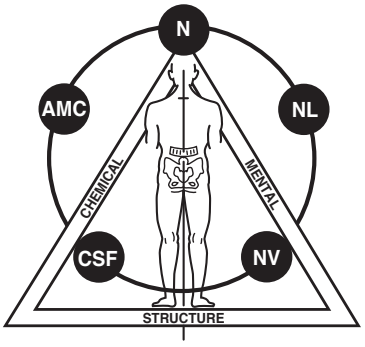
International College of Applied Kinesiology®-U.S.A.

Experimental Observations of Members of the ICAK

Volume I, 2008 – 2009

Proceedings of the Annual Meeting



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Experimental Observations of Members of the ICAK

Volume I, 2008 – 2009

Proceedings of the Annual Meeting

Presented

June 5 – 8, 2008

Los Angeles, CA

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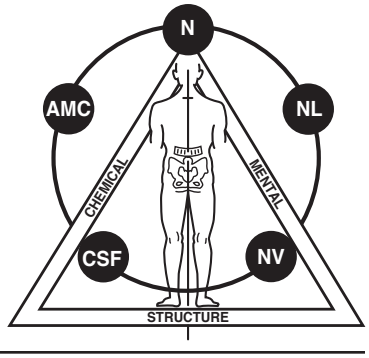

Message From the Chairman

David Leaf, D.C., DIBAK

For 32 years, the members of the International College of Applied Kinesiology®-U.S.A. have shared their insights, outcomes, case histories and research through the papers presented in the *Proceedings*. The ICAK-U.S.A. continues to thrive as an "Arena of Ideas" through which members have the opportunity to present their observations and research results. These published works document the first steps toward the furtherance and development of the authors' hypotheses, concepts and procedural techniques which can culminate in their material becoming part of the accepted body of knowledge we know as applied kinesiology. We invite all members to participate in this endeavor in the future.

Past history shows that the observations of one doctor stimulate the minds of others and the end result can be, as Dr. Goodheart credited Dr. Deal as saying, "and now we have another piece of the puzzle."

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

Thank you and congratulations to all of our contributors. I would like to offer a special thanks to Drs. Allan Zatkin, David Engel, and Scott Cuthbert for all their help during the review process, and to Dr. Barton Stark, our Publications Chair. We look forward to seeing you at the Annual Meeting, June 5–8, 2008 in Los Angeles.

Introduction

This fiftieth collection of papers from members of the International College of Applied Kinesiology®-U.S.A. contains 37 papers written by 22 authors. The authors welcome comments and further ideas on their findings. You may talk with them at the meeting or write them directly; addresses are given in the Table of Contents.

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

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

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

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

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

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

The ICAK-U.S.A. recognizes that the usual procedure for selection of papers in the scientific community is a blind review. However, the purpose of *The Proceedings of the ICAK-U.S.A.* is to stimulate creative thinking and critical review among its members. These papers are distributed only to the members of the ICAK-U.S.A. for general 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 scientific investigations, new areas of research, and in-depth study, inspiring progress in the field of applied kinesiology.

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

The current ICAK-U.S.A. Status Statement is published with *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. It is recommended that examination or treatment procedures that fail to conform to the ICAK-U.S.A. Status Statement be supported by statistical studies, literary references, and/or any other data supporting the procedure.

Papers are published in three divisions: I) papers intended by the author as informative to the membership and not inviting critical review. II) papers inviting critical and constructive comments from the membership in order to improve the total value of the paper. Comments may be made on such items as research design, methods presented, clarity of presentation, and practical use in a clinical setting. The author must include with his/her paper written indication of desire for the paper to be included in the section inviting critical review or for informative purposes. III) The third section is for review comments on papers published in Division II. These papers are for constructive review. Opinions or editorials with negative connotations only may be rejected.

Manuscripts are accepted by the ICAK-U.S.A. for consideration to publish with the understanding that they represent original unpublished work. Acceptance of the manuscript by the ICAK-U.S.A. does not necessarily imply acceptance for publishing. The author may appeal any paper rejected to a 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 employer if submission represents a "work for hire." Upon such submission, it is to be accepted 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 holder stipulation may result in withdrawal of submission for consideration to publish.

Continuing call for papers includes:

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

Hypotheses—preliminary studies 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 pointing up of ambiguities, and the delineation of areas that may constitute hypotheses for further study. Meta-analysis is 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, ie, the comparative evaluation of two or more (perhaps hundreds) of case reports.

Clinical Observations (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.

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; identifying information about a patient's personal history and characteristics should be disguised. Photographs or artistic likenesses of subjects are publishable only with their written consent or the consent of legal guardian; the signed consent form, giving any special conditions (ie, eyes blocked off), must accompany manuscript.

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 ready 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 encouraged to submit final manuscripts on computer diskette along with the printed revised copy. Authors accept responsibility for the submitted diskette exactly matching the printout of the final version of the manuscript. Manuscripts produced on IBM or compatible computers are preferred. Macintosh files should not be saved using the Fast Save option. Identify the diskette with journal name, manuscript number, name of first author, manuscript title, name of manuscript file, type of hardware, operating system and version number, and software and version number. Each article should be on a separate diskette. Please put all manuscript parts (text, references and figure legends) in one file.

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, 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, running head, etc), abstract and key words, text, acknowledgments, references, individual tables, and figure legends.

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

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

Title page

The title page should carry (1) the title of the article, which should be concise but informative; (2) a short running head or 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 (ie, position papers, historical treatises).

Please visit the following link online for helpful information on structured abstracts:
http://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:
http://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 and why it 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 and 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 can 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 appendixes.

Results

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

Discussion

Emphasize the new and important aspects of the study and conclusions that follow from them. Do not repeat in detail 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 included in this discussion section; however, in some cases, they may be more succinctly presented in a separate section.

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 because readers may 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 again list it in the references as "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 (in the case of refereed journals) more accurate. 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 dropped, ie, 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(Sep):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 (ie, 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 reduced for publication all details will be clearly discernible; rough sketches with freehand or typed lettering are not encouraged. All illustrations (including x-rays) are best submitted as professional-quality, unmounted, black and white glossy prints at least 127 by 173 mm (5 by 7 in) but no larger than 203 by 254 mm (8 by 10 in). Do not place titles or detailed explanations on the illustration; such information should be given in the figure legends. Do not send x-ray film.

Each figure should have a label on its back indicating the number of the figure, author name(s), and top of the figure indicated with an arrow. Do not write on the back of the illustrations themselves; do not mount them on other sheets; do not bend, scratch or mar them with paper clips.

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 written permission from the copyright holder to reproduce the material. Permission is required, regardless of authorship or publisher, except for documents in the public domain. Articles may appear both in print and online versions, and wording of the letter should specify permission in all forms and media. Failure to get electronic permission rights may result in the images not appearing in the online version.

Electronic illustration submission

Figures may be submitted in electronic format. All images should be at least 5 in wide. Images should be provided in EPS or TIF format on Zip disk, CD, floppy, Jaz, or 3.5 MO. Macintosh or PC is acceptable. Graphics software such as Photoshop and Illustrator, not presentation software such as PowerPoint, CorelDraw, or Harvard Graphics, should be used in the creation of the art. Color images need to be CMYK, at least 300 DPI, with a digital color proof, not a color laser print or color photocopy. Gray scale images should be at least 300 DPI and accompanied by a proof. Combinations of gray scale and line art should be at least 1200 DPI with a proof. Line art (black and white or color) should be at least 1200 DPI with a proof. Please include hardware and software information, in addition to the file names, with the disk.

Manuscript submission summary

Manuscript components

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

- Manuscript (the original and 2 clear photocopies). The author should be sure to retain an additional copy in case of loss of the submission copies in transit.
- Illustrations (1 set for each manuscript).
- *RELEASE FORM* (signed by all authors, and by employer if study was a work for hire).
- Letter(s) of permission to use previously published material in all forms and media (if applicable).
- Consent form(s) to publish photographs in which subjects may be identifiable (if applicable).
- Cover letter from principal author (or author specified as correspondent) providing any special information regarding the submission which may be helpful in its consideration for publication.
- Computer disk with manuscript(s).

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The manuscript should be securely packaged in a heavy-weight envelope (or carton if bulky) with illustrations placed between cardboard to prevent bending; do not use paper clips or in any manner fasten illustrations to cardboard that could scratch or mar them.

The manuscript package should be mailed (first class or express, insured, return receipt requested, if desired) 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 G. 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 A.K. 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 (micro avulsion 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 preconceived impressions regarding the test outcome
- Nonpainful contacts — nonpainful execution of the test
- Contraindications due to age, debilitative disease, acute pain, and local pathology or inflammation

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

An applied kinesiology-based examination and therapy are of great value in the management of common functional health problems when used in conjunction with information obtained from a functional interpretation of the clinical history, physical and laboratory examinations and from instrumentation. Applied kinesiology helps the physician understand functional symptomatic complexes. In assessing a patient's status, it is important to understand any pathologic states or processes that may be present prior to instituting a form of therapy for what appears to be 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 A.K. 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.

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Division I

Informative Papers

Counting in Base Two

Michael D. Allen, D.C., NMD

Abstract

The human nervous system is binary, based on the principle of "all-or-none"; it is either on or off, there is no in between. This provides for appropriate and focused afferentation. That same principle can be seen in counting in base two. This paper will describe that counting procedure and show several ways to use it in clinical practice.

Introduction

When I was much younger, I read a book that described a unique way to count—I believe Ray Bradbury wrote it but I cannot be sure, nor can I recall its name. Nevertheless, the principle I will describe made an indelible impression on my life. The people in the book counted in base two. Using the fingers on both of their hands, they could count up to 1023. I thought that was incredible and set out to learn more.

Later on, in the 1980's, Alan Beardall, DC, introduced the use of hand modes and his concepts of Clinical Kinesiology. He used these modes to test various issues from organs and nutrients to bones and other syndromes. While they were very effective for his technique, the finger positions for counting in base two are not the same. Counting in base two is a uniquely separate type of therapy localization; these are not "hand modes."

Discussion

Question: How many numbers are there in base 10? People often answer 10, and they count 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. Well, that is wrong. There are ten numbers, but they are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. Each of these numbers is in the one's column. Zero is a place holder while the number speaks for itself representing the number of "ones" in the "ones" column. To get to 10 requires that there are zero ones and one in the ten's column. Twelve is represented by a one in the tens column and a two in the ones column.

Here is another question: How many numbers are in base five? The right answer is five, and they are 0, 1, 2, 3, and 4. Six is represented by a one in the fives column and a one in the ones column. Seventeen is noted by putting a three in the fives column and a two in the ones column. Three times five is 15 and two times one is two. Adding those gives 17.

Now, how many numbers are in the base two? The answer is two. What are they? They are 0 and 1. This system is binary. A computer runs on the same system. To represent the number five requires 2 twos and 1 one, or two times two, plus one.

Figure 1: Each finger has an exponential equivalent in Base 2.

The base two can also be uniquely notated with exponents (*Figure 1*). So, we designate one in base two as a super-script. It would be written as two to the zero power (2^0). Any number to the zero power is equal to one.

To make some sense of all this, consider that your right thumb represents two to the zero power (2^0). Since any number to the zero power is equal to one, putting your right thumb on your palm represents the number one (*Figure 2*). Your right index on your palm represents two to the first power (2^1), or two one time—two (*Figure 3*).

Figure 2 – 2^0

Continuing, your right middle finger represents two to the second power (Figure 4, 2^2), or two times two—four. Keep on going with the exponent idea. The right ring finger is two to the third power (*Figure 5*) or (two, three times), two times two, times two, or eight. Finally, your right little finger represents two to the fourth power (2^4), or, two times two, times two, times two, or sixteen (*Figure 6*).

Figure 3 – 2^1

Now, use your right hand to count. Put your right thumb on the palm of your right hand for a one (*Figure 2*).

Take it up and put down your right index finger giving you two (*Figure 3*).

Your right index finger on your palm with your right thumb over it make two, plus one, or three (*Figure 7*).

Take up both fingers and put down your right middle finger. That finger is two to the second power, or two times two—four (*Figure 4*).

Figure 4 – 2^2

Cross it with your right thumb and you have five (*Figure 8*). Take up your right thumb and put down your right index finger instead *(Figure 9)*—that is, have your right middle and index fingers on the palm of your right hand. That makes six—four plus two.

Add your right thumb and you have seven (*Figure 10*)—four plus two plus one.

Take them all up and put down your right ring finger (*Figure 11*), which represents two to the third power—two times two, times two, or eight.

Let's try doing ten in base two (10_2) using your right hand. Go ahead and try. You should have put your right ring and index fingers on your palm. The right ring finger represents two times two, times two or eight, plus your right index finger, which represents two one time, or two. And eight plus two equals ten (*Figure 12*).

Eleven is represented by the right ring and index fingers, crossed by your right thumb, which equals one. Eight plus two plus one is eleven (*Figure 13*).

If you want to go from eleven to twelve, take up your right index finger and thumb, and put down your right middle finger. You have essentially subtracted three from eleven and added four, giving you twelve (*Figure 14*).

To get thirteen, add your right thumb.

Try twenty; right little and middle fingers together make 20. That is $2^4 + 2^2$—2x2x2x2 or sixteen, plus 2x2 or four make twenty.

Try representing 28. Go ahead. You should have put your right little, ring and middle fingers on the palm of your right hand. This represents 2^4 plus 2^3, plus 2^2, or 28. Look at it another way. Your right index finger and thumb are not touching your right palm, so they are unused. Those two together represent three. If they were used together with the right little, ring and middle fingers you would have 31: 28+3=31. 31 is as high as you can count on the right hand. Guess where the number 32 is. It is the left thumb—2^5; 2x2x2x2x2=32 (*Figure 15*).

Figure 5 – 2^3

Figure 6 – 2^4

Figure 7 – $2^1 + 2^0$

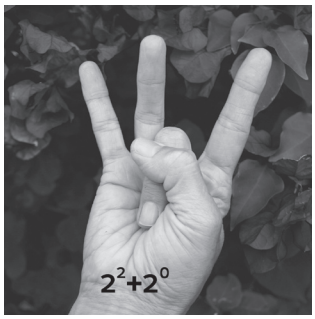


Figure 8 – $2^2 + 2^0$

Figure 9 – $2^2 + 2^1$

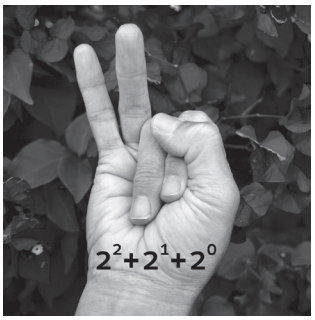


Figure 10 – $2^2 + 2^1 + 2^0$

Figure 11 – 2^3

Figure 12 – $2^3 + 2^1$

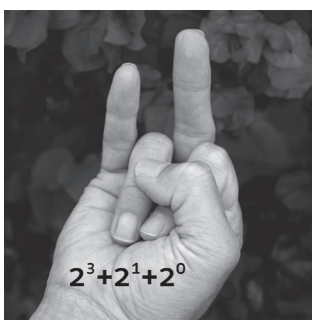


Figure 13 – $2^2 + 2^1 + 2^0$

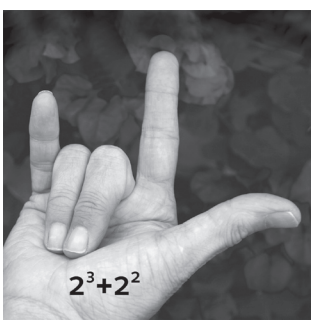


Figure 14 – $2^3 + 2^2$

Figure 15 – 2^5

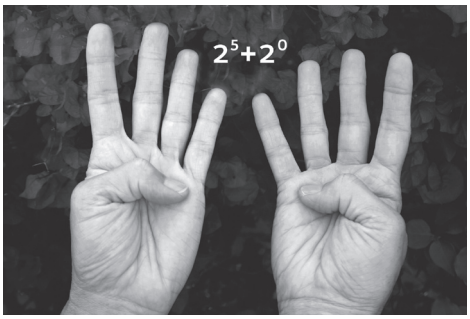


Figure 16 – $2^5 + 2^0$

Figure 17 – $2^6 + 2^1$

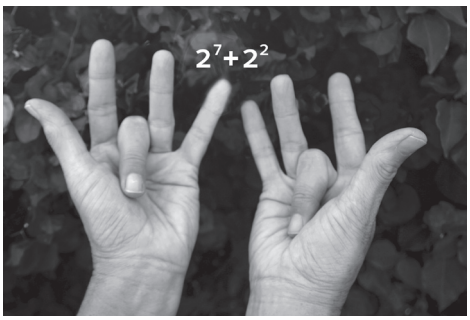


Figure 18 – $2^7 + 2^2$

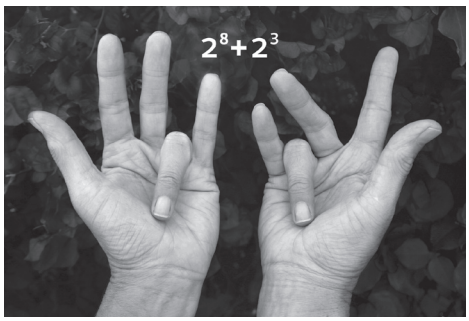


Figure 19 – $2^8 + 2^3$

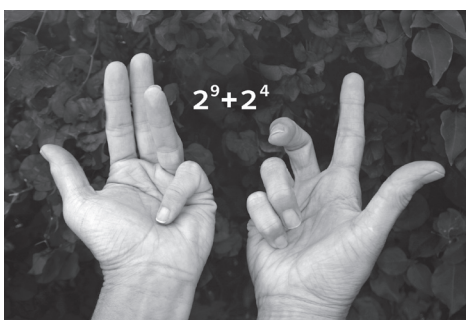


Figure 20 – $2^2 + 2^1 + 2^0$

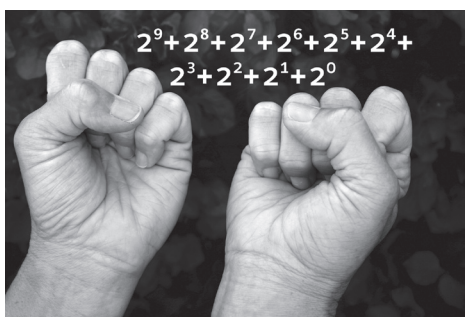


Figure 21 – $2^9 + 2^8 + 2^7 + 2^6 + 2^5 + 2^4 + 2^3 + 2^2 + 2^1 + 2^0$

Put your two thumbs on their palms and you have 33 (*Figure 16*).

