exhibit normal AI. Repeat this procedure until no more patterns show up.

PART 2

There is another way to establish the relationship between the brain and the small intestine and that is to do the diagnostic IRT challenge for the CRs of both muscles. So, for the supraspinatus CR, lift each talus once. Then with a TL to the quadriiceps CR gently push the occiput down and forward. Again, this does not correct anything, but does establish the

brain-small intestine relationship. **AI will now fail when you test the supraspinatus or quadriceps if this relationship needs balancing.**

Treatment is the same as above. Gently lift a talus for diagnosis while the patient TLs to her neck or head. One vertebra in the neck, or location on the skull, will show muscle indicator inhibition when you simultaneously lift the talus. Treatment involves the patient touching the cervical vertebra, or skull location while the doctor does bilateral talus treatment IRT.

Then for the occipital IRT, have the patient extend her neck to activate the diagnostic pattern while you scan the spine below C7 to find a vertebra that inhibits a muscle. Then have the patient touch the spinal area, if she can reach it, while you do the occipital treatment IRT. If the patient cannot reach the spinal area, then the doctor can touch the spine with one hand and gently lift the occiput with the other. After these two IRT corrections the supraspinatus and quadriceps will exhibit normal AI. Repeat this procedure until no more patterns show up.

Brain-Gut Balancing

The connection between the brain and the gut may include any part of the digestive system, so you might find the reciprocal relationship between the supraspinatus and any of the gut related muscles. More than one of these muscles may test in relationship to the supraspinatus, but only correct one at a time. For example, you might need to correct the supraspinatus relationship to the TFL, hamstring, and popliteus all in one session.

Brain (supraspinatus)	Stomach (pectoralis clavicular)
	Small Intestine (quadriceps, abdominals)
	Gall Bladder (popliteus)
	Ileocecal Valve (iliacus)
	Large Intestine (quadratus lumborum, TFL, hamstring)

Protocol

Now that we have explored the various parts of the procedure, we can put together a complete protocol. The best way to begin the procedure is to do the occipital and talus IRTs in the clear. In other words, just do the treatment IRTs without any TL or focus. It doesn't matter which one you do first. This clears the body overall and allows evaluation of the gut-brain. Then test a supraspinatus muscle while therapy localizing to each of the gut related CRs. At least one should cause inhibition if there is a pattern to clear. This will help you quickly find the brain-gut relationship that needs attention.

Next, do the talus treatment IRT with a TL to the supraspinatus CR, and the occipital treatment IRT for the positive gut muscle CR. Follow that by lifting each talus while contacting the supraspinatus CRs (diagnostic IRT) and gently push the lower occiput forward while the patient contacts the positive gut CR (diagnostic IRT). This sets the connection between the brain and the gut. AI should fail for both the supraspinatus and the corresponding gut muscle if you activated the pattern properly.

Treatment is the same as described above. Lift the talus to find the cervical or cranial area that needs correction with the talus IRT. Make the correction with the talus treatment. Then, the patient extends her neck while you test for the thoracic, lumbar or pelvic area that needs occipital IRT. Do the occipital treatment IRT with a TL to the indicated vertebra.

Repeat activating the brain-gut connections through the two types of IRT challenges until no more patterns emerge. There may be more than one gut muscle that needs help and one muscle might require a number of these IRT corrections.

There are two basic parts to the technique. First use IRT to establish a connection between the supraspinatus and a gut muscle. The second part of the procedure is to do a standard IRT challenge and correction, but treating in the opposite compartments of the body.

Chemistry

Now that you have balanced the brain-gut connections, it is a good time to evaluate for dysbiosis, the need for pre-or probiotics, as well as immune, or brain nutritional needs. Dr. Michael Lebowitz' test kit works great for this, as does Dr. Chris Smith's probiotic test kit. The body is very clear and organized and you will be able to find things that were otherwise hidden due to brain-gut axis distortions.

Conclusion

These procedures address an area that we do not normally correct with our other techniques. Correcting dysbiosis, biofilms, normalizing flora, eliminating food sensitivities are all important in balancing the gut. Making sure that the brain is able to balance the autonomies of the gut is also important. It is much easier to evaluate brain and gut function after doing these procedures. You might want to evaluate the gut for nutritional support before and after these techniques to see if it makes a difference. You will find that some things are corrected by the procedures and that other things show up as a result of the new clarity in the system. Patients often feel very relaxed and centered after this work.

Summary

1. Do the occipital treatment IRT followed by the talus treatment IRTs, or vice versa. Do this in the clear without any TL or focus.
2. Test a supraspinatus muscle against a TL to each of the gut related Chapman's Reflexes. The supraspinatus will inhibit for the positive gut-brain relationship(s) that needs help.
3. Do the talus treatment IRTs (pull talus bones downward) while contacting the supraspinatus CRs. Do the occipital treatment IRT (flex head on neck) with the positive gut CR.
4. Do the talus diagnostic IRTs (lift talus bones) while contacting the supraspinatus CRs. Gently push the occiput down and forward with the positive gut CR.
5. The supraspinatus and gut related muscles should fail AI if this correction is needed. Do the talus treatment IRT for a vertebra in the neck or a cranial bone, and the occipital treatment IRT for a thoracic, lumbar, or pelvic area.

6. Start over to see if another pattern needs correcting.

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1. www.injuryrecall.com

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**The Brain-Gut Axis, Restoring CNS-Enteric Nervous System Harmony
Dale Schusterman, D.C., DIBAK**

Creation of the Learning Disability Cranial Fault/Ocular Lock and Cross K27 Switching

Paul T. Sprieser, D.C., DIBAK

Abstract

This specific cranial fault I discovered about 40 years ago, while trying to help my son who at that time was having some trouble in school and diagnosed as having a developmental lag. Back in 1975 there was no such thing as Attention Deficit Disorder or ADD. I started researching in my practice looking for a specific cranial fault that could contribute or be the source of this problem. At that point I was looking for something that might interfere with information being transmitted between the right and left cerebral hemispheres, and this would be the area of the corpus callosum. The palate being the closest area to effect this region lead me to explore various finger pattern contacts to this palate region to find a way to Therapy Localize a new cranial fault.

Introduction

I started searching for this fault shortly after the introduction of therapy localization by Dr. Goodheart, in 1974.¹ I explored all the cranial faults (11),² known at this time that became standard part of new and regular patient's AK examinations. I tried various finger patterns to the palate and found that I got a positive response with two index fingers to the area of the cruciate suture producing a weakness to the indicator muscle.

I published my findings in 1984 in the Collected Papers of ICAK, under the title of "Learning Disabilities".³ I believed not much was said about these finding, because Carl Ferreri, D.C., and Richard Wainwright, D.C., published a book "Breakthrough for Dyslexia and Learning Disabilities, in 1984."⁴ I continued researching not only this condition but also what I called the Learning Disability Cranial Fault. Later in 2005 I reintroduced this fault and tied it to "Adult Attention Deficit Disorder and Learning Disabilities".⁵ As work and research progressed this fault was tied to brain chemistry disorders and depression.⁶ Brain stem switching was a new concept,⁷ and finally to the ocular lock phenomenon.⁸

Discussion

I started introducing the Learning Disability Cranial Fault (LDCF) in the basic 100-Hours Applied Kinesiology seminars in 1990 as an unofficial cranial fault. Many of my students have reported back to me of the amazing results they have had with learning disabilities especially dyslexia when they make this cranial correction. I had treated many patients both children and adults and found that the correction improved memory and reduced the symptoms of ADHD.

One particular case that sticks out in my mind is a 17 year old female student that had been a patient for a few years at the time. Her whole family had one form or another of learning disabilities. She had ADD and Dyslexia.

When she came to the office this particular time it was for an unrelated injury to her ankle while playing soccer. I did my initial examination which covered all cranial faults, which was 10/04/04, and I made correction of the LDCF and on the second visit of 10/11/04 she stated that she was able to concentrate much better since the first visit. At this point she had taken her SAT tests for the second time. She reported to me that her math scores had increased 230 points from the first SAT's. I spoke to both her teacher and the principal of the high school and both that confirmed this score increase.

I started research on the LDCF in 1975 and collected data over a year during this time I also started making correction of the fault. I had good results with the correction when I found the LDCF present in patients that did have any specific learning disabilities, but those who had ADD, ADDH and Dyslexia would seem to have reoccurrences of the fault.

In 2007 I was teaching an AK class when a female DC ask me to treat her for "Ocular-Lock"(OL). I remember saying that I had corrected switching, and she should not have OL. If you remember that standard switching was originally corrected by stimulation of K27 both right and left along with, (CV8-umbilicus) for about 30 seconds.

I asked her to read the first paragraph of the Gettysburg Address that I had on a sheet of paper and she immediately weakened, which was a positive sign of OL. I had her TL cross K27 and it was positive, and I asked her to TL with both index fingers to the cruciate suture of the palate. It too was positive.

I made the LDCF correction that I described in the first illustration and both the OL and the cross TL to K27 were corrected. This meant that LDCF was the causative factor for both cross K27 and OL. I started collection data in 2007 and I have currently reached 544 patients in the original part of the study. The new study on creating the LDCF, began one evening when the idea just popped into my mind almost five years ago. I have currently tried creating this fault on 415 patients, with 100 % success, this would make a total of 959 patients currently.