Continue designating the fingers of your left hand with the exponents six, seven, eight, and nine to the left index, middle, ring, and little fingers respectively. They represent 64, 128, 256, and 512, respectively (*Figure 1*).

Your left and right index fingers together equal 66 (*Figure 17*).

Your left and right middle fingers together equal 132 (*Figure 18*).

Your left and right ring fingers together equal 264 (*Figure 19*).

Likewise, your right and left little fingers together equals $2^9 + 2^4$, or 528 (*Figure 20*).

All your fingers of each hand on their respective palms and crossed by their thumbs equal 1023 (*Figure 21*).

There is no way to get over 1023, and as I understand it, computer systems use that last number in a string—1024 or 2^{10} in this case—as a parity bit that indicates that the data sent is accurate.

The points where the fingers and/or thumbs touch the palm of the hand make contacts; it is like therapy localization. The brain understands contact. Contacts and therapy localization are a locus of focus.

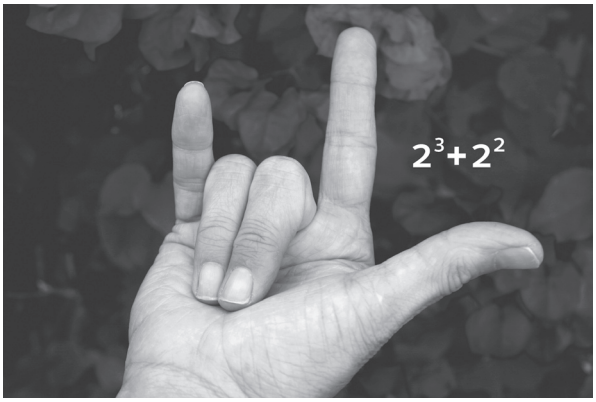


Figure 22 – $2^3 + 2^2$

Figure 23 – $2^3 + 2^2 + 2^1$

Figure 24 – $2^6 + 2^4$

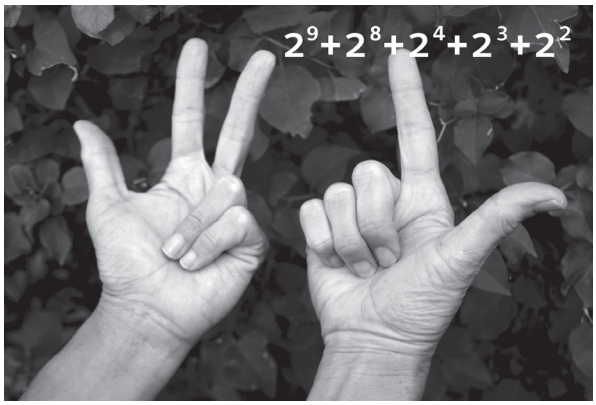


Figure 25 – $2^9 + 2^8 + 2^4 + 2^3 + 2^2$

Application

Minerals

OK, you say the theory is fine, but how do you use it? Well, consider mineral or heavy metal analysis. Each mineral has an atomic number. The atomic number for magnesium, for example, is 12 (*Figure 22*).

Check an indicator muscle and put your right ring and middle fingers on your right palm. Check the indicator again. If the function of the indicator changes it does not mean you have a magnesium deficiency. It means that putting your right index and middle fingers on your right palm changes the muscle strength. That is all it means. Nevertheless, while keeping your fingers like that, start examining magnesium issues and see if there is something that changes the indicator muscle.

Two-point to different areas, challenge, test all you know how to test. Fix the problem. Perhaps all that is needed is to insalivate magnesium in a particular form. Once the magnesium issue is fixed, recheck the "12" against the indicator muscle and it should be functioning normally.

Implants

Perhaps you would like to examine the breast of a woman complaining of an implant problem. Silicon has an atomic number of 14—the right ring, middle, and index fingers together on the right palm—2^3 plus 2^2, plus 2^1 (*Figure 23*). If this inhibits a previously facilitated muscle, it means that 14 causes the inhibition of a previously facilitated muscle and that is all. Simultaneously therapy localizing one breast or the other, for example, may cause the facilitation of that previously inhibited indicator muscle. This may suggest a silicon problem.

Your body detoxifies silicon through the kidneys, mainly, so use the free right little finger to simultaneously therapy localize the kidney neurolymphatic on one side then the other. An inhibition of the previously facilitated indicator muscle indicates an issue. Perhaps have the patient insalivate a kidney nutrient, rub the neurolymphatic, or do any combination of other therapies to treat that kidney issue. Now go back to the original "14" to check its display. If the problem resolves, "14" should no longer be active.

Heavy Metals

The same idea can be used to examine heavy metal toxicity. Mercury's atomic number, for example, is 80.

Here is another way to find your finger combinations. Subtract the highest factor of two from 80 as possible. For example, the highest factor of two that can be subtracted from 80 is 2^6, or 64, leaving 16. Sixteen is a natural factor of two—2^4—so that is your finger combination. Mercury is represented by putting the left index and right little fingers on their respective palms; $2^6 + 2^4 = 80$ (*Figure 24*).

Check cadmium (Cd, 48), lead (Pb, 82), nickel (Ni, 28), arsenic (As, 33), and any other heavy metal in the same way. Look them up on the periodic table of the elements (*Figure 26*) at the end of this paper to find their atomic number, input that number and check the muscles and organs.

Manual Muscle Testing

In Dr. Beardall's lower extremity book, the number 796 represents the straight head of the rectus femoris. Put your little and ring fingers on the palm of your left hand (2^9, and 2^8) and your little, ring and middle fingers on your right hand (2^4, 2^3, and 2^2) (Figure 25, $2^9 + 2^8 + 2^4 + 2^3 + 2^2$). This totals 796. Holding this numeric therapy localization, check the straight head of the rectus femoris. If there is a problem associated with that muscle a previously facilitated rectus femorus indicator muscle will become inhibited, indicating an issue in that muscle.

There have been times when the muscle in question is inhibited in the clear. There may be some indication to work from a facilitated straight head of the rectus femoris. In either case, this same therapy localization—"796"—may cause that facilitation. If so, proceed with the testing as necessary, working from a facilitated muscle.

Other Ideas

There are other more advanced uses for this counting system, but they will be discussed in future articles on counting in base two. Actually, any whole number between 0 and 1023 can be used for testing relative to any functional system you desire.

Summary

Counting in base two is not only an efficient way to use both your hands to count higher than 10, but it is also consistent with the function of the human nervous system. Binary counting is based on the principle of "all or none"; either something happens or it doesn't. In a binary system, there is either action or inaction. There is either on or off, but there is no in between.

These principles can be applied when checking mineral levels, heavy metals, muscle function, or a number of other uses. Your findings should never stand alone as diagnostic. They should always be backed up by other laboratory findings. Consider that they help point you to objective diagnostic procedures just as muscle-organ relationships suggest further diagnostics.

This author has found counting in base two is a very effective technique when used in a conscientiously applied program of applied kinesiology as functional neurology and appropriate professional care.

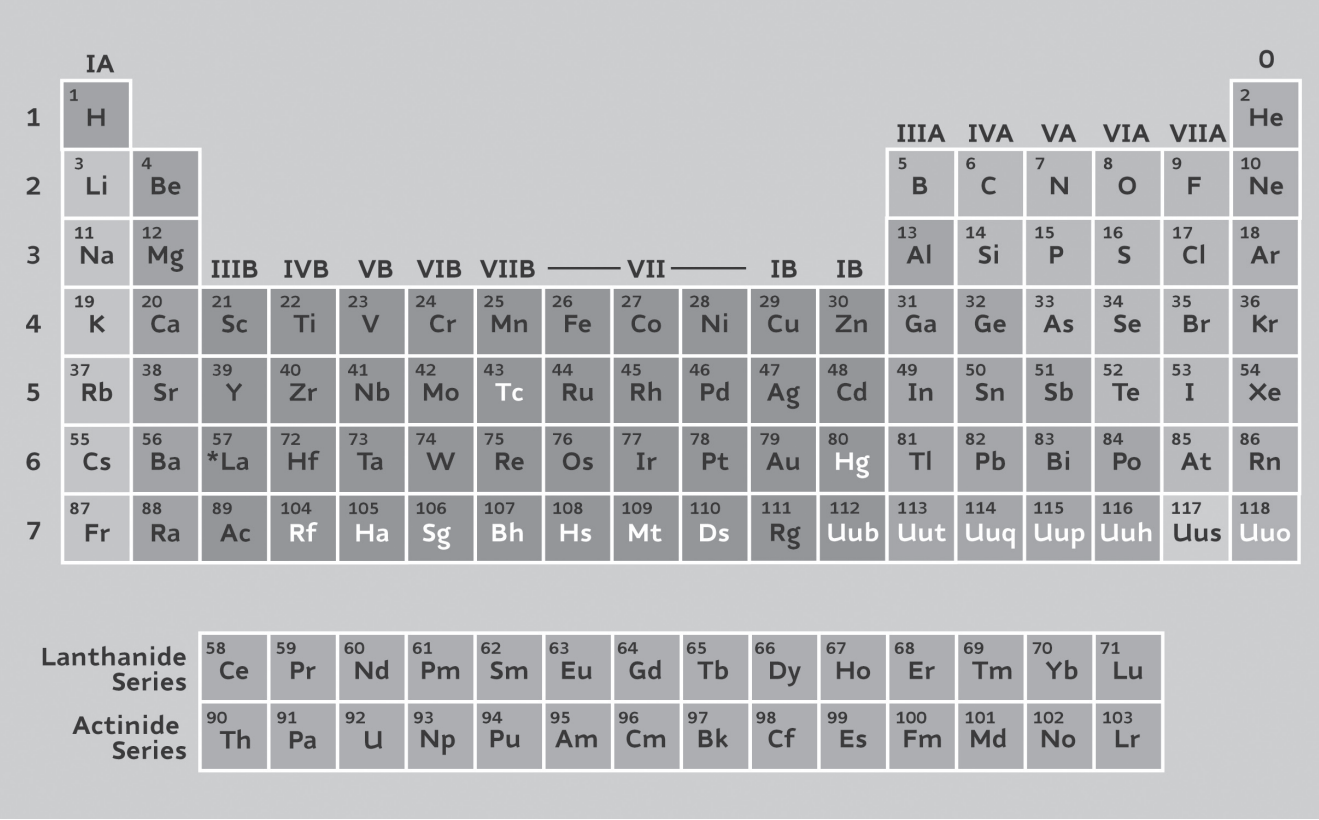


Figure 26 – Periodic Table of the Elements

Resources

Bradbury, Ray; The Martian Chronicles; Doubleday. 1950

Therapy Localization: Updating Core Clinical Concepts

Michael D. Allen, D.C., NMD

Introduction

The phenomenon of therapy localization—TL—originated within applied kinesiology, a technique developed by George Goodheart, DC and his original students, all within the profession of Chiropractic. It was originally thought to be a phenomenon that happened when a strong muscle showed a weakness when the patient touched a problem area on the surface on their body. The phenomenon was considered to be "an unlocking" of the area touched from its associated region in the somatosensory cortex. It theoretically indicates that a problem exists, but it cannot specify what the problem is.

For the most part, the TL's basic ideas are the same today as they always were, but its neurology is clearer. To be more consistent with some of the latest research literature, we now say that a positive therapy localization occurs when a patient touches an area of their body with their hand and a functionally facilitated indicator muscle displays a functional inhibition. That display apparently indicates that there is a timing error between the area being touched and those centers that modulate its afferent, cortical, and efferent circuitry.

Therapy Localization Tells *Where* a Problem is, But Not *What* it is

Since AK is a muscle-based technique, the original teachers thought that any disconnect between a muscle and the brain must be related to either cerebellar or cortical problems. This older thinking is not altogether wrong, but now we understand it more completely.

In the early days, applied kinesiological (AK) pioneers taught that normal muscle function required a clear link between the primary afferents from a muscle being tested and the efferent response to that same muscle. They taught that the afferent link to the efferent response happened either in the cord or in the associated region of the somatosensory cortex, which is composed of engrams. Engrams theoretically contain the memory for muscle performance.

Any inhibition of the muscle's function was thought to be either the result of a subluxation complex or it meant a disruption in what was called the cerebellar or cortical "standard deviation of error" that interfaced the sensory input with the motor response.

The cerebellum only receives its input solely from muscles. It receives no input from joints, ligaments or other somatic tissues—only muscles. On the other hand, the cortex via the thalamus receives afferents from all areas of the body—muscles, joints, ligaments, and almost any other area of somatic tissue.

Neurologically Updating Therapy Localization

Fine-tuning our philosophy of TL makes it more consistent with the latest research in functional neurology. We must consider that:

1. TL is gravity-dependent
2. TL is receptor-driven
3. TL is a matter of timing
4. TL is dependent upon spatial and temporal summation
5. TL is dependent upon functional reciprocity
6. The cortical and cerebellar homunculi are highly plastic
7. TL is dependent upon the central integrative state of the anterior horn

TL is Gravity-Dependent

Because reflexes are dynamic, they require a constant against which they can be compared. That constant is unchangeable throughout all the earth.

Rule 1: Gravity is that constant—gravity is the only constant environmental stimulus. It is always present and it is constantly monitored by highly specialized neurologic sense organs in the muscles. They detect muscle *stretch* as we move about and try to resist gravity.

Corollary 1: The reflexive response to gravity is not constant even though gravity is constant

Corollary 2: The effects of gravity ultimately influence the higher brain centers—the thalamus and cerebellum —by being constant

Rule 2: Gravitational effects influence therapy localization.

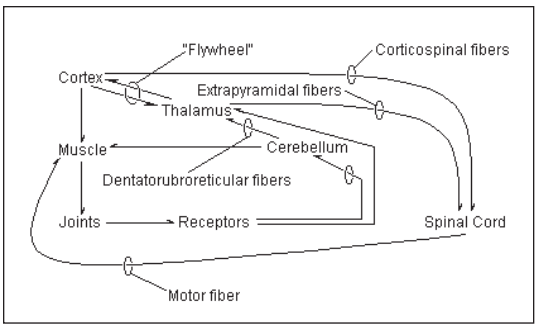
Corollary: Therapy localization has to do with the proprioceptive response to gravitational changes.

Gravity is the *stimulus* but proprioception is the *modality*.

TL is Receptor-Driven

The receptors supply the greatest input to the human cortex. They are of various kinds and each is unique for the type of input it receives.

Understanding the functional organization of the human brain is a serious assignment. Considerate thought should always precede neurologic conclusions. It deserves the most careful consideration relative to the neuronal organization and global function of the rich thalamocortical interconnectivity. Specifically, understanding the reciprocal nature of the thalamocortical loops requires peculiar insight. Moreover, the interaction between the specific and non-specific thalamic loops suggests that rather than a gate into the brain, the thalamus represents a hub from which any site in the cortex can communicate with any other such site or sites.



Flywheel Diagram

Understanding therapy localization has to do with "…the exploration of the basic assumption that large-scale, temporal coincidence of specific and non-specific thalamic activity generates the functional states that characterize human cognition." (Llinas) *(Refer to "flywheel" diagram left)*

All sensory information—except the sense of smell—must synapse in the thalamus before it reaches the brain. The thalamus is the last relay station of tactile information from the body's surface. It acts like a hub or switchboard for sensory input from almost all areas of the body before those signals reach their ultimate destination in the cortex.

One such connection comes from the cerebellum, the home of all muscle afferentation. So, the thalamus must crunch all input that comes from all somatic structures with that from the cerebellum, which represents only muscle function. Once the thalamus has received all data, it is passed on to the cortex for its integration. At the same time, that thalamic outflow must pass through the basal ganglia for interpretation through its direct and indirect loops before coming back to the thalamus and again to the cortex.

The interaction between the thalamus, cerebellum, and basal ganglia underscores the fact that TL is a matter of timing because those three centers have their own resonance. The thalamus hums at a bustling 40-60 cycles per second, the cerebellum purrs at between 8-12 cycles per second and the centers of the basal ganglia each have their own unique timbre. The thalamus resonates much faster than the cerebellum, and each of the basal ganglia resonate differently, but all these centers must be in touch, and it is essential that these centers be online simultaneously before any communication can happen between them.

If there is a miscommunication in any or a combination of these pathways, it alters the timing patterns of the above centers and the system gets compromised. The input cannot update according to its design because of deafferentation and the display of the involved muscle or muscles is that of functional inhibition.

TL is Dependent upon Spatial and Temporal Summation

Proper TL is dependent upon the highest efficiency of spatial and temporal summation.

All stimulation to a receptor summates spatially and/or temporally. The stimulus either surrounds a receptor or is serial to it.

Spatial summation is a way of achieving an action potential that involves input from multiple cells. It is the algebraic summation of potentials from different areas of input, usually on the dendrites.

Temporal summation is an effect generated by a single neuron as way of achieving an action potential. It happens when the signals from various places begin before previous ones end. The intensity of the signal rises to meet threshold and the action potential occurs.

Summation of excitatory postsynaptic potentials allows the potential to reach the threshold to generate an action potential, whereas inhibitory postsynaptic potentials can prevent the cell from achieving action potential.

TL is a Matter of Timing

Professor Rodolfo Llinás of the New York University School of Medicine has argued and demonstrated that electromagnetic arrhythmias—*out-of-phase signals between the thalamus and other centers of the brain*—may account for disorders ranging from depression and obsessive-compulsive disorders to Parkinson's disease and chronic pain. *(In addition, this author would include the phenomenon of TL).*

In his theory, the symptoms of these psychiatric and neurological disorders are all aberrations in the normal synthesis of sensory information. If this is true, it would point the way forward towards the possibility of *new*

drugs and possibly even implants such as neurological pacemakers to correct the out-of-sync timing of the thalamic messaging system.