Walther's Synopsis-2nd Edition, which was the last of the series of AK books stated that Ocular Lock was the failure of the eyes to work together effectively. It is associated with a positive TL to K27 and treated by stimulation of both K27 and CV 8 ties to equilibrium proprioceptors, which include visual righting, labyrinthine, and head-on-neck reflexes of posture and switching.⁹

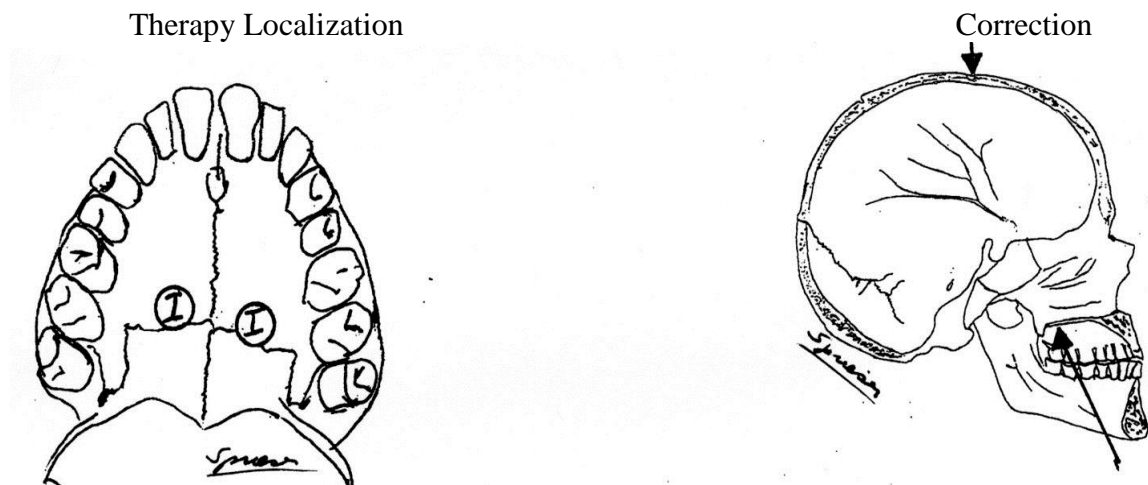
Since my Learning Disability Cranial Fault was never included in Walther's book it has not become a part of standardized methods of dealing with the problem.

Reviewing Learning Disability Cranial Fault and Associated Faults Therapy Localization- Both index finger to the roof of the mouth near cruciate suture. Right index finger on the right and left index finger on the left.

Respiratory Challenge-Is negative but correction of fault requires inspiratory assist.

Correction-Index finger of one hand in the center over the cruciate suture the palm of the other hand over the bregma (GV-21). Pressure is applied during inspiration upwards on the palate and downward on apex of the skull at the bregma. This is repeated about five times with inspiration.

Learning Disability Cranial Fault



Associated (LD) Fault #1

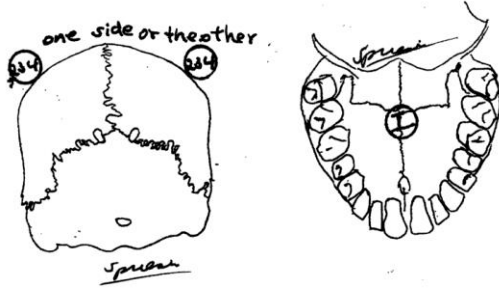
Therapy Localization-One index finger on the roof of the mouth near the center by the cruciate suture. The other hand three fingers on the upper parietal bone above the parietal ridge near the just behind the coronal suture. It will be positive to one side or the other, either the right or left. The positive side is the side that is treated.

Respiratory Challenge-Inspiration and correction in that phase of respiration that negates the positive TL.

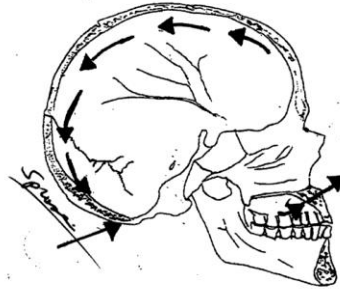
Correction-The mastoid is pushed straight forward with the finger of that hand while the hand's palm is spread wide to contact from the edge of the frontal bone, parietal, and temporal bones with a torque action in clockwise direction. This is repeated five times, with 3 or 4 pounds of force. The other contact is on the same side behind the central incisor on the ruga and is pulled forward with inspiration.

Associated LDCF-#1

Therapy Localization



Correction



Associated (LD) Fault #2

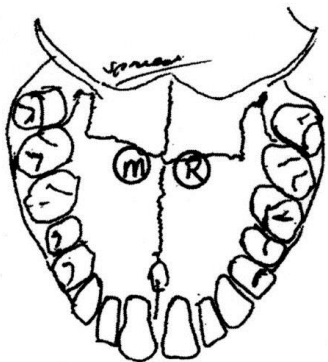
Therapy Localization-The middle and ring finger of one hand is placed on the palate or the roof of the mouth near the center by the cruciate suture. This will cause a strong indicator muscle to weaken.

Respiratory Challenge-Inspiration and correction in the phase of respiration that negates the positive TL.

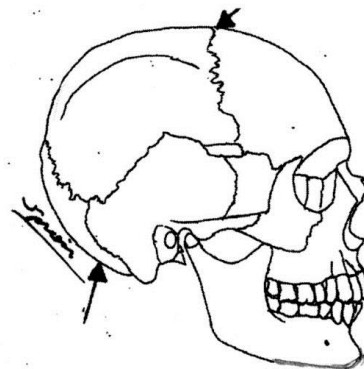
Correction-Pressure is applied at the bregma with the heel of the hand just behind the coronal suture and sagittal suture (GV-21), in the direction of external occipital protuberance (EOP). The other hand grasps with the fingertips the lower nuchal line at the posterior base of the skull in the midline below the EOP, and pulled upward in a lifting in the direction of the bregma. The pressure is applied simultaneously with both hands during inspiration using 5 to 7 pounds of force this is repeated about five times.

Associated LDCF-#2

Therapy Localization



Correction



Conclusion

My research on the LDCF fault and its creation and correction along with its connection to two additional associated cranial faults have spanned a total of 42 years and over 1000 patients sampling. This provides me with enough proof of this being a prime factor in all types of learning disabilities, with connections to many other types of problems including depression and memory loss.

I started introducing the Learning Disability Cranial Fault (LDCF) in the basic 100-Hours Applied Kinesiology seminars in 1990 as an unofficial cranial fault. Many of my students have reported back to me of the amazing results they have had with learning disabilities especially dyslexia when they make this cranial correction. I had treated many patients both children and adults and found that the correction improved memory and reduced the symptoms of ADHD.

My description of how to create the LDCF will allow the fault to be created and corrected in patients who have been diagnosed to have this fault. But more importantly, this allows the creation of the fault in any person who does not have the fault. This lets you demonstrate its effects in creating the cross K27 switching pattern as well as ocular lock. This will allow you to recreate the LDCF over and over again. If you add either of the Associated cranial faults that I have described after making the original correction, which is diagnosed by a positive TL with both index finger to the cruciate suture this will block your ability to reestablish this fault.

The conclusions that I have drawn are described by Drs. Goodheart and Walther in the following statements. Ocular lock is a failure of the eyes to work together effectively and ties to equilibrium proprioceptors, which include visual righting, labyrinthine, and head-on-neck reflexes and a positive TL to K27.^{10,11}

The usual basic cause of ocular lock is a cranial fault, but no specific fault is mentioned, but if you test my finding you will find that the LDCF is the source. Walther states that when structural distortion is created by head tilt that persists, the eyes will endeavor to level the high side down and the low side up known as gimbaling. Over time this distortion will become a habitual pattern, that affects the body's homeostasis which will recreate stress causing the correction not to hold.¹²

The original test for ocular lock consisted of turning the eye as far as possible to one side without moving the head, and in this case from left to right. The description of the correction is contact to umbilicus CV8 and K27 with firm irritation pressure for 30 seconds.¹³

Dr. Goodheart originally correlated ocular lock with the glabella cranial fault and the treatment to Umbilicus CV8 and K27. My research proved that the glabella fault was a part of Temporomandibular Joint Dysfunction (TMJD), of the temporalis muscle that produced the glabella fault.^{14,15}

Repeating Walther's statement once again. Stimulation of K27 and Umbilicus CV8 will nearly always remove the indication of ocular lock. Unfortunately, it is usually temporary.¹⁶ I am in complete agreement with Walther's statement of the original stimulation of K27 and Umbilicus being only short lived. This comes from 33 years of teaching the basic and advanced AK courses and being able to recheck correction on students participating in these classes during the two day program allowing me to reevaluate how long the correction would last. My observation showed that corrections would usually last less the 30 minutes. Using the cranial corrections for LDCF lasted for the two days of the seminar. In practice the LDCF correction would last for many weeks or months at a time.

The ability to recreate the LDCF after correction was an important factor in finding a more permanent or long lasting effect for a patient who is being treated for ADD, ADHD and Dyslexia. Even though I could correct an important factor in these conditions I would still find the LDCF returned after a few months. What I had learned from many of my patients who were in the Information Technology (IT) field, when computer problems turn up it's important to be able to create the problem to be able to find a lasting solution. This also allows me to create the LDCF in any patient even if they have never had this fault. When the fault has been created you will find cross K27 TL, and ocular lock will be present along with B'nai B'rith Syndrome phenomena.