Llinás' theory moves neuroscience and cognitive science away from their emphasis on anatomy as the source of perception and thought to a closer study of the thalamus and his theory that *consciousness (and as a result, TL) has to do with timing. (Emphasis added)*

Llinás believes that the thalamus, rather than being a mere relay station receiving stimuli from sense organs and then sending them on for processing to regions of the brain's cortex, also functions as the brain's clock. While studying the brain's electromagnetic waves, he found that the thalamus is in constant dialogue with the brain's higher processing centers—not only do *electromagnetic loops* send pulses from the thalamus to the cortex, but the different sensory centers of the brain also send messages to the thalamus.

Attempting to understand how the brain, as a whole, might be organized seems, for the first time, to be a serious topic of inquiry. One aspect of its neuronal organization that seems particularly central to global function is the rich thalamocortical interconnectivity, and most particularly the reciprocal nature of the thalamocortical neuronal loop function. Moreover, the interaction between the specific and non-specific thalamic loops suggests that rather than a gate into the brain, the thalamus represents a hub from which any site in the cortex can communicate with any other such site or sites."

Twelve Things Primary Afferents Do:

All primary afferents…

- ✓ **Are excitatory to the intermediolateral cell column.** This allows for dilation of arterioles to muscles, capillaries to skin, piloerector tissue and sweat glands
- ✓ Inhibit pain (excites inhibitory interneurons to inhibit nociception)
- ✓ Ascend up to the medulla
- ✓ Ascend up to the cerebellum
- ✓ Excite alpha motor neurons of the homologous muscles, i.e., right upper extremity flexors
- ✓ Inhibit alpha motor neurons of antagonistic muscles, i.e., right upper extremity extensors
- ✓ Excite left upper extremity extensors
- ✓ Inhibit left upper extremity flexors
- ✓ Excite right lower extremity extensors
- ✓ Inhibit right lower extremity flexors
- ✓ Excite left lower extremity flexors
- ✓ Inhibit left lower extremity extensors

TL is Dependent Upon Functional Reciprocity

Consider the twelve things that happen when a primary afferent reaches the spinal cord.

It is important to understand that most activity of the human brain is not relative to the human motor system. All of human cognition has to do with afferentation. Abnormal functional reciprocity impairs cognitive abilities. In other words, a dysfunctional brain is the result of abnormal learned and/or reflexive rhythms. Therefore, since therapy localization is quite possibly the result of timing errors of higher brain centers, it displays because of decreased potentiation of normal reciprocal patterns.

To say it another way, potentiated normal human movement patterns enhance cognitive abilities. That muscle function that provides optimal potentiation of normal reciprocal movements supports human cognition. This is also known as, "Coupled Muscle Function" (CMF). CMF causes appropriate afferentation to the dorsal horn of the cord encouraging the cord's original programming.

Rule 3: Modulation (inhibition) is the secret to preprogrammed human performance and reciprocal movement.

Corollary #1: Reciprocal joint motion knocks out pain.

Corollary #2: Aerobics are the means to sustained performance.

Reciprocity is one of the keys to understanding what each person's nervous system needs so that they can perform at their highest human level. Reciprocal movement patterns set free the ability to voluntary and reflexively learn. Functional reciprocity:

- ✓ *Stimulates neurological reciprocity*
- ✓ *Produces coupled motion*
- ✓ *Arouses the neuraxis*
- ✓ *Modulates genetic expression*
- ✓ *Encourages protein replication*
- ✓ *Enhances cognitive abilities*
- ✓ *Eliminates the perception of pain*

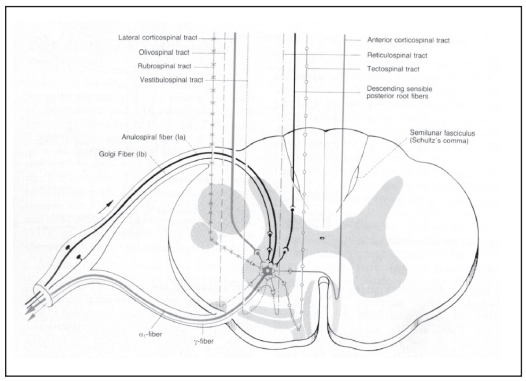
The Cerebellar and Cortical Homunculi are Highly Plastic

Mystery surrounds the sensory homunculus' creation. The earliest investigations focused on afferentation. The consideration was that areas richest in receptor population, including the lips and tongue, sent the greatest amount of signal to the brain, and that their intensity organized specific centers in somatosensory cortex—layer 4, which handles afferentation. The cortex itself was thought to have only a small instructive role, if any.

Some of the latest researchers from Harvard Medical School have shown that increasing even a single area of cortical afferentation can change what was though to be unchangeable. The research does not negate the importance of afferentation to determining brain maps. However, it does indicate that for the first time, the cortex also has a hand in segregating brain space, and that this influence is genetic.

The idea is that incoming neurons negotiate this crossfire of labels with the combination of receptors they carry. In the end, each neuron finds its proper spot in a spatial pattern that reflects the outside world.

To recap, the sensory and motor homunculi are highly plastic. Proper and reciprocal afferentation of cerebellar and cortical centers displays themselves in appropriate motor responses. Further, reciprocity ensures the original design of the sensory and motor homunculi. Conversely, deafferentation of cerebellar and cortical centers – despite its source – can lead to a dysfunctional modification of the sensory homunculus and a corresponding other-than-human expression of the neurologic display.



The Final Common Pathway

TL is Dependent Upon the Central Integrative State of the Anterior Horn

All the sensory and motor fibers that cascade to a particular segment of the anterior horn of the spinal cord ("the final common pathway") influence its performance. The anterior horn cells are dependent upon the central integrative state of all their signals from more rostral, caudal, and segmental inputs. Its original design is contingent upon reciprocity and modified by deafferentation.

In Summary

All people have an internal laboratory unique only to them and it can be scrutinized with therapy localization. Therapy localization is a valuable tool unmatched in its effectiveness to find problem areas unique to each individual. Its fundamentals are sound but better understood after updating the philosophy with some of the latest research in functional neurology

Therapy localization represents an error in timing between the area in question, its rostral cortical centers, and the anterior horn of the spinal cord related to the segment of original afferentation. No other diagnostic tool can meet therapy localization's effectiveness to find a problem and guide the most relevant remedy or remedies necessary to cure or relieve that area in question.

Resources

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Fibrocystic Breast Disease: An Applied Kinesiology Approach

David Brown, D.C.

Abstract

An overview of common Applied Kinesiology findings in Fibrocystic Breast Disease including a case study is presented for review.

Key Indexing Terms

Applied Kinesiology, Fibrocystic Breast Disease, Ileocecal Valve Syndrome, Estrogen Dominance

Introduction

Fibrocystic Breast Disease (FBD) is the most common breast disorder, occurring in approximately 20–40% of premenopasusal women. Fibrocystic Breast Disease is technically a misnomer because it is a condition with multiple contributing factors and not a disease process. The main symptoms are breast pain and tenderness and palpable lumps or cysts in the breast. They may be continuous throughout the month, or they may only appear just prior to menstruation and last for several days. Because Applied Kinesiology involves detailed evaluation of each individual, it has proven to be of great benefit in the evaluation and treatment of multifactorial conditions such as Fibrocystic Breast Disease.

Discussion

The most common findings in women with FBD are impaired liver detoxification, estrogen dominance, intestinal toxicity, Ileocecal Valve Syndrome, iodine deficiency, poor lymphatic drainage, and emotional stress.

When liver detoxification pathways are impaired, a condition that is common in today's society due to dietary nutrient deficiencies and an increase in toxic exposure, the liver stores any toxins that cannot be excreted in fatty tissues. Since the breasts are composed primarily of fat, they become toxic storehouses under these conditions. In Applied Kinesiology this will usually be demonstrated by a weakness of the pectoralis major sternal muscle. Treatment would include the use of nutrition, herbs, and homeopathics to stimulate liver detoxification as determined by AK oral testing. If necessary, a comprehensive detoxification profile from Genova Diagnostics (1-800-522-4762) may be ordered to further assess the liver's ability to detoxify. This test uses challenge doses of caffeine, acetaminophen, and aspirin and measures the metabolic waste products found in the urine, saliva, and blood to distinguish which detoxification pathways are impaired. Treatment can then be directed toward the specific biochemical pathway involved.

Estrogen dominance is the primary cause of almost all female conditions. The ideal ratio of progesterone to estradiol is 30:1. As this ratio decreases, the relative estrogen excess causes breast stimulation, fluid retention,

and excess fat storage, which can lead to FBD. In addition to this, estrogen is an inflammatory hormone and must be detoxified in the liver. If the liver is unable to properly detoxify estrogen, then estrogen will continue to build up in the body and perpetuate the cycle. Also, environmental estrogens found in pesticides, herbicides, certain fuels, and plastics decrease the progesterone to estrogen ratio and add to the toxic load of the liver. An imbalance in estrogen levels can be investigated through Applied Kinesiology with a weak pectoralis major sternal muscle, which relates to the liver, or a weak piriformis or gluteus medius, which relate to the reproductive organs. When evaluating female hormones in a premenopausal patient, I strongly recommend using the expanded female hormone profile from Diagnos-Tech, Inc. (1-800-878-3787). This allows for an accurate, quantitative assessment of the female hormones and provides the progesterone to estradiol ratio. Again treatment is directed toward the cause, which, in the case of elevated estrogen, is usually impaired liver detoxification.

In addition to the direct effect of estrogen toxicity on the liver, intestinal toxicity is also a contributing factor. The increased consumption of refined carbohydrates, such as white sugar and white flour, along with the reduction of dietary roughage has caused a relative state of constipation throughout much of the industrialized world. Also, the consumption of unknown food allergies (most commonly wheat, dairy, corn, and soy) causes an increased inflammatory response throughout the body and further complicates the problem. The result of toxic buildup in the intestines and an increase in inflammation is an increase in total toxic load, an increased perception of pain, and an inability to absorb nutrients that are necessary to prevent FBD. These conditions, along with the consumption of estrogenic foods such as dairy and soy further perpetuate the development of Fibrocystic Breast Disease. Digestive stress can be investigated through Applied Kinesiology testing via a weak rectus femoris, which relates to the small intestine, or a weak tensor fasia lata, which relates to the large intestine. Treatment is directed toward restoring normal intestinal function. It includes the elimination of food allergies, estrogenic foods, and all refined carbohydrates. Nutritional substances such as acidophilus, L-glutamine, and pancreatic enzymes may be used to normalize digestive function.

Another digestive related problem that correlates with Fibrocystic Breast Disease is Ileocecal Valve Syndrome. I have found correction of ileocecal valve dysfunction to be of primary importance in the treatment of FBD. ICV dysfunction causes a greater toxic load on the liver, thus increasing the deposition of toxins in fat tissue. This problem is found in Applied Kinesiology by testing a strong indicator muscle and then having the patient therapy localize the area of the ileocecal valve. If this causes the indicator to go weak, then the valve is not functioning correctly. Alternately, an open ICV is associated with a weak iliacus muscle, and a closed ICV is associated with a weak quadriceps muscle. By stimulating the correct neurological reflexes, removing foods that are irritating to the ileocecal valve (i.e. popcorn, chips, nuts, seeds, whole grains, raw fruits and vegetables, spicy foods, alcohol, and caffeine), and providing the correct nutritional supplementation (i.e. open ICV—chlorophyll, closed ICV—calcium lactate, or an anti-parasitic for either problem), ileocecal valve function is normalized thereby decreasing the toxic load on the liver.

Iodine deficiency also has a strong correlation to FBD. Iodine is found in the breast in the terminal and interlobular duct cells. These are the same areas involved in fibrocystic disease. An inadequate amount of available iodine in the breast tissue causes increased sensitivity to estrogen stimulation, which produces microcysts high in potassium. The potassium is irritating to the breast tissue and leads to fibrocystic changes. Since the thyroid's need for iodine takes precedence, if the patient is even slightly deficient in iodine, fibrocystic changes can occur. Iodine deficiency can be evaluated in AK by a weak teres minor that strengthens to iodine on the tongue. I find the most effective form of iodine to be an aqueous solution of equal amounts of elemental iodine and ammonium iodide given in high dose until it causes weakening of a strong indicator muscle indicating iodine saturation. At this point a low maintenance dose may be used.

Poor lymphatic circulation is another contributing factor in Fibrocystic Breast Disease. The lymph system functions as the sewer system for cellular metabolism. It collects waste products from the extra-cellular space and returns them to the circulatory system where they are filtered out by the liver and kidneys. The two main lymphatic ducts are located just above the breast and underneath the pectoralis minor muscles. When these muscles are in an over contracted state, lymphatic flow is reduced, and the toxins in the lymph back up into the breasts. Treatment involves fascial flush of the pectoralis minor muscles and using herbal or homeopathic lymphatic drainage remedies.

As with all chronic illnesses, emotional stress plays an important role. Women with FBD typically demonstrate a greater need for neatness and order. They often describe themselves as "restless, tense, outgoing, and angry." We know from Candice Pert's research (The Molecules of Emotion) that, "the issues are in the tissues." This suggests that in order to resolve any illness the emotions behind it must be dealt with. In Applied Kinesiology it is easy to determine if a particular problem has an emotional component. For instance, if there is impaired liver detoxification, the pectoralis major sternal muscle will usually test weak. If there is an underlying emotional cause, this weakness will be negated by having the patient TL the emotional neurovascular reflexes. Applied Kinesiology treatment consists of stimulating these reflex points while the patient thinks about the emotion involved. This technique resets the emotion and stops its negative influence on the body. Other AK treatment options include Encoded Memory Technique, treatment for psychological reversal, and correction of the Foundational Limbic Fixation (refer to authors paper in 2007–2008 ICAK Proceedings). In some cases, depending on the severity of the problem, a psychological referral may be necessary.

Case Study

A 33 year old female presented to my office on August 9, 2002 with constipation, fatigue, and medically diagnosed fibrocystic breast disease. History revealed the patient had previous psychological trauma, 2 live births, ate a standard American diet, and consumed 2-3 caffinated beverages per day. Blood chemistry, thyroid and lipid panels, and urinalysis were all within normal limits. CBC revealed slightly elevated RBC's. AK exam findings included the following weak muscles—L. Sartorius, R. Supraspinatus, Bilat. Teres Minor, Bilat. Latissimus Dorsi, Bilat. Rectus Femoris, Bilat. Tensor Fasia Lata, and Bilat. Iliacus. Oral food challenge testing revealed sensitivities to wheat, dairy, corn, soy, caffeine, and sugar.

The patient's treatment program began on August 13, 2002. She was told to remove wheat, dairy, corn, soy, caffeine, and sugar from her diet. Also, based on the results of AK oral nutrient testing, she was placed on L-glutamine, probiotics, chlorophyll, pancreas glandular, spleen glandular, liquid iodine, and an herbal lymphatic drainage formula consisting of red clover, cleavers, echinacea, ceanothus, stillingia, and poke root. She continued all supplements for 1 month. Structural treatment included adjustment of a base posterior sacrum, fascial flush of the pectoralis minor muscles, right C1, anterior L3, posterior L4, right posterior radial head, left PIEX, and stimulation of the Tensor Fasia Lata neuro-lymphatics. After 1 month of treatment, the Fibrocystic Breast Disease had completely resolved.

Conclusion

Over the past several years I have treated a number of patients with FBD and have had very good success. Since Applied Kinesiology allows us the unique ability to determine all of the underlying causes in a multifactorial condition such as Fibrocystic Breast Disease, we are able to accurately diagnose and treat the condition. One case may be very simple and another more complex, but either way we have the ability to succeed were other practitioners have failed because we are able to communicate directly with the patients own innate intelligence through the use of manual muscle testing. In conclusion, Applied Kinesiology offers a noninvasive and comprehensive approach to the treatment of a common problem that most women just suffer through.

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The Functional Manual Muscle Test for Diagnosis and Treatment: Applied Kinesiology

(Defending AK Against Our Detractors)

Scott Cuthbert, D.C.

Letter to the Editor

***Dynamic Chiropractic*, January 1, 2008, Volume 26, Issue 01**
(Opening Salvos: Another New Year to Battle for the Advance of AK)

It is with great distaste that I read the diatribe by Dr. Stephen Perle in *Dynamic Chiropractic*.[1] The displeasure is not that he might offer some valid critique or helpful suggestions for further research, but that without careful reading such an emotional tone is palpable. When emotions are so obviously discharged they betray a less than careful thinking process, and that appears to be the case when it comes to Dr. Perle and Applied Kinesiology (AK).

Perle's own chiropractic history is instructive[2] (going from passionate AK practitioner to ceaseless AK critic for over a decade), showing how blind faith and skepticism often turn into each other if someone is logical enough, or mad enough, to pursue the argument to that point of abstract consistency where ordinary common sense is left behind in the rush for certitude. Dr. Perle attempts to provoke, instead of assisting the chiropractic clinical and research communities to share and grow together.

The *operational definition* of the manual muscle test (MMT) used by physical therapists, neurologists, and orthopedists *is the same* as that used by chiropractors who use standardized MMT methods taught in AK. This is why our peer-reviewed presentation of the clinical trials covering the reliability and validity of the MMT included the work of associated disciplines that use the MMT.[3] Similarly, in any literature review of clinical trials for high-velocity low-amplitude (HVLA) spinal manipulative therapy (SMT) for low back pain, the outcomes from the medical or osteopathic fields would be part of the evidence-base for assessment of the value of this mode of therapy for LBP.

Contrary to the assertion of Perle *et al*, the classical MMT of Kendall and Kendall has not been changed in AK. The use of a 5–1 grading system by physical therapists is the only difference between the physical therapists' MMT and the chiropractic MMT. The tests themselves, as taught by the ICAK for 40 years, are identical. However, the expectation in a chiropractic setting is that proper manipulative therapy will immediately improve muscle strength upon MMT, taking the patient from "weak" to "strong." This is the reason that in the chiropractic setting, the grading system of muscle evaluation does not have the importance it does in physical therapy settings. MMT ratings in the chiropractic examination that are described as "strong" are equivalent to grade 5, and "weak" as grade 4 or less.