Goodheart described B'nai B'rith Syndrome as a an indicator of muscle weakness that occurred when a patient is asked to read a line of text in the usual fashion from "left to right" that does not occur if the patient read it in reverse "right to left" meaning backwards. He suggested calling it B'nai B'rith Syndrome, because Hebrew language is read in this manner. I suggest it could be called the Koran Syndrome just as well, because Arabic read in a similar manner. For that matter as far as I know Japanese also reads in this manner. This has raised a question in my mind, would ocular lock occur in a patient whose native language and learned reading languages for Hebrew, Arabic and Japanese occur when text is read from right to left rather than left to right? Is this a learned pattern in the method we read in our native languages, which would mean the synaptic connections and neural pathways are laid down by how we train our eyes to move during reading. Or would this still occur in the same manner for even these three languages meaning this is how all nervous system are wired?

Dave Walther, D.C., states the following, "Ocular lock will often be present and can readily be identified using applied kinesiology techniques. This may lead to frank dyslexia, but one must remember that many reading disorders are grouped under this term.

The following illustration (6-21), that follows was the closest drawing I could find in order to describe how to create the LDCF. The actual drawing is showing a Sphenobasilar expiratory assist correction. In this case the contact is on the left side of the palatine suture and the mastoid is also on the left being pressured posterior on expiration. The LDCF is contacted on the middle of the palatine suture on the ruga and pulled anterior superior and the mastoid processes are both contacted with your other hand simultaneously and pulled posterior (right and left) during inspiration this is done four or five time. This will have

created a LDCF with positive TL with both index finger to cruciate suture, cross TL to K27 being positive, and ocular lock cause a strong indicator muscle to weaken when the eye are slowly moved or rolled from left to right. These positive find will immediately be corrected as described early with central pressure over the cruciate suture towards the vertex and pressure with your other hand down at the vertex (GV21) towards the palate on inspiration repeated 4 to five times.

Creation of LDCF

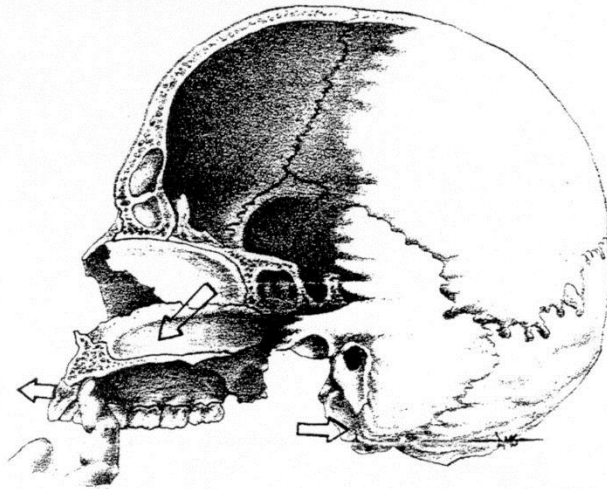


Illustration 6-21, Dave Walther, DC-Applied Kinesiology, Volume II: Head, Neck and Jaw Pain and Dysfunction-The Stomatognathic System, SYSTEMS DC, Pueblo CO, 1983-Permission Granted by ICAK-USA.

I would like to end this section with a request for feedback from everyone who reads this paper. Try it on at least ten patients, and let me know what your finding are.

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**Creation of the Learning Disability Cranial Fault/Ocular
Lock and Cross K27 Switching
Paul T. Sprieser, D.C., DIBAK**

The Effects of Natural Full Spectrum Light and Artificial Light on Health

Paul T. Sprieser, D.C., DIBAK

Abstract

The beneficial effects of natural full spectrum lighting has been well recognized since the early 1970's. The potential negative effects are now being recognized with the introduction of the florescent lighting and now LED bulbs that have been introduced to save energy and the environment.

Introduction

This topic came to my attention from the Joseph Mercola, DO, newsletter on 10/23/16, titled "How LED Lighting May Compromise Your Health".¹ My interest in this matter came from the John N. Ott's book, "Health and Light: The Effects of Natural and Artificial Light on Man and Other Living Things", which I read in 1976.² At this point in time Dr. Walther had organized Goodheart's works and observations into a more teachable system, with his first book Applied Kinesiology: The Advanced Approach in Chiropractic.³

Walther referenced Ott's book in two of his books, first in 1981 Basic Procedures and Muscle Testing, Vol.#1⁴ and in Synopsis 1988.⁵ This had to do with the effect of light on the Pineal gland and the body's circadian rhythms. Goodheart had noted the effect of light on a patient when he turned out the light and noted the patient's foot involuntarily rotated laterally. He talks about this in his Workshop Procedural Manual and includes information on color therapy, and the effect of light on the pineal gland and its effect on hormone secretion.⁶ This information was presented at ICAK meeting in Houston 1978⁷, and in his monthly research tape #24, 1974.⁸

The references to the oculo-endocrine system and retinal-hypothalamic-endocrine systems, were found in Walther and Goodheart information in previous paragraph.^{9,10,13}

The AK Health Triangle shows each side as being equal composed of a Physical-Chemical and Mental/Emotion and we can easily see the effects of lighting on all three side and therefore our health. This has been demonstrated in Florida schools studies showing that children with ADHD and other learning disabilities as well as Autism and SPD.¹¹ The mental side is seen in depression of the seasonal variety during winter months and has become known as Seasonal Effective Disorders (SAD).²⁰

Discussion

Mercola's newsletter starts with the question, can light affect your health? This comment

was taken from an interview with Alexander Wunsch, MD, a world class expert on photobiology from Heidelberg, Germany. He explains that there are hidden dangers in light-emitting diode (LED) bulbs being pushed upon us by US government to save the environment. In 2008 the congress wanted to ban all incandescent light bulbs, but after having to live with the lighting of a new variety of florescent compact light CFL bulbs and the first LED bulbs, the government dropped the ban, but reduced the wattage significantly.

The new variety of LED bulbs do give better light then the original type and have become more affordable, so the acceptance and a 95% saving over incandescent thermal analog source lighting have made their use much more common in the US, but does their use have a downside on our health?

The article goes on to explain the light is part of the electromagnetic spectrum that runs from Cosmic ray, Gamma rays, X-rays, then Ultraviolet, visible light, Infrared, Radio Waves and finally Electric Waves. Sunlight is a much broader range from about 300 nm up to 2,000 nm. Visible light is a much smaller region from 400 nm to 780 nm. When Ott's book was published in 1973, the light energy ranges were listed in Angstrom units but today scientific listing are done in Nanometers. The differences is Angstrom units Au represent One ten-millionth of a millimeter and Nanometer is 1 billionth of a meter nm. The visible light region start at the lower number of violet, blue, green, yellow, orange and red. The important area of light start below violet which is ultraviolet and at the far end go to infrared which have three are of near-infrared or infrared-A, middle-infrared or infrared-B and long-infrared or infrared-C.^{21,22}

What is missing in the LED bulbs is the infrared radiation, which produces the heat and was thought to be thermal waste. Current research shows that the infrared is much more important than previously thought, because it has medical use of improving blood flow. The near-infrared red (A), is especially important because it can penetrate through our clothing and enter our skin to the depth of 1 cm. Its physiological effect is on the mitochondria of cells and effects chromophores and produce energy molecule cytochrome C oxidase and adenosine triphosphate (ATP)-cellular energy. Carrying this idea forward to one specific area that prime the cells in your retina and aids in repair and regeneration of this tissue. With this in mind the excess of blue light may be considered harmful to the eyes and general overall health

This information prompted me to look further into LED light and what effect it may have on our health. I started experimenting with light and color effect on muscle testing back in 1975/76, looking at the effects of color and the meridian tonification and sedation and their associated muscles.²³ Along with the effect of florescent lights on muscle testing compared to full spectrum and incandescent light. What I discovered was looking into florescent light source would weaken a strong indicator muscle and specific colors applied over the meridian tonification and sedation would weaken or strengthen the associated muscle. However during this period of time I was not writing research papers.

Other studies have pointed out the effects of artificial lighting of health and learning that have been going on since 1970's and this information is currently being studied and was

mentioned in Scientific American articles, "The Dark Side of LED Lightbulbs", and "The Dark Side of Artificial Light at Night". These article showed the following in this statement, "based on multiple epidemiological studies, the World Health Organization in 2007 and the American Medical Association in 2012 each issued statements warning that extended exposure to LED light at night increases the risk of certain cancers, probably via alterations to circadian rhythms and associated hormone levels. Even so, most of these studies did not distinguish between exposure to outdoor sources, such as streetlights, indoor ones, television, smartphone. I pad and computer screens".

Another problem that has been on the rise since 1970's is nearsightedness known as myopia, which has risen by 66% according to a study published in 2009, buy the National Eye Institute. In China and East Asian countries has gone up by 90%. The question we should be asking is why Is this happening? A recent article by Gretchen Reynolds, PhD, New York Times, "For Better Vision, Let the Sunshine In".¹⁵ Neurological symptoms such as chronic headaches and musculoskeletal problems like neck and back pain have been reported in research studies published in a the Journal of Medical Practice and Reviews, under the title "Computer Vision Syndrome".¹⁸ This study was mentioned in an article by Jane E. Brody, "Computer Vision Syndrome Affects Millions".¹⁹

Ott's studies in Florida showed the influence on learning and concentration in children with hyperactivity (ADHD) and normal children in windowless classrooms with standard cool-white florescent tubes, compared to full-spectrum florescent tubes. The outcome was improved in behavior was demonstrated in hyperactive children.¹⁴ Under the standard florescent tubes have currently shown this light confuse our bodies and immune systems causing undue stress that throws our body chemistry out of balance. This is shown in increase of stress hormones ACTH and Cortisol, causing heightened anxiety, fear, and impulsive behavior, which can lead to violence and substance abuse.

I started this paper and the collection of data on 10/23/16, with the plans of getting at least 100 participants in this study, which I have now completed. Goodheart always believed studies should contain at least this number to rule out quirky finding that sometimes will occur in a large sample for 50 or 60 patients, but usually will not continue into the 100 participant study. I realize that the number 100, is not a magic number and the greater the number in the samplings the better and more likely the finding and conclusion are correct. Just remember that in clinical research in a solo practice it not so simple to get large samplings.

Method

This study contains 100 participants ranging in age from 12 to 87 years of age equally divided into 50 male and 50 females. The percentage that fall on the far extremes is at approximately 10 % the remainder range between the late 20 to about 65 years of age.

The study was to test the effects of lighting on the nervous system. This was done by using a strong indicator muscle. Muscle being used were chosen because the test were done in the supine or face up position. The muscle being used would be the Pectoralis Major

Clavicular (PMC) and Pectoralis Major Sternal (PMS) in the upper body and Gluteus Medius, Tensor Fascia Lata (TFL), and the Quadriceps because of its great strength.

Light sources being tested were generally incandescent, florescent and light emitting diodes LED.

Manual Muscle Testing (MMT) conducted on the above mention muscle groups, done on both right and left side to compare differences if any to make sure a strong muscle was being used. The patients (test subjects) were asked to resist the testing pressure while viewing each type of lighting sources, and the finding were recorded for each patient and muscle being used. These tests were done again with and without glasses and also while looking a reading material and testing against reflected light form the page and findings were again recorded.

The results of the testing were uniform in their effects, causing a strong indicator muscle to weaken in all 100 individuals tested. The weakness was caused by florescent and the LED bulbs. No weakness was noted to any of the test muscles from incandescent bulbs standard or halogen varieties. Wearing of glasses negated the weakness for directly viewed LED bulb, and from bounced radiation when reading. Florescent bulb created a weakness when viewed directly and with glasses being worn, however the bounced radiation light from a page being read does not cause any muscle weakness either with or without glasses. No weakness to test muscles were noted with or without glasses for bounce radiation with the light source was incandescent.

Conclusion

All the information and studies presented have shown the effect of natural (sun) and full spectrum lighting in comparison to florescent and LED, which has a definite down side on our health.

The natural light from the sun or incandescent bulbs or full spectrum florescent improve our learning and concentration as well as producing of vitamin D, and improves our natural sleep circadian rhythms of the body. The inferred radiation of full spectrum light help circulation and effect the mitochondria of cells especially in the retina of the eyes.

The increases exposure to the LED that can come from bulbs, computer, televisions and various smart phones and I pad devices are causing changes in sleeping and circadian rhythms cycles and also hormone production. The reduction of children and even young adults to natural sun light and being outdoors has drastically increased myopia cases.

Limiting the use of LED lighting especially at night as a light source when reading because of the lack of ambient light from windows. Don't use smart phones, I pad, computer and TV screen before going to bed, because it will cause changes in sleep cycle. These changes in sleep pattern is well documented, because of research into sleep disturbances such as sleep apnea. It has been shown that lack of REM sleep has been associated with heart disease, hypertension, obesity, depression, and cancer just to name a few.

My investigation of this matter with Manual Muscle Testing (MMT), can be considered a form of functional neurological testing, with the changes in strength leading to loss of stability to the joint, that they activate and support being a negative outcome. The use of MMT to test LED and other light sources evaluated is a way of challenging harmful effect of lighting on our body and our health. The obvious out come to viewing light should be at least beneficial with no change to the strength of the indicator muscle being tested. Simply stated no changes in the strength of an indicator muscle should be noted if the lighting source is beneficial to general good health.

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**The Effects of Natural Full Spectrum Light and Artificial Light on Health
Paul T. Sprieser, D.C., DIBAK**

Injury Recall Technique: An Alternative Approach A Case Study

Kevin Usry, D.C.

Abstract

The author is an applied kinesiology practitioner utilizing the quintessential applications clinical protocol. The author modified the approach to the Injury Recall Technique when treating a double lower limb amputee. This had proved to be challenging as the practitioner wanted to strictly adhere to the quintessential applications clinical protocol. In treating amputees who have lost a lower limb or limbs, where injuries below the neck exist, the standard IRT approach of talus distraction would not be an option. The author surmised an alternative approach to the standard Injury Recall Technique guidelines for injuries below the neck was required. Hypothesizing that the patient's intact upper extremities also involved in the flexor withdrawal reflex would perhaps in the absence of tali afferent activity become the primary source of flexor reflex afferent input. Therefore carpal distraction should provide similar neurologic effect. This alternative approach in treating lower limb amputees should be considered.

Key Indexing Terms

Applied Kinesiology, Quintessential Applications, Injury Recall Technique, Amputee, Flexor Withdrawal Reflex, Afferent Activity, Afferent Input, Carpal Distraction

Introduction

The Injury Recall Technique (IRT) was originally developed by Dr. Robert Crotty D.P.M. It was refined by Dr. Gordon J. Bronston D.P.M. and introduced into applied kinesiology (AK) by Dr. Walter H. Schmitt D.C., DIBAK, D.A.B.C.N. ^[1] IRT is the first treatment protocol in the established quintessential applications (QA) procedure of diagnosis and treatment. The (a) elimination of aberrant neuromuscular memory, (b) reduction of cortical and /or cerebellar asymmetry, and (c) restoration of normal spindle cell control mechanisms necessary for muscular and postural control is the effect and outcome of IRT.¹

Using standard AK procedures of postural analysis and temporal sphenoidal (TS) line palpation, a suspected inhibited muscle is found and tested to determine if inhibition is present.² If inhibition is present, there is a challenge with autogenic facilitation (coined by Richard Belli D.C. DIBAK), spreading apart the spindle cells of that muscle and retesting that same muscle for facilitation or inhibition.² These steps allow the practitioner to determine if the spindle cell control mechanisms are present and functioning normally.¹ Having a negative response to autogenic facilitation (the inhibited muscle remains inhibited) leads the practitioner to look for and find active injuries past or present. These active injuries are affecting normal neurologic function by constant unbridled nociception

to the ipsilateral cerebellum ^[1].

Utilizing the IRT approach requires evaluating every injury the patient has experienced.¹ This will determine if an active injury is present.¹ These injuries are recognized through (a) the patient's history, (b) verbal questioning and (c) observation of the patient.¹ Finding active injuries is accomplished by having the patient therapy localize (TL) the suspected injured area or having the doctor rub the suspected area.¹ In addition, the doctor retests the inhibited muscle for facilitation or inhibition. If the inhibited muscle facilitates, IRT is clinically necessary.¹ However, an inhibited muscle that stays inhibited, despite the patient or doctor touching the suspected injury, reveals that an active injury is not present.¹ The active injury affects the (a) ipsilateral cerebellum, (b) contralateral cortex, (c) autonomic nervous system, (d) endocrine function, and (e) normal spindle cell control mechanisms.¹ These neurologic syndromes require IRT correction.¹

Determination of the IRT approach will depend on the anatomical regions of injury. Standard protocol for active injuries to the neck and above will have the practitioner perform atlanto-occipital flexion several times on the patient while the patient touches the active injury. For injuries found below the neck, talus distraction is performed by the practitioner several times while the patient touches the active injury.¹ Sheering force injuries require origin and insertion (OI) technique to the effected musculature during IRT.¹ The two approaches are the standard treatment protocol.¹

Per the teachings of Dr. Schmitt D.C., DIBAK, D.A.B.C.N, if head and neck flexion is clinically inappropriate for injuries above the neck, then talus distraction can be performed.^[1] However, in the IRT protocol there is no provision for patients who have either lost one or both lower extremities.¹

Due to the United States being involved in two wars, many combat veterans are returning home with extensive injuries, such as amputated lower limbs. When faced with patients who have lost lower limbs that require IRT correction for injuries below the neck, talus distraction is not clinically appropriate due to the nature of the injury.

Methods

The patient is a combat veteran that lost both lower limbs from an improvised explosive device years ago. This patient was recommended by another veteran that was treated previously in the clinic. The patient presented with complaints and observations of various (a) neurologic, (b) musculoskeletal, and (c) visceral issues. Employing the Verbal Numerical Rating Scale (VNRS) for pain intensity on a scale of one to ten, the complaints were as follows: (a) phantom pain syndrome to the left lower limb with continual pain, level seven to nine, (b) generalized pelvic pain, level five to a seven (c) left eye pain, level seven to nine, (d) headaches of the occipital, temporal and frontal region, level five to seven. Other subjective complaints not rated by VNRS were: (a) intermittent itching to the upper left leg, (b) bladder weakness and tenderness with urgency and frequency, (c) insomnia, (d) night terrors, (e) nausea, (f) intermittent diarrhea, and (g) blurry vision.