The AMA in its *Guides to the Evaluation of Permanent Impairment*, 5th edition, has also accepted the MMT as a reliable and valid method for evaluating functional, non-pathological, non-radicular, and non-organic injuries (despite Perle *et al*)![4] According to the AMA guide for upper extremity impairments: "In the absence of peripheral nerve involvement, most weaknesses usually fall in the grade 4 category. Few injuries result in a more profound weakness, such as a grade 3 category. Muscle strength graded 3 or lower is usually accompanied by other clinical findings such as atrophy."[4]

After their original book on the MMT, Kendall and Kendall's second book was called *Posture and Pain* (1952). It was already realized that the theoretical construct of the MMT should be expanded far beyond the "polio syndromes" that the MMT was originally designed to evaluate.[5] Using the detailed records from 12,000 cases they state, "The importance of muscle testing in cases of postural disorders cannot be over-emphasized." The critic's unjustified dismissal of the MMT for diagnosis of anything other than "atrophy or paralysis in patients with serious neuromuscular diseases such as polio, stroke, cerebral palsy, multiple sclerosis and spinal cord injuries" means they have not kept up with the MMT literature. Period.

Many other factors have been shown to produce muscle weakness (inhibition on MMT) than "atrophy or serious neuromuscular diseases" which Perle *et al* insist should be the only conditions the MMT be permitted to evaluate. A growing body of evidence (described in our paper) shows that muscle weaknesses are associated with acute and chronic low back, sacroiliac, neck, head, TMJ, knee, shoulder, and ankle pain, injury, and inflammation. A growing number of studies have also shown that there is an immediate effect upon the motor system after spinal manipulative therapy, and this is most easily measured in the clinic by the MMT.[6-14]

AK is attempting to lay a foundation for the MMT in chiropractic neuromuscular diagnosis and treatment, which is an important part of the AK therapeutic intervention. To employ a reliable and valid, safe and cost-effective test such as the MMT, one that could reliably assess a patient's presentation and response to treatment, would seem reasonable.

With regard to its usefulness, the benefits of the MMT for patients with postural disorders are ease of administration, relative ease of interpretation, and implicit face validity as a tool with which patients can effectively communicate their dysfunction to the doctor. "Low-tech" tests have proven reliability and so does the MMT.[3, 15]

Research from Goodheart and the ICAK, Lewit, and Janda has identified specific joint dysfunctions that are linked to individual dysfunctional muscles that can be assessed with MMT.[6-9] These authors have written books suggesting that the MMT is useful for many more functional conditions than the ones Perle *et al* would delimit it to.

However, before it can be used this way we needed to demonstrate that the MMT has good reliability and validity as a diagnostic test. Our review in the journal *Chiropractic and Osteopathy* presented the evidence that the MMT does have good-to-excellent reliability and validity.
The accepted use of the MMT in neurologic, medical, physical therapy, and orthopedic domains for decades attests to this.[4-9]

So why is there a problem when chiropractors employ the MMT?

It appears that Dr. Perle *ab*reacts primarily when the name AK accompanies the term MMT. If a patient's radicular pain peripheralizes, it is accepted in research circles that their condition is worsening.[16] If a patient's muscle strength weakens, this likewise indicates that their condition is worsening.

Muscle weakness commonly indicates neurological and/or orthopedic changes in the joint, muscles, or nerve supply.[4-9] If the patient has increased strength during the course of treatment, immediately or over time, this would be considered a positive result as well.

The expanded theoretical construct for the MMT has been hard to accept for inveterate critics of the chiropractic use of the MMT for functional diagnosis. It is especially perplexing for Aristotelian opponents

of AK, for whom a "model of chiropractic is either true or false," and once you find "the correct model" (Diversified Technique?), all other models are false *by definition*. Perhaps we need to remember that this kind of model-theism underlies the intolerance that perpetuates most of the divisiveness and turf wars in our beloved profession, and why professor Perle's "Ethics" articles perpetually lack that "substance of we feeling." In his analysis of the work of others we invite him to enter the "detachment from fixed ideas" that both Buddhism and science have sought.

Perle *et al* were also bothered that we included the published peer-reviewed research on AK chiropractic technique within the final part of our paper as part of the validity argument for the chiropractic use of the MMT. However outcome trials are precisely what are needed to help establish the validity of any therapeutic method. The clinical trials described in our paper with beneficial outcomes add to the evidence showing the validity of using the MMT for chiropractic patients.

Perle *et al* noted that we excluded several "negative studies on AK", which they said shows that we "cherry picked" the evidence presented. However, a review of the "negative AK studies" they offered shows that these studies *did not at all follow* the methods taught by the ICAK, and a critique of these papers had already been published by the ICAK and Drs. Goodheart and Walther.[17–19]

The "negative AK studies" did not follow established AK protocols, which are common sense rules to insure against premature interpretations of the MMT, especially related to organic or metabolic diagnoses. To unburden our critics of one of their cherished negative ideas, AK does not teach that a clinical decision about nutritional status, organic function, or metabolic disorder can be reached from a single MMT. In AK, correlative findings are always required for the diagnosis of these conditions, including laboratory, physical examination, and medical history.

Despite our description of two-dozen studies on the construct and content, convergent and discriminant validity of the MMT in the diagnosis of patients with non-organic symptoms, our critics say that the MMT must be compared to a "gold standard" in order to gain validity. We would suggest that they read our paper again. Table 3 of our original paper lists eight studies where the concurrent validity (the comparison of MMT findings with strength readings obtained using quantitative instruments, considered "gold standards", like EMG and dynamometry) was established.[3]

Black notes that any movement that encourages self-scrutiny and self-analysis has to be good so long as it stops short of reducing the self-confidence of clinicians.[20] (Compare the repeated polemics of Perle *et al* against those clinicians, scientists, and clinical researchers who cannot see accurately what is directly in front of their faces and have to be corrected by Perle and the other Schoolmen far from the scene to know *a priori* what is and is not "possible". Perhaps instead of "professor of clinical sciences, University of Bridgeport College of Chiropractic" your title should be "Chief Council for the Suppression of Independent Research"...?)

The International College of Applied Kinesiology (ICAK) is working diligently to bring the AK chiropractic technique into the evidence-based arena.[17] Our article discussing the reliability and validity of the MMT as a viable chiropractic assessment tool is an important foundation for further AK research projects evaluating and treating neuromuscular dysfunction.

As a tribute to Dr. Joseph Keating – who was generous toward the ICAK during his illustrious career [21] – we would like to quote from his seminal book ***Toward a Philosophy of the Science of Chiropractic: A Primer for Clinicians***:

"Unfortunately...few chiropractic membership organizations in the U.S. can claim to have been founded or to function primarily for scholarly or scientific purposes. (The Association for the History of Chiropractic (AHC) and the International College of Applied Kinesiology (ICAK) are exemplary of these few.)...There are few organizations of field doctors which can make a similar claim."[22]

For less biased thinkers there is sufficient research evidence to support the reliability and validity of the MMT. Assessing the function of muscles with the MMT pre- and post-treatment can assess the benefit of a therapeutic intervention: does the therapy improve or worsen muscle function? This assessment process is the basis of AK.

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AK Screening Reveals An Astonishing Paradox in A Cohort of Holistically "Evolved" Subjects

Brent W. Davis, D.C.

Abstract

100 audience participants were screened in a public event in Los Angeles, CA, Nov. 28, 2007, organized by this author, assisted by applied kinesiology practitioner, Robynn Garcia, D.C. The purpose of the screening was to measure the prevalence of self-defeating subconscious beliefs in an audience selected for their substantial participation in holistic "clearing" practices and therapies. The outcome revealed two findings:

(1) by the screening of self-referential statements, much-higher-than-expected unhealthy beliefs were found in a population that previously had made strong efforts to clear themselves, and

(2) newly discovered quantum flower frequencies substantially cleared the indicators of subconscious self-limiting beliefs when tested immediately after lingual administration.

Key Indexing Terms

Mind/Body Healing, Emotional Trauma Relief, Mind/Body Assessment, Applied Kinesiology Psychometric Evaluation, Self-Referential Statements, Prevalence of Subconscious Sabotage, Flower Essence Therapy, Life Enhancement, Quantum Flower Frequencies

Introduction

Basic applied kinesiology muscle testing employed in conjunction with screening of self-referential statements allows a properly trained examiner to measure a test subject's unconscious or subconscious beliefs,[1] and, by extension, if a particular therapeutic intervention influences those beliefs. Utilizing that concept allowed this writer to characterize the action of newly developed flower frequencies.[2] Initial muscle response of test subjects to six self-referential statements was recorded on log sheets. After lingual administration of the flower frequencies, facilitation or inhibition of muscle strength was likewise recorded after repeating the same self-referential statements.

Materials and Methods

In October of 2007, during a Los Angeles radio interview that reaches an audience of approximately 20,000 highly informed holistic devotees, I issued an invitation. I asked for 100 people with special characteristics to come to an event I envisioned taking place the evening of November 28, 2007. I asked for people to participate in my research screening who had spent the majority of their adult life in the pursuit of the evolution of consciousness and holistic healing. When that evening in November came, 170 people from the greater Los Angeles area showed up at an auditorium in the Culver City Senior Citizens Center.

Before explaining the method I (and the doctor assisting me, Robynn Garcia, D.C.) would be using for screening participants to find the extent of their limiting subconscious beliefs, I qualified the audience in the following way. I asked for a showing of raised hands in response to three questions:

Question 1:

Who among you has read books by at least one of the following authors?

a) Deepak Chopra
b) Wayne Dyer
c) Carolyn Myss
d) Don Miguel Ruiz
e) Eckhart Tolle

Question 2:

Who among you has participated in at least one of the following:

a) holistic health conferences and conventions?
b) weekend workshops to improve consciousness and health?
c) viewing of the movie, *The Secret*, one or more times?

Question 3:

Who among you has participated in at least one of the following:

a) treatment with body/mind therapies to clear and balance your inner being?
b) holistic psychotherapy and counseling?
c) the regular practice of meditation?

Virtually everyone in the audience raised their hand after each question. (Due to the fact that this event was a public screening as opposed to a formal clinical trial, logistics and time constraints did not allow actual counting of raised hands. Best estimates are that less than 10 people did not raise their hand after each question.)

I explained to the audience:

> "To the extent that the inspiring and wonderful practices, events, and procedures in which all of you have participated have been successful, what we find tonight should reveal few limiting and unhealthy beliefs in your subconscious minds."
>
> "What we will be testing tonight in all the participants we screen is the prevalence of six unhealthy beliefs, noting how often they occur. Then we will test whether the quantum flower frequencies found in a newly developed combination formula,[3] and two other single essences, remove the unhealthy beliefs by overwriting them with higher, more positive frequencies. We will measure this using a procedure called 'applied kinesiology evaluation of self-referential statements', followed by administration of the quantum flower frequencies in drops on your tongue."

I then proceeded to explain in lay terms how that works, although a show of hands indicated that virtually everyone in the audience had experienced muscle testing previously.

Following are the limiting subconscious beliefs for which we screened, instructing subjects to direct their gaze in the Eyes Into Distortion (EID) position as the examiners tested the pectoralis major, sternal division:

1. Regardless of my efforts, I cannot influence the outcome.
2. I am disconnected from the source of ALL life.
3. I am free from the effects of emotional abuse.
4. I am free from the influence of negative thoughts and beings.
5. I allow myself to receive.
6. I allow myself to receive love.

The "direction" of the language is fundamental in understanding the meaning of response to screening of self-referential statements. For example, inhibition of normal muscle strength in response to the subject repeating aloud test phrase #1 would be considered a healthy response. Whereas inhibition of normal muscle strength in response to repeating aloud test phrase #6 would be considered an unhealthy response.

Screening of participants was random with the exception that individuals were excluded that had previously consumed the newly developed flower frequencies we were using. Dr. Garcia was able to successfully test all individuals who presented to her, examining close to 60% of the test population. I had to exclude 3 individuals; one due to advanced rheumatoid arthritis, and two due to massive "reversal".

Three products were used in our oral testing. The broadest acting one is a combination essence containing six flower frequencies from the high Andes and from Dr. Davis' flower sanctuary in central Tennessee.[3] This product can remove unhealthy response to beliefs 1–3 listed above. Flower frequencies from Africa remove unhealthy response to belief 4 listed above.[4] Flower frequencies from the high Andes remove unhealthy response to beliefs 5 and 6 listed above.[5]

Results

Among 100 participants:

- 33% believed at the subconscious level "Regardless of my efforts I cannot influence the outcome."
- 27% believed at the subconscious level "I am disconnected from the source of ALL life."
- 33% were NOT "free from the effects of emotional abuse."
- 36% were NOT "free from the influence of negative thoughts and beings."
- 33% did NOT allow themselves "to receive."
- 34% did NOT allow themselves "to receive love."

Due to the fact that this was a large scale screening in a public forum, it was impossible to precisely record numbers of positive and null response to the influence of the therapeutic flower frequencies. Best estimates from our record logs indicate that less than 12 individuals out of 100 did not experience reflexive clearing of all unhealthy beliefs by utilization of the indicated flower frequencies.

Discussion

Among this select group of people, individuals who had spent significant resources and a lot of time for the purpose of clearing themselves mentally, emotionally, and spiritually, we nevertheless found a high occurrence of very disabling beliefs. The biological and sociological implications of harboring internal beliefs such as, "Regardless of my efforts I cannot influence the outcome" or "I am disconnected from the source of ALL life" are staggering.

Consider the effects of holding those types of sabotaging beliefs subconsciously (i.e. an influence expressed 24/7). Could that not largely be responsible, on a centrally mediated level, for recidivistic or non-responsive "adrenal stress syndrome"? Even more universally, consider how deep self-sabotage contributes to the inflammation process that is aging.

It has been a high point in my career to find, by intuitive means, new flower frequencies that correlate with and can "overwrite" distinct, limiting subconscious beliefs. Very often, in short order, patients report feeling a whole new and positively dynamic orientation toward life when disabling subconscious beliefs have been removed, and supplanted by the divine harmonics of special flowers.

When patients are enthusiastic participants, and follow the posology of frequent sipping of drinking water containing frequencies from selected uncut flowers, in my practice I commonly see disabling beliefs leave within 3 weeks or less. It takes just a moment to check for reoccurrence on follow-up visits. In many cases changes appear to be permanent. In my office, I additionally monitor patients' progress by taking digital images of their resting facial expression[6] before and after consumption of flower frequencies.

Conclusion

Applied kinesiology practitioners are in a unique position with respect to being able to explore the rarely accessible inner reaches of our patients' mind/body relationships. We can rapidly measure when disabling subconscious beliefs are present and when a particular intervention has successfully removed them.

My hope is that the leaders who create the core curriculum of applied kinesiology will incorporate screening of important self-referential statements as a part of routine health assessment.

Various options are available for removing unhealthy beliefs, ranging from acupuncture point tapping to homeopathic formulations. I am especially impressed with the ability of frequencies from specially chosen uncut flowers to provide profound psycho-spiritual uplifting, in addition to effectively removing indicators of unhealthy subconscious beliefs.

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1. Monti et al., Muscle Test Comparison of Congruent and Incongruent Self-Referential Statements, *Perceptual and Motor Skills* (1999) 88, 1019–1028.

2. This development process is described on the website, http://www.FlorAlive.com

3. ReviveAll™ is a quantum frequency extract of six flowers from remote, sacrosanct valleys in the high Andes and from Dr. Davis' flower sanctuary in Central Tennessee. It is produced by FlorAlive® Company, Tel. (800) 274 3727.

4. African traditional healers remove "spirit possession" using the flower called "Madame Fate."

5. The flower called "Flor de la Luna" is revered by shamans in South America and is extracted by FlorAlive® in a remote valley at 14,000 ft. elevation in the Andes.

6. An example of before and after comparison photos can be seen at the link, http://www.floralive.com/stories-floralive-flower-essences.htm

Applied Kinesiology Management of Infantile Regurgitation

Cecilia A. Duffy, D.C., DIBAK

Abstract

Objective: To present two case histories of infantile regurgitation managed conservatively with applied kinesiology methods.

Clinical Features: Both infants experienced persistent regurgitation with feedings; exhibited cranial distortions; and palpatory tightness at the epigastric region.

Intervention And Outcome: Treatment based on applied kinesiology methods was successful in eliminating both infants' regurgitation.

Conclusion: Applied kinesiology methods are a conservative management of uncomplicated infantile regurgitation.

Key Indexing Terms

Applied Kinesiology, Infantile Regurgitation, Cranial Manipulation, Neurovascular Reflexes

Introduction

Infantile regurgitation is common in infancy with causes ranging from overfeeding, aerophagia, infections, drug usage, pyloric stenosis, central nervous system disease, and idiopathic. Many infants thrive despite regurgitation with eventual lessening and disappearance by age one. In persistent cases or with lack of growth, prescription of metoclopramide and/or diagnostic testing is indicated. Most cases of infantile regurgitation are considered to not have an underlying cause.[1, 2]

Discussion

Two cases of infantile regurgitation will be described here.

Case 1: A female infant, age 8 weeks, was presented by her parents with a complaint of regurgitation. The infant was delivered in an uncomplicated vaginal delivery with epidural anesthesia. Breastfeeding was attempted but abandoned after one week. She was being fed a cow milk based formula. The infant began regurgitating with her first food intake and spit up every feeding. The spitting up was so violent that it exited through the mouth and nose and the infant cried with each spit up. The parents also described a "fussy period" for several hours in the early evening every night. The infant was growing and gaining weight appropriately.

Visual inspection of the infant's cranium revealed the right frontal and parietal areas depressed. Palpation of the abdomen revealed a tightening in the epigastric region.