The patient had undergone several major surgeries, which also included double amputation

of the lower limbs below the knee. The patient received extensive care in several medical facilities in the past two years. Care included (a) physical therapy, (b) pain management, (c) psychiatric counseling, (d) mirror therapy, (e) tens unit therapy (f) pharmacology, (g) hypnosis, and (h) chiropractic care.

Many successes were achieved with the various types of treatments. However, the listed complaints had remained unabated. The most troublesome complaint was the continued phantom pain syndrome to the left lower extremity. Phantom limb pain syndromes affect the majority of amputee patients and can be life altering. Most therapeutic approaches to this devastating syndrome are minimally effective due to issues of agreement between authorities and its exact pathology.

A thorough history and physical of the patient revealed (a) twelve surgeries, (b) three concussions, (c) a broken left leg, (d) three car accidents, and (e) several scars found in different areas of the patient's body. The measurements of the two prosthetic limbs were found to be equal in measure. Postural analysis revealed (a) a head tilt to the right, (b) a high left shoulder, (c) abduction of the right scapula, (d) a high right hip, and (e) an anterior carriage of the head and neck. The TS line analysis revealed palpable findings at the (a) left latissimus dorsi, (b) right gluteus medius, and (c) right middle trapezius points. Ranges of motion of the lumbar and cervical spine were reduced in forward flexion and extension and left and right rotation. Upon manual muscle testing, an inhibited latissimus dorsi was noted on the right and gluteus medius and mid trapezius on the left. The clinical findings were counter to the expectation of the postural analysis and TS line evaluation. It was suspected that neurological disorganization, such as switching, was occurring.

The right latissimus dorsi was chosen as a testing model for IRT necessity. This muscle was not responsive to autogenic facilitation, which required the IRT technique to be used. Due to this patient's active and dangerous past lifestyle, many injuries were found to the (a) neck, (b) head, (c) upper and lower extremities, (d) abdomen, (e) chest, (f) spine, and (g) scarring of the below the knee amputations.

The neck and head were evaluated for active injuries, which were found in several areas of the (a) cranium, (b) temporomandibular joint (TMJ), (c) face, and (d) neck flexors and extensors. IRT and OI technique³ were performed to these injured areas. Re-evaluation of the patient to determine if all active injuries were addressed required retesting of the right latissimus dorsi. This revealed a negative response to autogenic facilitation indicating further injuries were present.

The numerous injuries below the neck were addressed. However, the missing lower limbs were creating a huge challenge to standard IRT approach. There is an understanding that the flexor withdrawal reflex is the nervous systems response to trauma controlling the body's reaction through sensory input into the spinal cord and interneurons.^{2,4} This neurologic response is the basis for the IRT.

In the lower extremities the side of the lower limb that experiences the pain or trauma reactively facilitates the flexors and inhibits the extensors of that lower limb. With the

contralateral side of the body the opposite occurs. The lower extremities extensors reactively facilitate and the flexors inhibit. Conversely, in the upper extremities the side that experiences pain will automatically facilitate the extensors and inhibit the flexors. The contralateral side of the body, not stimulated by pain or trauma, will facilitate flexors and inhibit extensors in an effort by the nervous system to maintain posture and balance.

After much consideration, the decision was made to perform IRT to the carpals ipsilateral to the injury. Considering that no afferentation was coming from the tali, perhaps the upper extremities will have an effect on the cerebellum as the new primary neurologic mechanism of flexor reflex afferent input. Flexing the carpals on the ipsilateral side of injury, instead of a nonexistent ankle, should affect the nervous system similarly as talus distraction.

Twenty-seven injuries were evaluated and found to be active. This was determined by finding an inhibited muscle by (a) having the patient touch the suspected injury, (b) evaluating the previous inhibited muscle for facilitation, and (c) when facilitation is found, perform IRT. Head and neck injuries, from a sheering force, were treated conventionally with IRT and OI technique. Flexion of the atlanto-occipital joint was performed by the practitioner while the patient touched the injury. Eight head and neck injuries were evaluated and treated. The injuries below the neck were evaluated for active status. As these injuries were detected, wrist flexion of the ipsilateral side of injury was performed with OI technique where applicable, as the patient touched the area of injury. Nineteen injuries were found to the body below the neck and corrected using the alternative approach IRT.

Results

Re-evaluation of the patient's right and left latissimus dorsi revealed normal facilitation. In addition, testing the left and right gluteus medius and left and right middle trapezius musculature revealed normal facilitation. Upon further evaluation, an inhibited right scalene muscle was noted and responded to autogenic facilitation. The patient's cervical and lumbar spine ranges of motion returned to normal in all planes. Posture analysis revealed symmetry to the shoulders and scapula. However, the anterior carriage of the head and hip asymmetry were still present. TS line analysis revealed no findings of the (a) latissimus dorsi, (b) lower trapezius, or (c) gluteus medius.

The noted subjective feedback from the patient using VNRS was that pain to the left lower extremity was reduced to a level of three to five. Pelvic pain was reduced to a level of three. The patient was released and given a follow-up appointment four days later. Upon follow-up, subjective information revealed reduction in the headache syndrome to a level of three to five. Eye pain was reduced to a level of two to six. The patient stated improved function throughout the day and requires less medication to sleep.

Discussion

Based on the response of the patient's objective findings and subjective complaints, physiologic changes were made in a positive direction in helping this patient return to normal function. Both conventional and alternative IRT was performed on this patient with

dramatic results after only one treatment. The patient continued to improve between the first and second treatment.

More studies on the alternative method of delivering IRT to amputees are needed based on the results and findings of the patient in this case study. The utilization of both conventional and alternative approaches to an already proven and established technique can add confusion as to whether the alternative technique was effective and was not receiving credit for changes brought about by the conventional approach. However, after conventional IRT technique was performed on the active injuries of the (a) neck, (b) TMJ, (c) face, and (d) skull, evaluation for autogenic facilitation still revealed a lack of normal response. The return of normal response to autogenic facilitation after alternative IRT was performed on this patient indicates that this alternative approach, in this case, was effective.

Conclusion

IRT is a standalone technique that has no duplication in its effect on the nervous system, by any other technique known to this author. Utilizing IRT on this patient, miraculous results occurred on the first visit. Additionally, in this case, conventional and alternative IRT did not reduce all the patient's pain and syndromes. However, it was the most successful treatment in the reduction of pain and symptoms experienced to date.

Due to conventional IRT's dependence on the presence of lower extremities, an alternative IRT approach had to be utilized. Regarding this alternative IRT approach, there is a need for more participants and further research. Lastly, with more veterans seeking chiropractic care, these types of patients will be seen more frequently, which will require further investigation.

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Injury Recall Technique: An Alternative Approach A Case Study
Kevin Usry, D.C.

Vagus Nerve Injury Recall Technique

Kevin Usry, D.C.

Abstract

Evaluation of the vagus nerve system is a critical part of a thorough neurologic examination. The vagus nerve system has far reaching parasympathetic effects on both afferent input and efferent output regarding visceral function, hormonal regulation, musculoskeletal adaptation and psychological balance. The vagus nerve system is ultimately in control of rest and recuperation from a physiological standpoint. Because this nerve system is so influential addressing the tenth cranial nerve early on in treatment will help the patient attain better autonomic function and speed recovery towards healing. Stimulating sensory input, as well as motor output provides valuable insight to the functional evaluation of the tenth cranial nerve. A modified approach to Injury Recall Technique is suggested. Using therapy localization of neurovascular reflexes with simultaneous stimulation of afferent and efferent pathways of the vagus nerve system, the practitioner performs atlanto- occipital flexion on the patient. This modified approach would be included in the initial steps of the Quintessential Applications Clinical Protocol. And used when other active areas of injury are treated. When appropriate, this addition modified approach provides positive physiologic changes moving the patient toward autonomic homeostasis with apparent benefits of rest and recovery.

Key Indexing Terms

Vagus Nerve System, Tenth Cranial Nerve, Injury Recall Technique, Therapy Localization, Neuro Vascular Reflexes, Quintessential Applications Protocol, Autonomic Homeostasis

Introduction

Evaluating the nervous system as an applied kinesiology (AK) practitioner requires a thorough evaluation of the left and right cerebral cortex, as well as the right and left cerebellum. Many authorities including, Walther,^[1] suggest testing the cerebral cortex for balance and function. Evaluation of the left cortex includes (a) utilizing a previously intact muscle (PIM), (b) asking the patient to perform math that is somewhat challenging, such as subtracting from 100 towards one by seven, while (c) evaluating a PIM for inhibition or facilitation.¹

If inhibition of the PIM occurs, this may be an indication of left cerebral cortex dysfunction.¹ If there is no change to the PIM, then left cortical dysfunction is ruled out. However, it may be re-addressed further as a treatment and examination continue.² The evaluation of the right cerebral cortex is accomplished by instructing the patient to hum a tune (where the words are unknown) while testing a PIM for facilitation or inhibition.¹ Inhibition of a PIM is an indication of possible right cerebral cortex dysfunction.¹ If the PIM remains unchanged, right cerebral cortex dysfunction is ruled out.