The first treatment addressed gentle holding manipulation of the cranium to "mold" the temporal and parietal bones out of the depressed position and a gloved finger to the right hard palate to lift the sphenoid and frontal bone.[3] The infant was also grasped firmly by the feet and held in an inverted position (upside down) for one minute.[4] A gentle caudal holding pressure was exerted in the epigastric region over the region of tightness until a release was felt. Bilateral rib compression with inspection of rib cage excursion revealed diminished left rib cage excursion. A strain/counterstrain maneuver of the left psoas was performed; stimulation of the diaphragm neurolymphatic over the sternum was performed with a percussor (with my hand placed over the sternum, the percussor placed on my hand, percussor set to its lowest setting).[5] Neurolymphatic reflex stimulation of the gastrointestinal related muscles was also performed.[6, 7]

The mother was instructed how to perform inversion and to perform the maneuver on the infant for one minute per day; to change the infant formula to Nutramigen; to burp the infant half way through feeding and again after finishing the bottle; and to keep the infant upright for 10–15 minutes after eating. She was to check-in in one week with a report of the infant's regurgitation.

A phone check-in at one week post treatment reported a 75% reduction in regurgitation with none of the spit up exiting the nose, only the mouth, and the early evening "fussy period" was gone.

The infant was seen again one week later (two weeks since the first treatment). The skull distortions were visibly improved. The epigastric area palpated normal. Treatment included repeat of the cranial adjustments from the first treatment and the Bennett pediatric neurovascular treatment sequence[8] was performed: Pancreas (anterior medial edge of right rib six, slightly below and lateral to the xiphoid), Pylorus (umbilicus), Duodenum (approximately an inch lateral to the left and an inch superior to the umbilicus), and Gall Bladder (inferior edge of the right eighth rib anteriorly at the mid clavicular line and at the medial edge of the right eighth rib anteriorly). Each neurovascular point was held until pulsation was felt for 30–40 seconds each. The points must be performed in the order listed. The mother was encouraged to continue inverting the infant for one minute per day. The mother reported that the infant appeared to enjoy being held upside down; performing it would calm the infant if she was fussy. The patient was placed on a self-schedule basis and the mother informed to return if the regurgitation was not completely cleared up within the next 2 weeks.

The infant was seen for a well baby treatment 3 months after her last treatment. The mother reported that the regurgitation had ceased within a week after the second visit.

Case 2: A male infant, age 8 weeks, presented with his mother with a chief complaint of regurgitation that began at age 4 weeks. The infant was breastfed with occasional use of Nutramigen formula. The infant spit up two to three times with every feeding. The infant was also described as "gassy"/colicky for periods of time throughout the day. Over the counter Mylicon helped with the gassiness and colic. The medical pediatrician prescribed Zantac, however, the mother did not fill the prescription. The mother has been a long time chiropractic patient, so on her own she eliminated the following foods from her diet to evaluate any effectiveness on the infant's regurgitation: dairy, eggs, wheat, corn, tomatoes, citrus. The mother had also initiated burping the infant at the half point and end of feedings and kept him upright after feedings. When there was no effect on the regurgitation, she brought the infant to this clinic. The infant was growing and gaining weight appropriately.

Visual inspection of the infant's cranium revealed a depression of the bilateral frontal areas. The mother stated that the infant was delivered with that deformity and that she had been inverting the infant for one minute per day to help remold the skull. (The mother was aware of this treatment by previous education from this clinic.) Palpation of the abdomen revealed a tightening in the epigastric region.

The first treatment addressed gentle holding manipulation of the cranium to "mold" the frontal bones cephalad, a gloved finger lifted the sphenoid, lift of the occiput, and the three zygomatic sutures (frontozygomatic, zygomaticomaxillary, and temporozygomatic) and the squamous suture were separated.[3] A gentle caudal holding pressure was exerted in the epigastric region over the region of tightness until a release was felt. Manipulation of thoracic 12 and lumbar 1 subluxations (diagnosed via motion palpation) was performed.[5] The Bennett pediatric neurovascular treatment sequence[8] and neurolymphatic reflex stimulation of gastrointestinal related muscles were also performed.[6, 7]

The mother was instructed to continue inverting the infant daily for one minute and was advised to add one tablespoon of flax seed oil to the mother's diet in an attempt to increase the fat content of the breast milk.

Check-in two weeks later revealed that the infant experienced only occasional regurgitation and colic spells.

Standard instructions for infantile regurgitation include:

1. Changing formula to a non-soy, non-cow's milk based formula (Nutramigen).
2. Removing common allergens from the mother's diet if breastfeeding (eggs, dairy, corn, soy, wheat, tomato, citrus).
3. Increasing fat content in the mother's diet if breastfeeding.
4. Burping the infant half way through feeding and again at the end of the feeding. Do not overfeed.
5. Keeping infant upright for 10-15 minutes after feedings.
6. Instructing the parents in inversion technique to perform at home one minute per day.
7. Avoid tight diapers and clothing.

Treatment choices include:

1. Cranial manipulation per indications.
2. Spinal manipulation per indications.
3. Release of the diaphragm if indicated.
4. Bennett pediatric neurovascular treatment sequence.
5. Neurolymphatic reflex stimulation of gastrointestinal related muscles.

Conclusion

Successful management via applied kinesiology methods of infantile regurgitation in two infants is presented. Since the majority of infants with regurgitation are thought to be of unknown cause, applied kinesiology management should be an option for treatment, and if successful, then the cause is not unknown, but can be identified as cranial or spinal subluxations, diaphragm dysfunction, reactions to foods in the breast milk, reaction/allergy to infant formula, etc.

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Enhancing Diagnosis of the Category One Pelvis

Daniel H. Duffy Sr., D.C., DIBAK

Abstract

Objective: To investigate the comparison between conventional therapy localization for a Category I pelvic lesion[1] and therapy localization that includes the sacroiliac joint and the opposite ischium.

Design: During routine examination of patients in a clinical setting for Category I pelvic lesions, the additional therapy localization of a sacroiliac joint and opposite ischium was evaluated.

Setting And Patients: Private practice patients seen within two chiropractic clinics.

Main Outcome Measure: To determine if the new method of therapy localization of a Category I pelvic lesion was more productive in diagnosis of a category 1 lesion.

Results: In a large number of patients found negative via conventional therapy localization of a Category I pelvic lesion, findings were increased with addition of therapy localization of the sacroiliac joint and the opposite ischium.

Conclusion: Addition of therapy localization to a sacroiliac joint and the opposite ischium increases the likelihood of a positive finding for a Category I
pelvic lesion.

Key Indexing Terms

Applied Kinesiology, Category I Pelvic Lesion, Therapy Localization

Introduction

Conventional therapy localization of a Category I pelvic lesion is performed with simultaneous contact of the right hand palm down on the right sacroiliac joint and left hand palm down on the left sacroiliac joint. A previously facilitated muscle is tested for inhibition indicating a Category I pelvic lesion. To determine the lesioned side of the pelvis, the right hand is placed over the left hand on the left sacroiliac joint and an indicator muscle is tested, and then the left hand is placed over the right hand on the right sacroiliac joint and an indicator muscle is tested. One of the two handed therapy localizations will inhibit the indicator muscle and represents the lesioned side.[1] When this type of therapy localization is negative, methods to elicit positive findings can be employed, such as Body Into Distortion,[2] Eyes Into Distortion,[3] breath cessation,[4] scratch/pinch,[5] etc.

Goodheart described a refinement of the Category I therapy localization whereby the right hand is placed palm down on the right sacroiliac joint and the left hand is placed palm up on the left sacroiliac joint, and the reverse, the right hand palm up on the right sacroiliac joint and left hand palm down on the left sacroiliac joint. The therapy localization of the side with the palm up that produces inhibition of a previously intact

muscle is the lesioned side.[6] Simultaneous therapy localization of the sacroiliac joints with one palm up and one palm down is more productive of findings than with both hands palm down.[7]

Goodheart made further refinements to the Category I therapy localization as a way of uncovering hidden Category I pelvic lesions when he described similarly therapy localizing the ischii when the conventional therapy localization of the sacroiliac joints was negative.[8]

Discussion

The refinement of Category I therapy localization over the ischii represents a time saver clinically since it uncovers Category I pelvic lesions that would otherwise be undetected by conventional Category I therapy localization. When first applying this refinement of Category I therapy localization clinically this writer added the use of therapy localization of a sacroiliac joint along with the opposite ischium and noted that this further increased the percentage of findings.

Procedure

If therapy localization of the ischii bilaterally is negative, therapy localization of a sacroiliac joint on one side and the opposite ischium often shows positive therapy localization. The patient's right hand is placed palm down on the right sacroiliac joint and the left hand is placed palm down on the left ischium with testing of a previously intact muscle, and then the right hand palm down on the right ischium and left hand palm down on the left sacroiliac joint with testing of a previously intact muscle.

More extensive therapy localization refinement can also be applied by alternating the hands palm up on one side of the pelvis and palm down on the other side. This leads to four possibilities of therapy localization: right sacroiliac palm down/left ischium palm up; right sacroiliac palm up/left ischium palm down; left sacroiliac palm down/right ischium palm up; left sacroiliac palm up/right ischium palm down. This writer finds that the palm up side is *always* the lesioned side of the Category I.

When coupled with breath cessation, this new therapy localization technique greatly increases the percentages of a positive diagnosis of a Category I pelvic lesion.

Conclusion

Therapy localization of a Category I pelvic lesion pelvis can be performed by including the ischium as part of the therapy localization. Palm up and palm down on opposite sides of the sacroiliac joint and ischium increases positive findings in Category I diagnosis. The palm up side always represents the side of lesion.

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The Applied Kinesiology Approach to Pseudocholecystalgia

Daniel H. Duffy Sr., D.C., DIBAK

Abstract

Objective: To report conservative management of two cases of pseudocholecystalgia via applied kinesiology methods.

Clinical Features: Two female patients with right upper quadrant pain and nausea.

Intervention and Outcome: Applied kinesiology diagnoses and corrections were applied.

Conclusion: Both patients' right upper quadrant pain and nausea were resolved.

Key Indexing Terms

Applied Kinesiology, Cholecystalgia, Therapy Localization, Manipulation

Introduction

Some physical conditions may mimic cholecystalgia or biliary colic. This paper will present two cases wherein the cause of the patient's pain and nausea were not biliary in origin and will describe the diagnosis and correction through applied kinesiology methods.

Discussion

Case 1

A 28 year old female presented with nausea and discomfort in the right upper quadrant area described as, "not a pain" but a "constant, unrelenting, heavy feeling." Ultrasound examination of the abdomen was negative and after failing to respond to medications she was advised by her physician to consider surgery if necessary.

The patient stated that she wanted to avoid surgery.

Applied Kinesiology examination revealed no indication of gallbladder involvement via the popliteus muscles which were normally functioning and exhibited no positive methods of muscle/meridian testing, therapy localization or challenge techniques to bring out inhibition.[1] Investigation of diaphragmatic function[2] was initiated and revealed the following:

1. Examination of the range of motion of the patient's right rib cage revealed immobility and fixation when compared to the left.

2. Positive therapy localization[3] (inhibition of a previously intact muscle) was found just below the xiphoid providing presumptive diagnosis of a diaphragm dysfunction. This positive therapy localization finding was negated by inspiration. This was contrary to this author's clinical experience which reveals that most positive therapy localization below the xiphoid is negated with expiration.

3. The positive therapy localization using the right hand below the xiphoid was negated by simultaneous therapy localization with the left hand at the level of the fourth cervical vertebra. Expiration then re-weakened the indicator muscle indicating the need for a cervical manipulation with inspiration. This is also contrary to this author's clinical experience where expiration is usually indicated. Challenge[4] and manipulation of the fourth cervical vertebra was indicated from posterior to anterior on inspiration. This negated the positive therapy localization below the xiphoid but did not return the right rib cage range of motion nor relieve the patient's symptom.

4. The right subscapularis muscle[5] was then found to be inhibited upon muscle testing in the sitting position and was facilitated by therapy localization in the region of the right diaphragm leaf with the patient's left hand. The patient was then placed against the wall in a standing position and a bilateral contact was taken just anteriorly under her right rib cage. After pressing caudally to take out any slack, an abrupt thrust was exerted in a downward direction to release the spasm of the right diaphragm leaf to relieve spacial encroachment at the liver/gallbladder area as the patient forcefully exhaled.[6] The patient immediately announced that she felt better. Subsequent retesting of the subscapularis demonstrated that is was now normally facilitated.

5. The lower trapezius muscles were found to be inhibited bilaterally, indicating a thoracolumbar fixation usually found associated with diaphragmatic dysfunctions.[2, 7] The thoracolumbar junction fixation was manipulated returning the bilaterally inhibited lower trapezii muscles to normal facilitation.

6. A Category I pelvic lesion[8] with dysfunction in the right sacroiliac joint was diagnosed via therapy localization. This is clinically associated with tension at the right neck and shoulder junction which typically produces acute palpatory pain at the right first rib head. The usual category one corrections were performed.

7. Therapy localization of the cervicothoracic junction was positive during left head rotation, indicating a fixation of the left first rib head and seventh cervical vertebra,[9] a condition which typically adds to the right neck and shoulder discomfort produced by a Category I pelvic torque lesion. Usual corrections were applied.

8. Examination of the cranium indicated a Universal Interosseous cranial fault lesion[10] which required counterclockwise correction moving the right occipital squama superiorly and the left occipital squama inferiorly.

Following the above corrections, the patient claimed that her symptoms were completely relieved. She was advised to return for a recheck and possible dietary suggestions.

Case 2

The second case of pseudocholecystalgia was a 31 year old female with a five day old infant. She was in an acute trunk flexion antalgia complaining of acute right upper quadrant pain and nausea. Performing the correct applied kinesiology diagnoses was difficult but not impossible.

While discussing her family history, she stated that her mother and brother had both experienced similar "gallbladder attacks" (at different times) and had sought help at the local hospital emergency facility with both of their visits resulting in cholecystectomies.

As in the first case described, Applied Kinesiology examination revealed no indication of gallbladder involvement via the popliteus muscles which were normally functioning. Muscle testing failed to elicit any inhibitory or over-facilitated state of dysfunction in these muscles.[1]

Diagnosis and corrections involved the following:

1. Therapy localization over the right lower quadrant in the region of the ileocecal valve[11] was positive. All other pertinent abdominal areas were found to be normal to palpation and auscultation and negative to therapy localization. With the patient sitting in a forward flexion antalgia, the left wrist extensors[12] were used as the facilitated indicator muscle to test for therapy localization with the right hand placed over the ileocecal valve. Simple therapy localization over the ileoececal valve area was positive, indicating dysfunction. Patient induced challenge of the valve (patient applied a cephalad challenge) negated the positive therapy localization, thus indicating a flaccid or "open" ileocecal valve. As is commonly seen clinically, simply applying pressure to close the valve (pressure applied cephalad and towards the left shoulder) immediately and momentarily brought her pain level down on a visual analog scale from a ten to a three or four. The patient expressed the usual amazement and relief from this maneuver. The three neurolymphatic points located just below the anterior superior iliac spine, at the intertubercular groove of the humerus, and at the lamina of the third cervical vertebrae were vigorously stimulated and resulted in greatly facilitating pain free movement of the trunk while maintaining a pain level of three or four. It should be noted that acute forward flexion of a patient, as exhibited in this case, is often body language of a flaccid ileocecal valve. Time required to make this diagnosis and correction was under three minutes.

2. Diagnosis and correction of a Category I pelvic lesion[8] and fixation of the cervicothoracic junction[7] aided in the overall response.

The patient was followed up on two occasions requiring minor corrections and has been symptom-free for six months.

Conclusion

Some physical conditions have been found to mimic cholecystalgia. Two patients with right upper quadrant pain and nausea and the Applied Kinesiology methods of diagnosis and correction that resulted in correction of the right upper quadrant pain are described.

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Case Study – Antagonist Muscle Weakness due to Fascial Restriction

Jon J. Gregor, D.C.

Abstract

Objective: To describe the stabilization of a whiplash injury using manual muscle testing and fascial flush technique.

Clinical Features: The patient presented with moderate cervicalgia with decreased range of motion and that has limited her daily activities.

Intervention and Outcome: The patient had forgotten to mention a history of trauma on the first visit and informed the doctor on the second visit that she had been involved in an motor vehicle accident. The cervical musculatures were then examined in depth using manual muscle testing. Fascial flush technique was indicated to the neck extensors after a slow stretch of the neck extensors revealed a weakening of the Sternocleidomastoid muscle (SCM). This caused a marked decrease in her pain and increase in the range of motion.

Conclusion: The fascia surrounding the neck extensors were tight causing the inhibition of her SCM and the cervicalgia.

Introduction

Goodheart recognized that muscles and the surrounding fascia should both be the same length.[1] Also, he observed that if there is an injury the muscle and the fascia are not the same length that it could reactively inhibit an antagonist muscle.[1]

Discussion

A 25-year old female presented with headache and posterior neck pain radiating from T2 to her Occipital area bilaterally.

She had been seen several times previously with good results for other complaints and hadn't sought care for several months. A brief history and exam were done. The patient stated that she had not had any accident or injuries that she could remember during the time she was not under care. Her pain had started about a week prior and rated on the visual analog scale at a 6, pain that prevents performing some of her daily activities. The patient also had a marked decrease in cervical range of motion.

The Sternocleidomastoid (SCM), Scalenus anticus, and upper division of the Trapezius were tested bilaterally and found to be conditionally facilitated. The neck extensors were tested individually and as a group finding the right and left divisions to be inhibited but facilitated when tested together. A sacral fixation

was corrected. Primary Atlas Technique was preformed with the atlas adjusted on the right and the Rectus Abdominus were facially flushed.[2] The Temporal Mandibular Joint was screened for dysfunction and the imbalances were corrected.[2] The patients upper gait was screened for dysfunction using the upper division of the Trapezius muscle and the SCM with adjustments made to C3 and C5[2] to correct the imbalances. Piriformis gait inhibition was found to be not functioning properly and was corrected by adjusting an L3 subluxation that restored normal function to the gait inhibition[2]. A bilateral subscapularis weakness was also discovered and an anterior T2 was adjusted.[3] The patient stated that her pain was still at a level of 4–5 on the visual analog scale. The patient then left returned the next day reporting she still had a headache and her pain was at level of 6 again.