The practitioner evaluation of the left and right cerebellum is performed separately utilizing a PIM, such as the supraspinatus, while the patient is standing on the contralateral foot and ankle [3]. The practitioner evaluates proper proprioception using the four different positions of gait; (a) heel strike with dorsi flexion, (b) supination, (c) pronation, and (d) plantar flexion.³ The practitioner monitors the PIM for a change in response to the different gait positions.³ Any inhibition of the PIM is indication of possible cerebellar dysfunction.³ These techniques can reveal, in a short period of time, the functional afferent and efferent pathways of the cerebellum and cortex, as well as the presence of abnormal sensory input causing deafferentation.³

With this backdrop, what about the brain stem, specifically the vagus system pathways? This system has a profound influence on the body's resting and recovery abilities for many (a) organs, (b) glands, and (c) specialized tissues.⁴ In addition, the vagus system influences visceral emotional memory and afferents that alter emotional desire to socialize and interact thus, it appears that it may be wise to address and assess the vagus system early in the evaluation and treatment of functional disorders.⁴

The vagus nerve system is the longest of the parasympathetic nerves and contains 75% of all parasympathetic fibers.⁴ The vagus along with other cranial nerves V, VII, IX, X, and XI arise from the branchial arches embryologically.⁴ This system originates from two separate nuclei.⁴ The nucleus ambiguus (NA) houses cranial nerves IX, X, and XI.⁴ As the vagus descends from the NA, these myelinated efferent fibers innervate the (a) pharynx, (b) soft palate, (c) laryngopharynx, (d) intrinsic muscles of the larynx, (e) pharyngeal arches, (f) the heart and (g) bronchi.⁴ The second nucleus of the vagus, known as the dorsal motor nucleus, provides unmyelinated efferent fibers to the (a) bronchi, (b) heart and (c) digestive system. Both of these nuclei receive input from the nucleus tractus solitarius, which responds to afferent input from the cardiopulmonary and digestive systems sending that information upward to other brain structures, such as the hypothalamus, and back to the NA and dorsal motor nucleus. This entire neurologic feedback loop is for the primary purpose of (a) homeostasis, (b) growth, and (c) restoration.

Examination of the vagus nerve system includes evaluation for the need of Injury Recall Technique (IRT) enabling the practitioner to potentially achieve better patient outcomes from an autonomic nervous system prospective. By utilizing vagus nerve IRT early on in the patient treatment. This modified approach assists the AK practitioner in moving the patient towards autonomic homeostasis in the first visit or two of their protocol of treatment. From a physiologic standpoint, it is critical to have the patient in a fully functional autonomic balance for rest and recovery to occur. For the patient to achieve the most efficient method to address vagus nerve pathways, utilization of vagus nerve IRT may achieve better and faster patient outcomes.

IRT was originally, developed by Dr. Robert Crotty, D.P.M, refined by Dr. Gordon J. Bronston and introduced into applied kinesiology (AK) by Dr. Walter H. Schmitt D.C., DIBAK, D.A.B.C.N.² Injury recall patterns must be addressed first. Correction of injuries, with IRT, reduces cortical and /or cerebellar asymmetry and restores normal muscle spindle

cell control mechanisms for postural control.² Many neurological signs and autonomic effects are significantly changed by IRT corrections. Dr. Charles Heroux's modification techniques of IRT, introduced at the annual 2015 International College of Applied Kinesiology (ICAK) meeting, will give the AK practitioner knowledge of modification techniques for their patients.⁵

IRT has been modified for the vagus nerve technique. After evaluating the cerebellum and cortex, cranial nerve X is evaluated by instructing the patient to elicit phonation by saying ahhh, while using the tongue to stimulate the soft palate. This patient action stimulates the vagus sensory and motor function. During this oral procedure a PIM is evaluated. A facilitated muscle response indicates no dysfunction. Inhibition muscle response indicates vagus dysfunction. Correction is required to restore normal balance of the autonomic nervous system. Therapy localizing (TL) either the emotional (stomach) neurovascular reflex (NVR) and /or the NVR for the adrenal glands.¹ The correction of these two reflexes, with emotional techniques and conventional neurovascular treatment, has had good clinical results objectively during the office visit. Evaluation of the tongue stimulation to the soft palate with phonation, saying ahhh, and the PIM continuing to facilitate indicates a change toward normalization. Evaluation using (a) pre-and post-treatment postural analysis, (b) ranges of hip abduction, (c) Rhomberg, and (d) past pointing demonstrated improvement after treatment. However, recidivism has been a common and frustrating occurrence as successive visits presented the same phenomena, dysfunction of the vagus complex.

Dr. Charles Heroux D.C., DIBAK presented the modification of the IRT for visceral issues at the 2015 annual ICAK meeting. The presentation, When Terrence Meets Wally, established a credible procedure of using IRT with added components of neurological inputs, such as the NVR among others. The practitioner utilized the inspiring work of Dr. Heroux and his modification, of the IRT. The practitioner used other neurological inputs, such as instructing the patient to touch the tongue to the soft palate and phonate. Simultaneously, the patient, as instructed, palpates NVR's for the adrenal glands and emotions (stomach) while the practitioner performs atlanto-occipital flexion. During the procedure the patient stimulates sensory and motor fibers of the vagus by touching the soft palate with the tongue and phonating. Treating vagus nerve dysfunction as an injury pattern with IRT, may address the recidivistic pattern of temporary correction regarding the vagus system currently being used by the practitioner.

Methods

After evaluating both sides of the cerebellum and cortex, a PIM is tested for facilitation. When discovered, the patient is instructed to phonate while stimulating the soft palate with the tongue. The PIM is evaluated for facilitation. If facilitation remains, no dysfunction of the vagus system is present. However, when the patient phonates and inhibition occurs to the PIM, vagus nerve dysfunction is thought to be present, and vagus IRT is needed to restore balanced autonomic function.

Traditionally the patient would be instructed to TL the NVR for emotions (stomach) while the practitioner tests a PIM. The practitioner will instruct the patient to TL the adrenal glands NVR and tests a PIM. One or both of these palpated NVR's will cause muscle inhibition. The practitioner will palpate both neurovascular points simultaneously, while

the patient touches the tongue to the soft palate and phonates. The simultaneously stimulation of the two NVR's would negate the PIM inhibition. Traditionally treating the NVR that negated the weakness while the patient phonated would be the approach.

With the vagus IRT, the patient extends the cervical spine while touching both NVRs (adrenal glands and emotional) and phonating, and the patients PIM is retested. If inhibition occurs, provide IRT by flexing the atlanto-occipital joint several times while the patient simultaneously TL's the two NVR's for the emotions (stomach) and the adrenal glands. In addition, the patient touches the soft palate with the tongue while phonating. Evaluation is then initiated to determine if the vagus system is restored by retesting the patient with phonation and tongue stimulation of the soft palate against a PIM and observing for facilitation. Post treatment indicators, such as (a) postural analysis, (b) hip abduction range of motion, (c) Romberg, and (d) past pointing will be evaluated and compared with pre-treatment indicators.

Results

This study utilized 32 test subjects that demonstrated on initial examination vagal nerve dysfunction as described. In addition, other clinical indicators, such as pre- and post-treatment (a) postural analysis, (b) Romberg, (c) past pointing, and (d) hip abduction range of motion were utilized on these patients being treated with modified IRT for the vagus system. Twenty-nine test subjects responded positively with modified IRT for the vagus system.

The results show that when the patients stimulated the soft palate with the tongue and phonated, which raises the pharyngeal arches; a PIM was evaluated for facilitation and found to be present. In addition, other criteria, such as pre-and post-treatment (a) postural analysis, (b) Romberg (c) past pointing, and (d) hip abduction range of motion were also improved. Upon further evaluation, these test subjects have maintained their normal vagus nerve function for the past six months when regularly evaluated in follow-up office visits.

Discussion

The vagus system, with its regulating effects on the (a) cardiovascular, (b) respiratory, (c) gastrointestinal, (d) urinary system, and (e) emotions is critical in helping patients to physiologically recuperate and recover while going through a complete protocol regime such as Quintessential Applications (QA). However, the vagus system has enough importance to rank high enough in the QA protocol to perform during IRT treatment of active injuries, when the patient presents clinically in such a way that modification of the protocol might be warranted. Therefore, helping the patient improve in the area of autonomies until the autonomic nervous system can be addressed within the QA protocol.

Conclusion

For the AK practitioner utilizing the QA protocol, it can be a challenge to incorporate pieces of this protocol, directly address patient complaints and assure that the patient has an optimum physiologic state for rapid recovery and recuperation. In a limited, time

sensitive setting, such as an office treatment/visit, utilizing this technique during the treatment of active injuries with standard IRT is a quick technique that has, for the practitioner, proved to eradicate most of the previous recidivistic cranial nerve X system dysfunctions that have been treated in the last six months.

Further study of this treatment technique is warranted. Currently, the 100 candidates needed to qualify this technique to be considered an approved approach, has not been met. However, the modified technique's statistics on the current number of patients in the practitioner's protocol yields a high percentage of success. Approximately 91%, 29 out of 32 patients studied and treated, had no indications per this protocol of further vagal dysfunction.