On her return she remembered that she had been in a very small car accident where she was rear ended while stopped at a stoplight. The driver that rear ended her was traveling at about 5–10 miles per hour. The accident was so minor that she didn't even think to mention it on the earlier visit. After this piece of history was revealed her cervical muscles were again screened for injuries and the neck extensors were found to inhibit the SCM when the extensors were stretched[1]. Fascial flush technique was used on the neck extensors. The reactivity was retested and the SCM was found to be strong. No other muscle imbalances were noted and her pain had decreased from the previously stated 6 down to a level of a 1. The patient returned two days later with no neck pain and none of the previous muscle imbalances.

Conclusion

Stecco et al has discovered the presence of Ruffini and Pacini corpuscles in the deep fascia. This suggests that the fascia has a proprioceptive input into the central nervous system. Goodheart postulated that if the afferent sensory input from the muscle and surrounding fascia were not signaling the central nervous system properly, it could reactively inhibit an antagonist muscle do to the antagonist "thinking" that the injured muscle was contracted.[1] Kendal states that the Ruffini and Pacini corpuscles are considered rapidly adapting receptors which indicates they only produce an action potential at the beginning and end of the stimulus. This would seem to agree with the clinical observation, due to the fact that the inhibition didn't reoccur until the fascia was stretched. As this case showed it was the need for fascial flush of the neck extensors that reduced the pain after several other possible causes were examined and corrected.

References

1. Goodheart, George J. Jr. D.C. "You'll Be Better: The Story of Applied Kinesiology," AK Printing, Geneva, Ohio 44041 (Chapter 14 pages 5–11)

2. Leaf, David D.C. "Applied Kinesiology Flow Chart Manual"

3. Francis, Timothy, D.C., "Additional Fixation Patterns" Proceedings of the Annual Meeting of the International College of Applied Kinesiology-U.S.A.

4. Kandel ER, Schwartz JH, Jessell TM. *Principles of Neural Science*, 4th ed., p.433. McGraw-Hill, New York (2000).

Case Study – Medial Knee Pain and Reactive Muscles

Jon J. Gregor, D.C.

Abstract

Objective: To describe the stabilization of medial knee pain of a 46 year-old male, with the manipulation of muscle spindle cells of the Tensor Fascia Lata (TFL) due to muscle reactivity between the TFL and Adductors tested as a group.

Clinical Features: The patient presented with medial knee pain that had begun several weeks prior. The TFL was found to weaken the previously intact Adductors when tested in quick succession with manual muscle testing. The muscle spindle cells of the TFL were manipulated and the medial knee pain was relieved.

Conclusion: The testing of reactive muscle pairs may be beneficial when other therapies and procedures fail to produce the desired results.

Introduction

The reactive muscle patterns have been well established by Goodheart and many others in the past.[1, 3] This case study will demonstrate that spindle cell manipulation of the TFL alleviated medial knee pain after several other therapies had been performed with no significant improvement.

Discussion

A 46 year-old male presented with medial knee pain upon walking. The pain had persisted for several weeks. The pain was rated at a scale of 7 out of 10 on the visual analog scale and was interfering with his normal daily activities. Orthopedic and neurological examination revealed no pathology in the knee or lumbar spine. A Category II[2] was adjusted with the Sacro-Occipital Technique's blocking technique; a posterior tibia was also manipulated. Percussion of the knee was performed with no noticeable decrease in the knee pain of the patient. The muscles around the joint were all conditionally facilitated. On the patients' next visit the muscles were screened for reactivity to each other, it was discovered that the TFL when contracted caused the weakness of the Adductors when tested as a group soon after the TFL. The muscle spindle cells of the TFL were then manipulated by approximating the thumbs while pushing in on the middle third of the muscle belly. This action restored normal function of the Adductors after the contraction of the TFL. Raw Veal bone extract was given. The Patient returned several days later reporting no knee pain.

Conclusion

After several therapies were applied to the patient's knee pain with little success, the Adductors were found to be reactive to the TFL. The TFL's spindle cells were set to high causing an inhibition of the Adductors as a group and consequently pain on the medial aspect of the patients knee. Once the spindle cells were reset the balance between the two muscles was restored and normal function was restored.

References

1. Goodheart, George J. Jr. D.C. "You'll Be Better: The Story of Applied Kinesiology," AK Printing, Geneva, Ohio 44041 (Chapter 14 pages 3–11)
2. Leaf, David D.C. "Applied Kinesiology Flow Chart Manual"
3. Walther, David S., Applied Kinesiology Synopsis 2nd Edition, Pueblo, CO: D.C.; 2000, pgs. 65–66, 465

The Chronology of George J. Goodheart, D.C. & The ICAK

Joseph C. Keating, Jr., PhD

In memoriam

Joseph C. Keating, Jr., PhD
Chiropractic author, historian, philosopher, teacher and researcher
1950–2007

The Chronology of George J. Goodheart, D.C. & the I.C.A.K.

Dr. Keating was completing a book at the time of his death on the life and work of John Thie, D.C. (ICAK USA Diplomate), and was very generous toward the ICAK USA. **

** ICAK USA and ICAK International websites. Writing an AK Case Report. http://www.icakusa.com/upload/files/KI122 ChiropracticDiagnosis_files/frame.htm http://www.icak.com/college/research/ICAKwebsitepresentation.KeatingontheCaseStudy.ppt Accessed January 29, 2008.

In his seminal work (1992)**, Dr. Keating applauded the organization Dr. Goodheart had founded, the ICAK:

"Unfortunately few chiropractic membership organizations in the U.S. can claim to have been founded or to function primarily for scholarly or scientific purposes. (The Association for the History of Chiropractic (AHC) and the International College of Applied Kinesiology (ICAK) are exemplary of these few.)...There are few organizations of field doctors which can make a similar claim."

In the same book Dr. Keating described Dr. Walther's books on AK as classics of the chiropractic clinical literature.

** Keating, J. Toward a philosophy of the science of chiropractic: a primer for clinicians. Stockton Foundation for Chiropractic Research, Stockton, CA. 1992:91.

— Scott Cuthbert, D.C.

Preparation of this data base was made possible in part by the
financial support of the National Institute of Chiropractic Research
2950 North Seventh Street, Suite 200, Phoenix AZ 85014 USA
(602) 224-0296; www.nicr.org

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The Chronology of George J. Goodheart, D.C. & the I.C.A.K.
By Joseph C. Keating, Jr., Ph.D., Litt.D.(hon)
6135 N. Central Avenue, Phoenix AZ 85012-1232 USA
(602) 264-3182; JCKeating@aol.com

Code:
Underlined: questionable or uncertain information
Bold: for emphasis

By Joseph C. Keating, Jr., PhD
The Chronology of George J. Goodheart, D.C. & the I.C.A.K.

Year/Volume Index to the *Journal of the National Chiropractic Association* (1949–1963), formerly *National Chiropractic Journal* (1939–1948), formerly *The Chiropractic Journal* (1933–1938), formerly *Journal of the International Chiropractic Congress* (1930–1932) and *Journal of the National Chiropractic Association* (1930–1932):

Year	Vol.	Year	Vol.	Year	Vol.	Year	Vol.
		1941	10	1951	21	1961	31
		1942	11	1952	22	1962	32
1933	1	1943	12	1953	23	1963	33
1934	3	1944	14	1954	24		
1935	4	1945	15	1955	25		
1936	5	1946	16	1956	26		
1937	6	1947	17	1957	27		
1938	7	1948	18	1958	28		
1939	8	1949	19	1959	29		
1940	9	1950	20	1960	30		

Sources

Blaich, Robert M., D.C., D.I.C.A.K.; 425 South Cherry Street, Suite 580, Denver CO 80246 (303-399-5117; blaich@rmi.net); attended Thie memorial service

Sheldon Deal, N.D., D.C. (LACC class of 1965); 1001 N. Swan Road, Tucson AZ 85711 (520-323-7133; sclinic1001@qwest.net)

Goodheart, George J., Jr., D.C.; 20567 Mack Ave, Grosse Pointe Woods MI 48236 (313-881-0662; H: 313-882-4868)

McBride-Logan, Nancy, D.C., 5757 Wilshire Blvd., Mez. 102, Los Angeles CA 90036 (323-954-9847; NMcBride-Logan@pacbell.net); attended Thie memorial service

Thie, John F., D.C.; 6162 La Gloria Drive, Malibu CA 90265; (310-589-5269; thie@touch4health; www.touch4health.com) DECEASED

Thomas, Otis, D.C. (TCC 1947?); 1535 W. Loop South #120, Houston TX 77079 (W: 713-963-0114; H: 713-464-2222)

Schmitt, Walter, D.C.; 213 Providence, Chapel Hill NC 27514 (wallys@mindspring.com) COLLECTED PAPERS

David S. Walther, D.C.; (walther@systemsdc.com)

Chronology

1937 (Mar 2): copy of lengthy letter from Vinton F. Logan, D.C. to Hugh B. Logan, D.C. (Logan Archives); includes:

Dear Dr. H.B.:

…Now to tell you about Tom's meeting at Detroit. There were eight on Saturday night and Tom says he walked into a cold meeting and they were quite worked up about letters of yours, as they seemed to like the Charlies" up there. Dr. Maher had just opened the notes, preparatory to teaching when this came up, so he closed the notes and went into a discussion of politics until he had them pretty well satisfied. Then he proceeded to give them some questions and surprising to note, those who attempted to answer were either Prior, Method or Hurlburt of Toledo. Sunday they had seventeen present, and by noon they were becoming quite amenable to reason and by seven o'clock Sunday evening, had formed a Basic Technique organization, and desirous of having someone from the school appear on one of their programs with expenses paid. Furthermore, they found out that they didn't know Basic Technique. They gave Dr. Tom $12.00 toward his trip. I think his railroad fare was $31.00.

Believe it or not, **Goodheart** was elected president and they have already arranged for their regular meetings. Tom believes that this will help to open the state of Michigan and of course I am impressed with the good results, but will never be overimpressed until I get the definite reaction. They

want the former class in Basic Technique up there and want to know that if it is formed, if Dr. Maher would teach it for a week. He promised that if it was formed, he would ask you if he could teach it for a few days, although he would not promise a complete week. He told me he believed it was possible to form a class of twenty up there. I suggested to him that the take a week off and form a class, but I am wondering if you think it advisable for Huey to go there if Dr. Maher thinks it advisable…

1939 (Dec): *National College Journal of Chiropractic* [12(4)] includes:
- "National College graduates who are known to have passed state board examinations since Dec. 1, 1938" (p. 14); listed by state, includes George Goodheart Jr., D.C. and Mark Van Wagner, D.C. of Michigan

1950 (June): *Journal of the National Chiropractic Association* [20(6)] includes:
- George J. Goodheart, Jr., D.C. authors "New chiropractic information service" (p. 27)

1951 (May): *Journal of the National Chiropractic Association* [21(5)] includes:
- George J. Goodheart, Jr., D.C. (GJG) of Detroit authors "The diagnosis and treatment of sprained ankles is considered" (pp. 17, 58)

1951 (June): *Journal of the National Chiropractic Association* [21(6)] includes:
- George J. Goodheart, Jr., D.C. authors "Chiropractic reactions in the light of protomorphology" (pp. 17–21)

1954 (Dec): *Journal of the National Chiropractic Association* [24(12)] includes:
- George J. Goodheart, Jr., D.C. authors "A presentation of a new approach to correction of disc lesions" (pp. 16, 67)

1964 (July/Aug): *Digest of Chiropractic Economics* [7(1)] includes:
- George J. Goodheart, D.C. of Detroit authors "Quick… simple… valid… urinary testing methods" (pp. 14, 25); includes **photo** of Dr. Goodheart

1964 (Sept/Oct): *Digest of Chiropractic Economics* [7(2)] includes:
- George J. Goodheart, D.C. authors "A study of arm, shoulder pain" (pp. 22, 24–5, 47)
- ad for Applied Kinesiology (p. 47):

Applied Kinesiology: Muscle Balancing Technic

What it is:

1. A testing method to isolate, test and evaluate each muscle important to the body.

2. A predictive method which is 95% correct in all cases and when properly thought simply evaluated becomes 100% predictive as to which muscle will be weak – this is prior to testing and treating.

3. A philosophy of mechanical production of distortion and/or subluxation based on the fact that a weak muscle can not overcome the pull of a normal though apparently "tense" or "tight" muscle.

4. A method of treating the weakened muscle that immediately restores it to even tone and *immediately* restores should level, immediately restores head level and *quickly* levels hips – straightens knees, takes out "C" curves of dorsal spines and lessens lordosis.

5. This is all done without instrumentation, just careful analysis, accurate knowledge of anatomy and skillful use of your hands and, the result, a spectacular, to say the least, response.

6. Names of doctors who are successfully using this technic are available on request. This technic was taught at the National College P.G. course in June and at the A.C.A. convention in July in Denver…


George J. Goodheart, D.C.

1964 (Nov/Dec): *Digest of Chiropractic Economics* [7(3)] includes:
- George Goodheart, D.C. authors "The anemias" (p. 32); includes photograph:

1965 (Jan/Feb): *Digest of Chiropractic Economics* [7(4)] includes:

- George J. Goodheart, D.C. authors "The thyroid: an overlooked problem" (pp. 36, 38)

1965 (Mar/Apr): *Digest of Chiropractic Economics* [7(5)] includes:

- George J. Goodheart, Jr., D.C. authors "Low blood sugar and hyperinsuliinism" (pp. 12, 14–5)

1965 (May/June): *Digest of Chiropractic Economics* [7(6)] includes:

- George Goodheart authors "Postural hypotension and functional hypoadrenia" (pp. 24–5, 43)

1965 (July): *Texas Chiropractor* [22(9)], edited by Devere E. Biser, D.C., includes:

- George J. Goodheart, D.C. of Detroit authors "Low blood sugar and hyperinsulism" (pp. 24–7) which is a reprint from The Arizona Journal

1965 (July/Aug): *Digest of Chiropractic Economics* [8(1)] includes:

- George J. Goodheart, Jr., D.C. authors full-page ad: "The neuro-lymphatic reflex and its relationship to muscle balancing" (p. 41); includes **photo** of Dr. Goodheart
- George J. Goodheart, Jr., D.C. authors "Fat and its utilizatioin in cholesterol control" (pp. 44–5)

1965 (Sept/Oct): *Digest of Chiropractic Economics* [8(2)] includes:

- George J. Goodheart, D.C. of Detroit authors "The acid alkaline balance and patient management" (pp. 32–3, 57–8)
- full-page ad from "The Neuro-Lumphatic Reflex" from GJG (p. 45)

1965 (Nov/Dec): *Digest of Chiropractic Economics* [8(3)] includes:

- George J. Goodheart, Jr., D.C. authors "Fatigue and its management" (pp. 28–30)

1966 (Jan/Feb): *Digest of Chiropractic Economics* [8(4)] includes:

- George J. Goodheart, Jr., D.C. authors "Posture: its effect on strucure… function and symptoms" (pp. 30–1, 33)
- full-page ad for third edition of *Applied Kinesiology* (p. 46)

1966 (Mar/Apr): *Digest of Chiropractic Economics* [8(5)] includes:

- George J. Goodheart, Jr., D.C. authors "Chinese lessons for modern chiropractic" (pp. 10–1)
- full-page ad for Applied Kinesiology (p. 55)

1966 (May/June): *Digest of Chiropractic Economics* [8(6)] includes:

- George J. Goodheart, Jr., D.C. authors "The respiratory function of the skull" (pp. 20, 66)
- full-page ad for Applied Kinesiology (p. 55)

1966 (July/Aug): *Digest of Chiropractic Economics* [9(1)] includes:

- full-page ad for Applied Kinesiology (p. 17)
- George J. Goodheart, Jr., D.C. authors "The posterior iliu and the neurolymphatic reflex" (pp. 30, 32–3)

1966 (Sept/Oct): *Digest of Chiropractic Economics* [9(2)] includes:

- full-page ad for Applied Kinesiology (p. 53)
- George J. Goodheart, Jr., D.C. authors "Nutritional factors in everyday practice" (pp. 54–6)

1966 (Nov/Dec): *Digest of Chiropractic Economics* [9(3)] includes:

- full-page ad for Applied Kinesiology (p. 9)
- George J. Goodheart, Jr., D.C. authors "The intrinsic muscles and the persistent subluxation" (pp. 45–6)

1967 (Mar/Apr): *Digest of Chiropractic Economics* [9(5)] includes:

- George J. Goodheart, Jr., D.C. authors "Nutritional factors in chiropractic practice" (pp. 22–3)
- full page ad for Applied Kinesiology (p. 48)
- George J. Goodheart, Jr., D.C. authors "The ileo-cecal valve syndrome" (pp. 32–3, 35)

1967 (May/June): *Digest of Chiropractic Economics* [9(6)] includes:

- full page ad for Applied Kinesiology" (p. 13)

1967 (July/Aug): *Digest of Chiropractic Economics* [10(1)] includes:

- full page ad for books by George Goodheart, D.C. re: Applied Kinesiology, Neuro-Lymphatic Reflex and Neuro-Vascular Reflex (p. 27)
- George J. Goodheart, Jr., D.C. authors "Peripheral nerve impingement and the carpal-tunnel syndrome" (pp. 28–9, 66)

1967 (Nov/Dec): *Digest of Chiropractic Economics* [10(3)] includes:

- ad for "Applied Kinesiology, the precision muscle balancing technique" (p. 42)
- full-page ad for "Muscle Balancing" seminar in Detroit, scheduled for February 3–4, 1968 (p. 46)
- George J. Goodheart, Jr., D.C. authors "Hyperventilation and the cranial sacral mechanism" (pp. 48–9, 59)

1968 (Jan/Feb): *Digest of Chiropractic Economics* [10(4)] includes:

- George J. Goodheart, Jr., D.C. authors "Hiatus hernia: the great mimic" (pp. 31–3)
- quarter-page ad for "Applied Kinesiology, the precision muscle balancing technique" (p. 47)

1968 (Mar): *California Chiropractic Association Journal* [24(9)]: includes:

- full page ad for Goodheart seminar on "muscle testing, balancing and reactivating" (p. 9); notes "all proceeds derived from this seminar will go to the California Chiropractic Association"; quotes Joseph Janse, D.C., N.D.:

  The work at muscle testing that Dr. Goodheart teaches has proven to be of singular clinical benefit. For this reason, I feel that his appearance
  on your state program will be of exceptional value."

1968 (Mar/Apr): *Digest of Chiropractic Economics* [10(5)] includes:

- George J. Goodheart, Jr., D.C. authors "Headache" (pp. 22–4)
- ad for "Applied Kinesiology, the precision muscle balancing technique" (p. 48)

1968 (May/June): *California Chiropractic Association Journal* [24(11–12)]: includes:

- "Dr. Goodheart speaks at LACC" (p. 11):

  Dr. George J. Goodheart of Detroit, Michigan, presented his seminar on Applied Kinesiology" to the Senior students and faculty at the Los Angeles College of Chiropractic.

  Dr. Goodheart was in Los Angles for his lecture to the doctors in the field on a Sunday, and through the California Chiropractic Association, arrangements were made for him to come to the college, on Monday.

  This is the second time an outside seminar has been provided for LACC students this year, through the CCA, and much enthusiasm has been generated by those in attendance.

1968 (May/June): *Digest of Chiropractic Economics* [10(6)] includes:

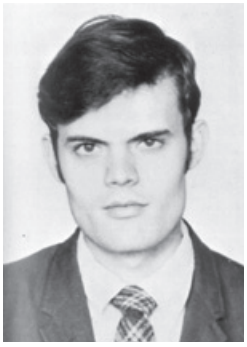
- ad for "Applied Kinesiology, the precision muscle balancing technique" (p. 50)

1968 (July/Aug): *Digest of Chiropractic Economics* [11(1)] includes:

- George J. Goodheart, Jr., D.C. authors "Asthma and emphysema" (pp. 22–4)

1968: *The Alpha* [yearbook of Texas Chiropractic College] includes:

- "Freshmen" (pp. 33–42) includes:



David Leaf

David Leaf
Hudson Falls, New York
State U. of N.Y. at Albany
Omega Psi
Book Club

1969 (Mar/Apr): *Digest of Chiropractic Economics* [11(5)] includes:

- George J. Goodheart, Jr., D.C. authors "Cross pattern crawling and muscle spasm" (pp. 18–20); includes photograph of Dr. Goodheart:


George J. Goodheart, D.C.

1969 (July/Aug): *Digest of Chiropractic Economics* [12(1)] includes:

- George J. Goodheart, Jr., D.C. authors "The 'frozen shoulder' syndrome" (pp. 36–8)

1969 (Nov): *California Chiropractic Association Journal* [26(4)] includes:

- "Goodheart seminar" (p. 1):
  Dr. George Goodheart, the man who presented the most outstanding technic seminar ever sponsored by the CCA, is coming back.

  Los Angeles at the Airport Marina Hotel – Kent Room, 8601 Lincoln Blvd., December 6, 1969, 9:00 a.m.

  Northern California at the Le Baron Hotel, Burlingame, 1380 Bayshore Highway, December 7, 1969, 9:00 a.m.

1969 (Nov/Dec): *Digest of Chiropractic Economics* [12(3)] includes:

- George J. Goodheart, Jr., D.C. authors "Allergies in chiropractic practice" (pp. 12–4)

1970 (Mar/Apr): *Digest of Chiropractic Economics* [12(5)] includes:

- George J. Goodheart, Jr., D.C. authors "The principle of muscle balancing" (pp. 30–2)

1970 (July/Aug): *Digest of Chiropractic Economics* [13(1)] includes:

- George J. Goodheart, Jr., D.C. authors "The schizophrenic pattern" (pp. Supplement F-H)

1970 (Sept): *Lifeline* (Texas Chiropractic College newsletter) includes:

- "Applied Kinesiology" (p. 3) includes:

  The first course ever taught in "Applied Kinesiology" by a standard syllabus through a chiropractic college will be held in Houston at the Holiday Inn East, 10155 East Freeway (Mercury exit off IH-10) on September 19–20, beginning at 2:00 p.m.

  This will be an eight week-end course with lecture and practice sessions each week-end with the doctors participating.

  This is a course designed so that you can return to your office after every session and use what was taught.

  The instructor for the first eight sessions will be Dr. John Smith of San Antonio. Most of you have heard Dr. Smith's lectures and have seen this work demonstrated. We now give you the opportunity to learn the same.

  Following Dr. Smith's eight week-end session, Dr. Donald Farish will lecture on how to use Applied Kinesiology successfully in your office along with Orthopedic and Neurological testing. New forms have been designed for this purpose which are thorough, but yet, will reduce the doctors time and will develop a better doctor-patient relationship.

  If your are unable to attend this class in Houston due to distance, we will be glad to offer this course in any other city with a minimum of 25 applicants.

  Let us hear from you.

1970 (Nov): *Journal of the California Chiropractic Association* [27(4)] includes:

- "Goodheart seminar" (p. 2)
  Mark your calendar for December 5 and 6, 1970. It could be the most important weekend of the year.

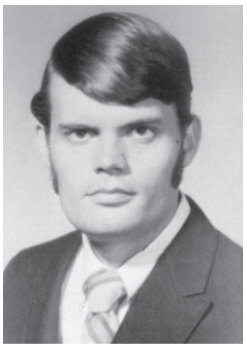
  Dr. George Goodheart of Detroit, Michigan, will again be in California to lecture on his discoveries in chiropractic. If you have attended a previous Goodheart Seminar, this will add to your knowledge of applied kinesiology. If you have not attended a seminar with Dr. Goodheart, it may be the most interesting and valuable two days that you have spent at a chiropractic meeting.

  The location is the Los Angeles College of Chiropractic, 920 East Broadway, Glendale, California; Saturday, December 5th, from 1:30 to 5:00 p.m. and 6:00 to 9:00 p.m.; Sunday, December 6th, from 9:30 a.m. to Noon and 1:00 to 4:00 p.m.

Registration will again be limited. Cost – $50.00. If all space is filled, those checks received first will be given reservations.

1970 (Nov/Dec): *Digest of Chiropractic Economics* [13(3)] includes:
- George J. Goodheart, Jr., D.C. authors "A new route to the brain… Structural imbalance and nutritional absorption" (pp. 20–3, 38); call out reads: "Science generally proves what Innate specifically knows"

1970: *Alpha* (TCC yearbook) includes:
- "Juniors" (pp. 57–62); photographs include:


David Leaf

1971 (Jan/Feb): *Digest of Chiropractic Economics* [13(4)] includes:
- "College news: Logan College of Chiropractic" (p. 44):

  …The combined Board Meeting was held on January 23–24, 1971 to discuss future plans of the college and to make final plans for convention. This year's convention should be bigger and better than ever. Again we will begin with a Continental Breakfast. The program will open with the enthusiasm and inspiration of Mr. C.E. "Tremendous"" Jones. To expand your Chiropractic education there will be Dr. **George Goodheart**, Detroit, Michigan; Dr. **Russell Erhardt**, Milwaukee, Wisconsin; Dr. William Brunelle, Miami, Florida, and some technique will be included under direction of Dr. D.P. Casey. Their [sic] will be a special program for the Ladies and Children again this year. Something new – a special program for Receptionists. You won't want to miss this year's convention – make your plans now for June 17-18-19-20, 1971, at the Logan College Campus.

1971 (Jan/Feb): *Digest of Chiropractic Economics* [13(5)] includes:
- George J. Goodheart, Jr., D.C. authors "The tarsal tunnel syndome" (pp. 6–7)

1971 (July/Aug): *Digest of Chiropractic Economics* [14(1)] includes:
- George J. Goodheart, Jr., D.C. authors "Knee joint problems" (pp. 32–3, 36–8)

1972 (Jan 20–23): "MM at the CC was IT!" is 200th Parker seminar held at Fairmont Hotel in Dallas TX (Springer, 1992, pp. 232–6); photographs include:

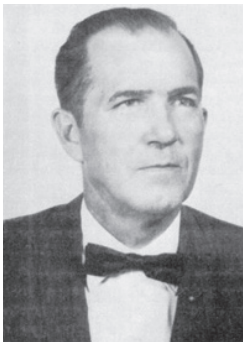

Dr. George Goodheart gave his full Kinesiology Technique Course for nine hours to Refresher BBs. His wife and daughter also attended the 200th PSPS Seminar.

1972 (Jan): *Journal of the California Chiropractic Association* [28(6)] includes:
- ad for Goodheart seminar at Burlingame Hyatt House in Northern Calfiornia, 19–20 February 1972 (p. 9)

1972 (Jan/Feb): *Digest of Chiropractic Economics* [14(4)] includes:
- George J. Goodheart, D.C. authors "Sacroiliac and ilio sacral problems" (pp. 44–6, 50, 77)

1972 (July/Aug): *Digest of Chiropractic Economics* [15(1)] includes:
- George J. Goodheart, Jr., D.C. authors "Sacroiliac and and ilio sacral problems, Part 2" (pp. 42–5)

1972 (Sept/Oct): *Digest of Chiropractic Economics* [15(2)] includes:
- George J. Goodheart, Jr., D.C. authors "The cervical challenge" (pp. 36–9)



Dr. John H. Smith, D.C.

1972 (Oct): *Texas Chiropractor* [29(10)] includes:

- "Chiropractic and muscle balance seminar" is promotion for Applied Kinesiology (AK) seminar – October 28–29 at Royal Coach Inn in Dallas – put on by John H. Smith, D.C.:

1973 (Mar 1): *The Beacon* (PCC student newspaper) [10(5)] includes:

- Roger Knowles authors "Muscle testing introduced" (pp. 1, 10); notes that P. Traynor, D.C. will teach AK-style muscle testing as part of physical diagnosis course for 7th quarter students
- "New 'Kinesiology Club' phenomenal turnout" (pp. 3, 11); notes 100 students attended seminal meeting headed by Ron L. Carrier, club president

1973 (Mar/Apr): *Digest of Chiropractic Economics* [15(5)] includes:

- George J. Goodheart, Jr., D.C. authors "The R.N.A. meridian relationship to Applied Kinesiology" (pp. 28–32)

1973 (June 28–30): "FIRST ANNUAL APPLIED KINESIOLOGY TEACHER SEMINAR… Detroit, Michigan" (in my Schmitt file); includes schedule for Friday and Saturday meetings and:

THINGS TO BE DISCUSSED INCLUDE:

1 – Coordination of Ridler, Malcolm and Goodheart techniques – Dr. Koffeman
2 – How to build and expand a chiropractic practice with AK – Dr. Thomas
3 – Lay people conducting AK seminars – Dr. Hughes
4 – Sharing of teaching methods, standardization of manner in which AK is taught and shown, profit making as an AK teacher, formation of AK study groups – Dr. **Thie**
5 – New information re: supraspinatus and conception vessel – Dr. Deal
6 – Evaluation of cranial faults, jammed occiput, etc. – Dr. Anderson
7 – How to divide cost of this seminar – All doctors
8 – Latest developments in AK research – Dr. Goodheart

1973 (July/Aug): *Digest of Chiropractic Economics* [16(1)] includes:

- George J. Goodheart, D.C. authors "The fixation vertebral pattern" (pp. 44–6)

1973 (Nov 26): letter to "Dear Doctor" on Thie Clinic stationery from **John F. Thie**, D.C. (Schmitt folder):

Dear Doctor,
Here is the decision we made together in Detroit in June. Please write to me about any corrections.

Association Sponsored Lectures:

Books and tape sales
1/3 to lecturer
1/3 to association
1/3 to Dr. Goodheart

Lecture fees
None to Dr. Goodheart if association sponsored w/honorarium
If not honorarium, 10% of tuition or 1/3 of book sales, whichever is greater
If lecturer splits tuition with organization, send Dr. Goodheart 10% of lecturer's fee or 1/3 of book sales, whichever is greater

Classes or Workshops by Workshop Leaders, Unsponsored:

Book and tape sales

½ to workshop leader

½ to Dr. Goodheart

Note: All doctors taking a workshop must first purchase the workshop manual and reprints.

Tuition fees

Minimum fee is $6.00/class hour/student, $60.00 for 10 hour workshop at the door, or $45.00 in advance registration

10 hour workshop is standard (may be longer), may be all on one day or split over a different time period

Tuition may be more than $6.00 per hour per student, but not less

Send Dr. Goodheart 10% of tuition or ½ of books sales, whichever is greater.

After each lecture or workshop, the workshop leader will send Dr. Goodheart a full accounting of registration and book sales with payment.

1974 AK Seminar for Workshop Leaders

Thursday – Saturday, June 27–29, 9:00 – 6:00

Sunday, June 30 (optional), 9:00 – 12:00 noon

The following doctors will be part of the program. If you desire to make a presentation, please let me know. All those named please advise me of the subject and time needed as soon as possible so I can set up the program. Doctors are to make tapes of the material they intend to present, and forward these to me prior to May 1, 1974.
Boorman
Van de Vyvre
Beardall
Anderson
Jackowski
Deal
Perolman
Thie

Each workshop leader should submit a course outline or syllabus of how he organized his teaching procedure and send one copy to me and one to Dr. Goodheart.

All workshop leaders were requested to make a tape of their NEXT introductory remarks at a workshop or lecture and send the tapes to me to be developed into a standard presentation. I have yet to receive any tapes, including edited ones from Dr. Otis Thomas from our last sessions.

Sorry for the delay of this report. We'll do better next time. You will soon receive a complimentary copy of my new book, Touch for Health.

With most sincere wishes,
Dr. **John F. Thie**
JFT/mm

1973 (Nov/Dec): *Digest of Chiropractic Economics* [16(3)] includes:
- George J. Goodheart, D.C. authors "The law of the ligaments" (pp. 20–3)

1974 (Jan/Feb): *Digest of Chiropractic Economics* [16(4)] includes:
- George J. Goodheart, D.C. authors "Innate and the interdependent triangularity of man" (pp. 22–5)

1974 (May 2): letter on stationery of Thie Chiropractic Corporation, 1192 North Lake Avenue, Pasadena CA 91104 (213-791-1201) (in my Schmitt file):

Dear Fellow Chiropractor,

For the past six years I have been using the Applied Kinesiology (AK) method in my practice. I have found that adding the AK examination to my exam has enabled me to show where the source of the problem is located much easier than by any other methods.

Dr. George Goodheart, who pioneered the AK method, has continued to research these methods along with over 25 AK workshop leaders throughout the United States. We want to share our findings with our profession. Dr. Goodheart will be in California for an AK workshop the first weekend of August, the 3rd and 4th. hope all of you will be able to attend.

One of the problems of integrating the AK method into a busy practice is being able to acquire enough skills in a short period of time. The **Touch for Health** organization is also offering a seminar. This will be for all those who are interested in these methods and would like to be able to use the basic AK examination and corrections in their practice.

The public reception of Touch for Health has been great. The sales of our book have far exceeded our expectations. We had the first 50 copies advanced in December and by April 30th, 1974, approximately 5,000 copies had been distributed. The athletic trainers are using the methods as well as corrective gym teachers. Programs have been done in philosophy classes, psychological services and family services, Pepperdine University, YMCA's and many others.

Because of this interest we receive numerous requests for referrals of chiropractors who use AK. We feel that the chiropractor should be the community leader in these methods, as he is the one having the professional skills necessary when the body needs spinal correction. Both the number of referrals for the more complicated cases and the elevation of the image of the DC are unbelievable.

So we are gaining support. The use of touch healing by the people is happening. We can share our expert knowledge through Touch for Health. If you are already expert in AK, you can assist others in learning. If you are not using these techniques and would like to become part of this very exciting development in chiropractic health care, please take advantage of the courses being offered.

Yours for health enhancement,
John F. Thie, D.C.
JFT/fc

1974 (May/June): *Digest of Chiropractic Economics* [16(6)] includes:

- George J. Goodheart, Jr., D.C. authors "Cranial sacral nutritional reflexes" (pp. 26–8, 30–3)

1974 (June): "Goodheart Study Group Leaders Roster June 1974" (in my Schmitt file); this group may have met at Detroit Airport in June 1974; list includes names, office addresses and home addresses of members, including:

Dr. Gerard E. Achilly, Harvey IL
Dr. Herbert C. Anderson, Medford MA
Alan G. Beardall, D.C., Lake Oswego OR
Dr. J.R. Bernzott, Centerville IN
Dr. William R. Berrmann, Oshkesh WI
Dr. Earl Colum, Northbrook IL
Sheldon C. Deal, D.C., Tucson AZ
Dr. Gerald Deutsch, East Northport NY
Dr. Edward E. Evans, Columbus IN
Dr. Delbert W. Evans, Columbus IN
Dr. Dan Gleesen, Thunder Bay, Ontario
Bert T. Hanicke, D.C., St. Louis MO
Dr. Karl J. Hawkins, Jr., Salt Lake City UT
Gary Helgeson, Portland OR
Dr. Arthur T. Holmes, Hillsboro OH
Dr. John T. Hughes, Ashland KY
Dr. Lrin Truman Jackowski, Houston TX
Dr. George N. Koffeman, Jackson MI
Dr. Orval S. Ladd, Portland OR
Dr. E.F. Morlock, Wyoming MI
Weldon Odom, D.C., Atlanta GA
Dr. Robert Perelman, Hollywood FL
Dr. L.E. (Jack) Rarey, Portland OR
Dr. Marie Sabella, Strathfield NSW Australia
Wally Schmitt, D.C., Villa Park IL
Dr. Richard H. Schroeder, Fresno CA
Dr. John O. Stoutenburg, Sedona AZ
John F. Thie, D.C., Pasadena CA
Otis F. Thomas, D.C., Houston TX
Robert Van de Vyvere, D.C., Seneca MO
Dr. Paul A. White, Douglas WY
Dr. James R. Lent, Greensboro NC

1974 (Sept/Oct): *Digest of Chiropractic Economics* [17(2)] includes:
-George J. Goodheart, Jr., D.C. authors "Applied kinesiology" (pp. 36–8)

By-laws meeting of the ICAK (possibly in Gaylord, Michigan), 1974? June 1975? 1976? (courtesy of Sheldon Deal, D.C., N.D.); identification of participants by Dr. Wally Schmitt and Jerry Morantz:

"Dirty Dozen" from Photograph; Identifications as of 23 November 2005:

From upper right: Right side of table
Art Holmes, Victor Frank (added), Ed Evans, Kathy Conable, Sal Cordaro, Jim Durlacher, Jerry Achilly (changed), Rod Gleeson (changed), Jose Rodriguez

Left Side of Table:
Bert Hanicke, **Bill Bormann?**, Richard Schroeder - Fresno, Terry Hovey, Emil Morlock, George Koffeman

Closest Side of table: R to L
Orval Ladd, Alan Beardall, Wally Schmitt, Jack Rarey, Don MacDowall, **Bill Bormann?**, Fred

Dieterle, Jerry Morantz

From Far end of left table:
George Goodheart, John Thie, John Hughes, **Blurred?**, Karl Hawkins, Gerry Deutsch, **Paul White? Sheldon Sinnett?** or **Bernie Keunnen?**, Earl Colum, Jack Bernzott, John Bandy, **1/2 head?**, Carl Keiser, Herb Anderson, Dan Duffy, **Bob Van de Vyvre?**, **Kitty Hovey?** (standing-blurred), John Stoutenberg, Lorin Jackowski, Cindy Deal, Sheldon Deal, Mario Sabella, **Emil Zmenak?**, **Fred Stoner?**, **1/2 body?**

2005 (Nov 20): e-mail from Wally Schmitt, D.C. (wallys@mindspring.com):

Joe,

Attached is a file that I have made in an effort to identify those present at the meeting according to the photograph that you sent. I am trying to make contact with a friend and between the two of us, we may be able to fill in a couple more names at least.