It is surmised that the increased neurological input from the stimulation of the adrenal glands and emotional (stomach) NVR's has an added effect in normalizing the autonomic system that has run away, sympathetically, so to speak. With input and regulatory effects on the autonomic system and emotions, this technique might normalize feedback loops between the (a) nucleus tractus solitarius, (b) the dorsal medial nucleus, and (c) nucleus ambiguus, thereby calming emotional drive to the cortex and balancing of the efferents of the autonomic system that can dampen adrenal gland effects. This input, in addition to the IRT, can address both traumatic physiology and psychology in an efficient manner and restore a patient towards normal physiologic function.

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Vagus Nerve Injury Recall Technique
Kevin Usry, D.C.

Chronic Unilateral Neck Stiffness, Otolithic Imbalance or Universal Fault?: A Case Study

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Abstract

In this case study, relationship between chronic neck stiffness and side to side sway balance instability and Universal fault is explored and treated to improve patient's stability. It is very important for healthcare professionals to make patients with instability aware of their balance problem and prevent fall injuries by improving stability before devastating injuries occur.

Key Indexing Terms

Applied Kinesiology, Cranial Fault, Universal Fault, Otolith, Ocular Torsion, Head Tilt, Lateropulsion, Comprehensive Assessment of Postural System (CAPS), Subjective Visual Horizontal (SVH), Optokinetic Stimulation (OPK)

Introduction

Fall is number one cause of emergency admission in elderly and balance disorders are very common among not only elderly but also young individuals.¹ In older adults, falls can be very serious. Studies by the U.S. Centers for Disease Control and Prevention (CDC) and several other investigators have reported some very alarming facts.¹

1. Falls are the number 1 reason for injury-related visits to an emergency facility, the number 1 cause of accidental death (falls cause 70% of all accidental deaths in people 75 & over), the number 1 reason for admission to a hospital and the number 1 reason for admission to a nursing home for people age above 65.¹
2. Falls now cause nearly 1,000 hip fractures every day in the United States. And as many as 50% of the older adults who suffer a hip fracture will never regain their previous level of functioning and be able to live independently again.¹

Otolithic imbalance can cause ocular torsion² as well as compensatory head tilt and balance instability due to lateropulsion (unilateral tendency of body sway)⁴ that will increase the risk of fall. If there is chronic otolith imbalance, due to ocular torsion and head tilt reaction, over contraction of the unilateral neck muscles contra lateral to the subjective head and body tilting direction (patient feels like his body is tilting to one side, even though it is not actually tilting) most likely becomes chronic. With this unilateral neck muscle contraction, uneven pull may be produced on the mastoid process and the occiput that may result in recurrent cranial fault.

This is the case report of a patient with chronic lateralized neck stiffness, balance instability and recurrent universal fault.

Procedure

Patient is 69y/o male with chronic neck stiffness with severe DJD with radiculopathy and uneven C/S side bend measured by digital inclinometer. His stability was measured by Comprehensive Assessment of Postural System (CAPS) that is widely used on researches and clinical settings to take reliable objective measurement of subjects' stability.¹ In this study, CAPS measurement was done on a foam mat on the platform with patient standing on both feet 2 inches apart measured by foam roller, then patient is asked to close his eyes for 20 seconds while his balance stability is measured and calculated to convert to a stability score. This stability score is calculated based on patient height, weight and age compared with normative data. 100% stability is the perfect score, and the lower the number, more risk of fall.¹ Universal fault assessment was done by clockwise and counter clockwise occiput rotational challenges on prone position using hamstrings MMT.³ Subjective Visual Horizontal (SVH) was measured by laser level measurement device in complete darkness to measure ocular torsion. From the side of body lateropulsion, OPK stimulation was applied upward on the patient's peripheral visual field for 1 minute to give perception of patient is falling toward ipsi side of the stimulation. OPK stimulation was applied with the application (Optodrum) so the speed of the moving stripes is consistent. Then post universal fault challenge and C/S side bend and CAPS stability measurements were observed. Then patient was instructed to self-apply OPK stimulation for 1 minute 3 times a day for the first one week and gaze stabilizing exercise 10 times was introduced with the OPK stimulation on the second week. Patient's stability score, C/S side bend, and universal fault were reevaluated once a week for the 3 weeks duration. Side bend gaze stabilizing exercise is done by patient's gaze fixating on the thumb and patient actively tilts the head to one side to stimulate ipsilateral side otolith and exercise contralateral eye torsion.

Results

Pretreatment C/S side bend measurement was 18 degrees to the right and 30 degrees to the left. His balance score was measured by CAPS showed moderately reduced stability (48.9%) and side sway direction was observed toward his left side (lateropulsion to the left). Universal fault was positive toward counter clockwise challenge with hamstrings MMT.³

Since lateropulsion is usually toward weak otolithic side,⁴ left visual field upward OPK stimulation was applied for one minute for the purpose of giving his brain perception of his body is tilting to the left. Post stimulation, universal challenge no longer showed up and C/S side bend improved and became 29 degrees to the right and 33 degrees to the left with less laterality, and CAPS measurement showed improvement as mildly reduced (62.7%) and left lateropulsion was decreased. Patient was instructed to self-stimulate with OPK application on the left visual field upward for 1 minute 3 times per day.

Re-evaluation was done in one week, but patient didn't perform self-application of the OPK as instructed. C/S side bend was back to 20 degrees to the right and 29 degrees to the

left, showing lateralization again. SVH was measured and was left side down (his subjective horizontal is tilted to the left) by 1.5 degree which could be produced by the left otolith weakness that matches with the direction of his lateropulsion. Universal fault was positive with counter clock wise challenge same as the initial visit.

OPK stimulation was applied on the left visual field for one minute and post C/S bend was 30 degrees to the right 29 degree to the left and universal fault was still positive to counter clockwise challenge. Then, clockwise correction of universal fault was applied with inspiration for 6 breathing cycle and re-challenge was negative. Patient was instructed to perform 1 week self OPK stimulation three times a day again.

Patient came back one week after for the second re-evaluation and treatment, informed that he performed OPK stimulation 3 times a day one day and 2 times a day for two days. His CAPS score was healthy balance (68.2%) with still very mild left lateropulsion, and universal fault was positive toward clockwise challenge that is reverse of the initial finding. C/S side bend was 25 degrees to the right 27 degrees to the left showed less laterality. Universal fault correction was done as well as gaze stabilization exercise with left C/S bending was performed ten times. Then post C/S bend became 34 degrees to the right 36 degree to the left and left lateropulsion was diminished. Patient was instructed to add left C/S bending gaze stabilization exercise with OPK stimulation for one week.

A week after, the third re-evaluation revealed mildly reduced balance (63.8%) with CAPS measurement that is slightly reduced from the second re-evaluation (68.2%) but stayed better than the first measurement of moderate reduced balance (48.9%), C/S side bend 30 degree to the right and 31 degrees to the left (improved R.O.M. and laterality is reduced) and SVH was left side down by 1 degrees that was 1.5 degrees on the first re-evaluation. Patient informed that he performed only OPK stimulation but gaze stabilization exercises. Universal fault challenge no longer showed up positive.

Discussion

Postural stability depends on vestibular, proprioceptive and visual system. Since strong visual input often masks the weakness of the other systems, many individuals do not realize their stability is diminished till they actually take a fall. They tend to lose balance when they move their heads as in standing up from seated or recumbent position or when they turn their head to look something while walking, and when they get up middle of the night to go to bathroom to urinate etc. It is very important to identify the cause of balance instability and let them realize their stability is diminished and give appropriate treatment and stability exercises.

In this case, chronic unilateral neck tension may be causing recurrent universal fault and that unilateral neck tightness was most likely caused by uneven otolithic function. Universal fault correction may change the occipital, and upper cervical proprioception and help to stabilize patient, but if there are signs of the otolithic imbalance such as lateropulsion, head tilt, and ocular tilt measured by SVH,⁴ that should be corrected by specific stimulation to balance otolith function. With this patient, universal fault correction

and OPK self-stimulation helped to improve otolithic function and therefore, helped to maintain balance of the bilateral neck muscle tone and helped to hold universal fault correction and most importantly, able to reduce the risk for fall injury successfully. However, improvement of patient's SVH was only slightly close to horizontal (left side down by 1.5 degree to 1 degree). That may be since the patient didn't perform C/S side bending home gaze stabilization exercise to exercise counter rotation of eyes. To find out if this type of exercise helps to normalize SVH, or C/S unilateral neck tension and universal fault come back if this SVH tilt is untreated, still require further treatment and observation trials for longer term.

Conclusion

Dr. David Walther discusses many causes of cranial faults in Synopsis. He discusses it is very important to treat the underlying causes.³ This case study showed the hidden otolithic system imbalance can be one of the possible causes of universal fault due to chronic unilateral pull on the cranium by unilateral neck muscle contraction and otolithic treatment helped to hold the correction. However, there are many other parts of vestibular system involving to produce head tilt on different planes with combination of tilt and rotation with different neck muscle contraction with canal involvement. Canal imbalance and the relation to other cranial fault would be very interesting subjects for further studies.

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Chronic Unilateral Neck Stiffness, Otolithic Imbalance or Universal Fault?: A Case Study
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Stability Change by Lingual Challenge Measured by Computerized Posturography

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Abstract

Dr. Schmitt demonstrates lingual challenge by observing the changes of patients' balance at his seminars as one of the assessment tools to test nutritional need for patients without Manual Muscle Testing (MMT). The assessment is done by patients standing on both of their feet and then one leg at a time with their eyes closed as in Romberg's test with and without supplement on the tongue, and the changes on stability is observed such as direction of movement, amplitude of the sway and duration of stability when patient stands on one leg.

Lingual challenge has been primarily used with MMT in Applied Kinesiology (AK) practice for long time as an assessment tool to evaluate patients' nutritional need. We know that putting chemicals on the tongue is a neurological stimulation, and its afferent input may change the Central Nervous System (CNS) level of excitation and affect muscle strength in many ways, such as facilitation of previously inhibited muscle, inhibition of previously facilitated muscle, and also over facilitation of previously facilitated muscle. However, to understand the mechanisms of how specific chemical affects specific muscle in specific way requires more scientific researches.

In this paper, I have objectively measured how lingual challenge affects patients' stability with Comprehensive Assessment of Postural System (CAPS) to investigate the relationship between lingual challenge and patients' stability. I also assessed the reliability of the stability testing with lingual challenge as a nutritional assessment tool.

Key Indexing Terms

Lingual Challenge, Applied Kinesiology, Anterior, Posterior Insula, Cranial Nerve V, VII, IX, NTS, Reticular Formation, Vestibular Nucleus, Autonomic Control System, Ventral Posterior Lateral Thalamus (VPL), Ventrobasal Thalamus, Ventral Posterior Medial Thalamus (VPM), Antigravity Muscles, Comprehensive Assessment of Postural System (CAPS)

Introduction

Taste is carried by facial nerve (CN VII) for anterior two third of the tongue and by glossopharyngeal nerve (CN IX) for posterior one third of the tongue. They are connected to nucleus tractus solitarius (NTS) in the medulla and synapse on a thin column of cells in the gustatory area of the rostral and lateral part of the nucleus of the solitary tract. These neurons project to the thalamus at the ventral posterior medial nucleus (VPM). Neurons in

this region of the thalamus project to neurons along the border between the anterior insula and the frontal operculum in the ipsilateral cerebral cortex that is rostral to the somatosensory representation of the tongue.¹

Postural response (with eyes closed) requires both Vestibular input and Proprioceptive input to the CNS.² These inputs use different tracts and reach multiple nuclei of the thalamus such as ventrobasal and VPM nuclei,⁶ and from there, projections go to multiple areas of the brain such as, posterior insula,⁵ somatosensory cortex, intraparietal sulcus and hippocampus. That explains the large influence of vestibular signals on spatial navigation, self-body and motion perception.⁹

NTS is known as autonomic regulator and closely related to taste and vestibular system. The NTS projections go to many areas such as, parasympathetic preganglionic neurons, hypothalamus and thalamus, and the reticular formation that excites antigravity muscles.

I investigated the effect of lingual stimulation on patients' stability changes as another assessment tool by using CAPS objective measurements. The supplement used in this investigation is a combination of 5MTHF and B12 since they are very important chemicals for proper CNS functions.⁸

Method

Comprehensive Assessment of Postural System (CAPS™ Pro by Vestibular Technology) is widely used in many research settings as well as in regular office settings to take objective measurements to assess subjects' balance and stability. In this study, static balance method of measurement with this device is used to measure the stability of each individual with foam mat on the forced platform. Patients are told to stand on the foam mat with their eyes closed with their arms free to move and relaxed on the side of the body, head is in the neutral position, and their feet 2 inches apart (measured by a 2-inch foam roller placed in between both medial malleoli). Center of pressure movement is measured and calculated to convert to stability score for the duration of 20 seconds. This stability score is calculated based on patient's age, height and weight with normative data.³ This score is calculated as %. 100% is the perfect balance and the lower the number, the more the risk of fall.³ The score is also rated in five stages for patients to easily understand which stage they are in by comparing to normal balance in their age group. The five stages are: profoundly reduced balance as the most severe form of balance loss, severely reduced balance as second severe, then moderately reduced balance, mildly reduced balance and healthy balance as normal. First measurement is taken without lingual challenge (no chemical on the tongue) and the second measurement is taken with lingual challenge using a 5 MTHF and B12 combination supplement on the tongue and the third measurement is taken without lingual stimulation (take supplement out and wash mouth with water), and the results of the measurements are compared. These three measurements are taken consecutively one after another without patients getting off the mat so the placement of their feet on the mat is exactly the same throughout the test.

Result

Subject a) is 42 y/o female with chronic neck pain and balance loss, b) is 61 y/o female

with chronic hip pain and balance loss, c) is 15 y/o male post MTBI (Auto Collision as a biker) with severe balance loss, d) is 76 y/o post fall injury female with balance loss, e) is 25 y/o male with chronic low back pain, f) is 55 y/o male post recovery MTBI (Auto Collision as a motorcyclist), and g) is 49 y/o male with chronic neck stiffness.

2~3 measurements were taken for each patient on one visit by the CAPS(Fig1).

Patient	a	b	c	d	e	f	g
Pre	49.9%	60.8%	36.5%	49.4%	71.0%	64.7%	67.4%
With	74.9%	70.5%	60.1%	62.1%	79.8%	63.3%	70.4%
Post	71.4%	67.5%	(26.3%)*		76.2%	68.0%	74.6%

(Fig1) *this measurement was taken not immediately after the second measurement.

Pre is initial measurement without lingual challenge, With is the measurement with the lingual challenge (supplement on the tongue), and Post is the measurement after mouth is cleaned with water. Patient a) ~ d) had complaints of balance problem (feels not stable, body is pulled to one side when walk, not able to stand on one leg, etc.). Their Pre-stability scores showed severely reduced, moderately reduced, profoundly reduced, and moderately reduced respectively. Then with the supplement on the tongue, all of them significantly improved their stability scores. Patient a) score got up to healthy balance from severely reduced, patient b) score got up to healthy balance from moderately reduced, patient c) score got up to severely reduced from profoundly reduced, and patient d) score got up to mildly reduced from moderately reduced. On the Post measurements, patient a) through c) showed reduction of the stability. Patient d) didn't get the post measurement due to a technical issue.

Patient e) to g) didn't have complaint of any balance issue. Patient e) showed the same pattern as patients with balance complaints (improvement of stability on the second measurement and reduction of stability on the third measurement), f) showed reverse pattern (got worse with lingual challenge), and g) had kept improving with every measurement.

Discussion

Patients with balance issue had greater improvement on the stability scores with lingual challenge and reduction of the stability after the supplement is washed out from their mouth. It is clear that lingual stimulation had an effect of their nervous system and made them more stable. With all the patients who had balance issue, there is reduction of the stability score from With and Post measurements, although the reduction rates were not as significant as the improvement rates. The reason for the reduction rates were not as much as the improvement rates could be due to the lingual challenge stimulus may have stayed in their CNS and some positive effect of stimulation may have been there on their Post measurements.

Patient e) showed the same improvement and reduction pattern as patient a) to d) even though this patient was not complaining any balance issue. Patient f) showed worsening of the stability with the supplement on the tongue, and patient g) showed continuous improvement regardless of presence or absence of lingual challenge. This may explain that

the lingual challenge with specific chemical have positive, neutral, and possibly negative effect on their stability.

Possible interaction of the taste and vestibular (and proprioceptive) inputs⁴ occurs in multiple areas of the CNS. First, insula is not only part of the vestibular system but also many somatosensory integration center⁵ of the brain that includes taste sensation and therefore, the stimulation through lingual nerve may have an effect on the summation of insular cortex on the perception of the body in space. Second, the thalamus as a sensory integrator⁶ may have the capacity to compute a variety of output functions depending on the signals received⁶; therefore, thalamic integration of the proprioceptive, vestibular, and taste stimulation may have an effect to tune the perception of the body in space. Third, from NTS, some fibers project to hypothalamus and hypothalamus project down to some part of reticular formation that controls postural muscles. Therefore, the lingual stimulation may have an effect to improve postural control through this system.

Lingual challenge with the specific chemical in need may improve summation of any or some or possibly all of these parts of the brain to improve perception of our body in space, which could be the reason for improved stability.

Conclusion

This study demonstrated that there are positive, neutral, and negative changes on the patient's stability with lingual challenge, which suggests balance and stability testing with lingual challenge is reliable testing to test patient's nutritional need, although more researches are needed to find out exact mechanisms. In lingual challenge with balance, most important aspect may be the Post measurement, since subject may adapt and improve stability with or without lingual challenge, and also the timing between With and Post measurement (should wait for 20~30 seconds till the lingual stimulation effect on the CNS subsides) is the key aspect.

Although these results give only limited proof that specific chemical stimulation on the tongue has effects on our CNS and change the perception of the brain that changes patients' stability and balance, this gives us another practical tool to use in conjunction with MMT and other testing modalities on the lingual challenge.

Only 5MTHF and B12 combination supplement is used in this study, and further investigation will be needed to determine if positive changes occur only with specific chemical on the tongue or negative changes occur when some toxic chemical was placed on a same subject.

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