I will send you what I have so far – See attachment.

I believe that the meeting was in Gaylord in 1975 or 76. So you know for sure where and when it was taken?

Wally

2005 (Nov 22): e-mail from Matthew Thie, M.Ed. (thie1@earthlink.net):

Hi

I mentioned before that various people at the TFH conference in NC in July were trying to recollect who all were in the original "dirty dozen" I had the impression there were about 18, but I found in my father's notes from the conference a printout of A Roster from "Detroit Airport" 1974. Looks like they were abouot 32 in '74.

Hand written note from JFT, "1st Workshop Leaders appointed early 73, or late 1972 who attended the 1st Workshop Leaders meeting at the airport hotel in Detroit. Kathy Conable a DC student at the time attended with Bert H-, but her name doesn't appear.

Dr. Gerard E Achilly, IL
Dr. Herbert C. Anderson, Mass.
Dr. Alan G. Beardall, OR
Dr. J.R. Bernzett, Indiana
Dr. William R. Berrmann, Wisconsin
Dr. Earl Colum, IL
Dr. Sheldon C. Deal, AZ
Dr. Gerald Deutch, NY
Dr. Edward E. Evans, Indiana
Dr. Delbert W. Evans, Indiana
Dr. Dan Gleason, Ontario
Dr. Bert T. Hanicke. MO
Dr. Karl J Hawkins Jr., Utah
Dr. Gary Helgeson, OR
Dr. Arthur R. Holmes, OH
Dr. John T. Hughes, Kentucky
Dr. Lorin Truman, TX [Lorin Jackowski?}
Dr. Geo. N. Koffman, Michigan
Dr. Orval S. Ladd, OR
Dr. E.F. Merlock, Michigan
Dr. Weldon Odom, GA
Dr. L.E. (Jack) Rarey, OR
Dr. Mario Sabella, Australia
Dr. James R. Lent, NC
Dr. Wally Schmitt, Michigan
Dr. Richard H. Shroder, CA
Dr. John O. Stoutenburg, AZ
Dr. John F. Thie, CA
Dr. Otis Thomas, Indiana (TEXAS)
Dr. Robert Van de Vyvere, Missouri
Dr. Paul A. White, Wyoming

2005 (Nov 24): e-mail from Walter Schmitt, D.C. ():

Joe,

I will update what I sent previously when I look at the photo again with my friend, Jerry Morantz. I am sure that there are a couple errors and a couple more that I can fill in. Jerry was NOT at the a meeting in Gaylord, Michigan meeting, and he does not appear in the photo. That is one reason that I believe this was from the Gaylord meeting. But I will get back to you with corrections / updates after I connect with Jerry.

I sent all of the photos that I had to John last summer, so I believe that they have already been given to you. I will think about any recollections of John and send them as I think of them Jerry Morantz should be included in this also. Both Jerry and I consider John one of the greatest influences in our

life. In my case, John was one of the three people who most influenced my life through my early forties. The other two were my father and Dr. George Goodheart. (Since my 40s, my wife, Anne, has had the greatest influence on my life. But getting me to that point, I owe my development to John, George, and my Dad .)

Happy Thanksgiving,
Wally

1975 (Mar/Apr): *Digest of Chiropractic Economics* [17(5)] includes:

- George J. Goodheart, Jr., D.C. authors "The antenna concept in chiropractic meridian therapy" (pp. 36–8, 41); includes photograph of Dr. Goodheart:


George J. Goodheart, D.C.

1975 (June 21): letter on stationery of Touch for Health in Pasadena CA (Schmitt papers):

Dear AK Workshop Leader,

Please let me know if you will not be attending the July 9, 10, 11 and 12 meeting of the ICAK. Some of you have not yet sent me your paper title and copy. Please do so by return mail. Some have not yet sent your room deposit and reservation to the Chalet in Gaylord. It is a must to do immediately. Remember written papers are not an option, but a requirement. There will be no group flight from Detroit to Gaylord.

Please fill out the enclosed application for ICAK and bring it with you to Gaylord, if you cannot attend, send it to me in advance to the Chalet in Gaylord, as I am leaving Pasadena for Gaylord on July 1, 1975.

The following must be done at Gaylord:

1. Acceptance of the membership in the ICAK … all applications filled out and read and approved by us.
2. Adoption of by-laws.
3. Election of the officers … Chairman, Vice-chairman, Secretary and Treasurer.
4. Determination of the eligibility of the International Board of Applied Kinesiology membership, and their alternates.
5. Appointment by the chairman of the heads of the committees.
6. Meeting of the executive board for the appointment of the members and alternates of the IBAK.
7. Meeting of the ICAK and election of its officers … President, Vice President and Secretary.
8. Authorize a certificate to be made and arrangements for presentation to members.
9. Adoption of a dues structure.
10. Selection of the sites for the next five year's meetings and dates.
11. Meetings of each committee so that plans for the year's work can be developed.
12. Presentations of the papers.
13. At least one half day of Dr. Goodheart giving his latest findings.
14. Anyone wanting vegetarian meals let Mike know immediately.

Looking forward to seeing you all in Gaylord.

Sincerely,
John F. Thie, D.C.

1975 (July 10): "1975 ICAK Business Meeting, Gaylord, Mich. 8:00 AM – 9:00 AM" (in Schmitt file); notes appointment of by-laws committee of Drs. Goodheart, Perolman, Anderson, Thie, Stoner

1975 (July/Aug): *Digest of Chiropractic Economics* [18(1)] includes:

- George J. Goodheart, Jr., D.C. authors "Gait and associated problems" (pp. 14–5, 17)

1975 (Aug 5): Walter H. Schmitt, Jr., D.C. writes from 542 Michigan Building in Detroit (Schmitt file):

William L. Luckey
30835 W. Ten Mile Road
Farmington Hills, Mi. 48024

Dear Mr. Luckey:

Enclosed are the news item and photograph for the "Addendum" column which we discussed recently on the phone. I have the negative for the picture if you

need it. The article for the first Applied Kinesiology monthly paper will be sent to you shortly.

Thank you for your help.

Sincerely,
Walter H. Schmitt, Jr., D.C.

- attached is news release:

The International College of Applied Kinesiology held its third annual meeting in Gaylord, Michigan, on July 9–13, 1975. By-laws were passed setting for the objectives of the college, which include: assisting the advancement of applied kinesiology through standardization of educational methods, teaching undergraduate and post-graduate courses in applied kinesiology, promoting research, and making available ethical consultation to all health professionals.

An Executive Board was elected, consisting of: Dr. **John Thie**, Chairman; Dr. Bert Hanicke, Vice-Chairman; Dr. Nancy McBride, Secretary; Dr. Walter Schmitt, Treasurer; and Dr. George Goodheart, Director of Research. **Each of the more than fifty members presented papers dealing with some aspect of applied kinesiology** and Dr. George Goodheart presented a summary of research developments from the past six months.

Future ICAK meetings were scheduled for Puerto Rico in November, 1975, and in Detroit in June, 1976. Additional information on I.C.A.K. sponsored seminars may be obtained by contacting: Dr. Walter H. Schmitt, Jr., 542 Michigan Building, Detroit Michigan, 48226.

1975 (Aug 21): "Charitable Trust – Registration Statement" for Michigan's Department of Attorney General, articles of incorporation for the non-profit corporation, ICAK; trustees are:

George J. Goodheart, Jr., D.C. of Detroit
Walter H. Schmitt, Jr., D.C. of Detroit
John F. Thie, D.C. of Pasadena CA
Bert Hanicke, D.C. of St. Louis
Nancy McBride, D.C. of Gardina CA
Richard F. Burns, Jr. of Detroit (incorporator with Dr. Goodheart)
Samuel N. Barretta of Detroit (incorporator with Dr. Goodheart)

- Article II deals with "purposes for which the corporation is formed":

To assist in the advancement of Applied Kinesiology as a science and healing art; To promote research in Applied Kinesiology; To encourage professional consultation with members of all health professions; To disseminate educational materials, case histories, therapeutic methods as the same relate to Applied Kinesiology and to make these materials available to members; To encourage study of Applied Kinesiology; To sponsor and promote seminars in Applied Kinesiology; To foster and encourage seminars in personal, athletic and industrial injuries.

- attached are "BY-LAWS OF INTERNATIONAL COLLEGE OF APPLIED KINESIOLOGY"; June 1, 1976

1975 (Sept/Oct): *Digest of Chiropractic Economics* [18(2)] includes:

- "I.C.A.K. holds third annual meeting in Gaylord, Mich." (pp. 4, 6); includes **photo** of crowd

Third Annual I.C.A.K. Meeting, Gaylord, Mich.

1975 (Nov 10): copy of letter on stationery of Drs. Otis F. Thomas and Marvin Farber at 5239 North Freeway, Houston TX 77022 (in Wally Schmitt file):

Dear Doctor:

I am enclosing a sample news release for your information and convenience. This is to be mailed from San Juan, Puerto Rico, during the winter conference of The International College of Applied Kinesiology, to your local newspaper.

Chiropractic needs as much favorable publicity as it can get these days and I feel that the winter conference is important enough to warrant such publicity. With your help, we can do it.

Please note that there are some blank spaces to be filled in by you. Here is the procedure:

1. Make sure what you want to say in these blank spaces. Write it down beforehand.
2. Re-type the news release on plain white bond with the blanks filled in, but DO NOT type in the lines beneath those spaces and be sure to delete the words in parentheses.
3. Be sure that you know the address(s) of your local newspaper(s). Pre-address the envelope(s) of your local newspaper(s), but don't stamp them. Use Puerto Rican stamps if they have them, otherwise purchase U.S. stamps there.
4. Take everything with you including glossy black and white photos and, from San Juan on the day you arrive, mail the news release and photo back to your local paper(s), addressing it to the City Desk.

I am quite sure that most of these news stories will get into print which, in turn, will help the cause and public image of chiropractic.

Thanks very much for your help, and I'll see you in Puerto Rico.

Sincerely yours,
Dr. Otis Thomas, Publicity Chairman
OFT:pw

1975 (Nov 18): "Minutes of Executive Board, International College of Applied Kinesiology" held in Puerto Rico; present are **John Thie**, Burt Hanicke, George Goodheart, Mrs. Mike Edmunds (in Schmitt file)

1975 (Nov 19): "Minutes of Executive Board, International College of Applied Kinesiology" held in Puerto Rico; present are **John Thie**, Walter Schmitt, Burt Hanicke, George Goodheart, Mrs. Mike Edmunds, John Stoutenberg (in Schmitt file)

1975 (Nov 21): "Minutes of Executive Board, International College of Applied Kinesiology" held in Puerto Rico; present are **John Thie**, Hanicke, Goodheart, Schmitt, Mrs. Edmunds, John Stoutenburg (in Schmitt file)

1975 (Nov 22): "Minutes of Executive Board, International College of Applied Kinesiology" held in Puerto Rico (in Schmitt file)

1975 (Nov/Dec): *Digest of Chiropractic Economics* [18(3)] includes:
- "Applied Kinesiology growing in importance" (pp. 4, 6)
- George J. Goodheart, Jr., D.C. authors "Applied Kinesiology & golgi tendon organ spindle cell" (pp. 18–9, 32, 34–7)

1975: three photographs of one of 3 gatherings of AK practitioners and TFH trainers attended by George Goodheart, D.C., all held in Pasadena (Thie family collection):

1976 (Jan/Feb): *Digest of Chiropractic Economics* [18(4)] includes:
- "I.C.A.K. meets in San Juan" (p. 4)
- Dr. Nancy McBride, secretary of ICAK, authors "Nutritional & psychological observations of the ileocecal valve patient" (pp. 26–7)

1976 (Mar/Apr): *Digest of Chiropractic Economics* [18(5)] includes:
- "I.C.A.K. membership available" (p. 4)
- George J. Goodheart, Jr., D.C. auhtors "Therapy localization and kinesiologic biofeedback" (pp. 44–6, 48)

- full-page ad: "Nutri-Dyn presents: A system of learning Applied Kinesiology autorized by George Goodheart, D.C." (p. 47); includes **photos** of Paul A. White, D.C., David S. Walther, D.C. & B.A. Kuennen, D.C.

Nutri-Dyn Proudly Presents

SEMINAR '76

Dr. George Goodheart is coming to Houston Saturday and Sunday, May 22nd and 23rd, 1976, to conduct a week-end workshop in Chiropractic Kinesiology. Be there and bring your wife and C.A.'s.

Dr. George Goodheart is the founder and developer of Chiropractic Kinesiology. His research has led to some of the most revolutionary contributions in natural healing. Enhance your personal practice. It is a singular opportunity to hear Dr. Goodheart in person.

Class begins at 2:00 P.M. on Saturday, May 22nd and concludes at Noon, Sunday, May 23rd. You will receive personalized instruction by certified instructors who will assist Dr. Goodheart.

YOUR COMFORTABLE RESERVATION AWAITS YOU AT HOUSTON'S HYATT REGENCY (CALL 800-228-9000). ASK FOR THEIR SPECIAL BREAK-A-WAY WEEK-END RATES.

SEMINAR REGISTRATION

Enclosed is my pre-registration fee of $100.
Enclosed is $25. for each C.A. $_____Total.
Registration at door—Doctor, $125.; C. A., $30.;
Chiropractic Students: $15.

Please Print:
NAME_____
ADDRESS:_____
CITY:_____STATE:_____
TELEPHONE:_____

MAIL TO: NUTRI-DYN DISTRIBUTORS
P. O. Box 35329
Dallas, Texas 75235

Dates to remember in '76:
Welcome to Houston for more personalized week-end workshops, July 24 and 25, September 25 and 26, November 20 and 21.

Full Page ad in Nutri-Dyn

1976 (Apr): *Texas Chiropractor* [33(4)] includes:
- full-page ad for Goodheart seminar (p. 2; inside front cover); photograph:

1976 (May/June): *Digest of Chiropractic Economics* [18(6)] includes:
- "I.C.A.K. offers research grants" (p. 4):

The International College of Applied Kinesiology (I.C.A.K.) has money available for grants to colleges and other research groups to be used in the field of research relating to applied kinesiology. **Fifty percent of I.C.A.K. membership dues are earmarked for research**, which makes several substantial grants available yearly. Research proposals for both clinical and laboratory-based projects are being accepted at the present time. Suggestions and guidelines for research projects are available through the I.C.A.K. Research Committee. For further information on research grants and/or membership, contact: Dr. George J. Goodheart, Director of Research, I.C.A.K., of Dr. Walter H. Schmitt, Jr., Treasurer, I.C.A.K., 542 Michigan Building, Detroit, Michigan 48226.

Dr. Walter H. Schmitt, Jr.

Dr. John F. Thie

- Walter H. Schmitt, Jr., D.C. of Detroit authors "The vertebral challenge" (pp. 24–5, 27–8); includes photograph of Dr. Schmitt:
- full page ad for AK (p. 29)
- John F. Thie, D.C. of Pasadena CA authors "This I believe" (pp. 30–1); includes photograph of Dr. Thie:
- 2/3 page ad for W. LaMar Rosquist, D.C.'s "Spinal Touch Treatment" (p. 31)

1976 (June 1): "By-Laws of International College of Applied Kinesiology" (in Schmitt file)

1976 (June 5): "Brainstorm Session" (in my Schmitt file):

Goals for ICAK

A. Residency Program
1. private offices
2. chiropractic schools
3. other schools such as dental, medical, naturopathic, osteopathic
4. diagnostic and research centers with residents
5. research done by residents
6. funding and help to colleges, residents doing teaching
7. athletic club professional as a resident – Lee Perry type
8. externship program (undergrad)
9. training in office management as part of resident program

B. Fund Raising for ICAK and Its Projects
1. individual contacts with prominent patients – cultivate elected officials
2. persons with political power, money, have them cataloged.
3. have good statistics so we can apply for federal funds, foundations

4. get patients to give small or large amounts of money
5. develop special procedure for money gifts
6. investigate professional organization for fund raising.
7. get seed grant money to develop a survey of potential
8. must develop Master Plan
9. stairstep priority of goals

C. Facility

1. educational institution centrally located
2. central location
3. graduate and undergraduate courses
4. in patient and out patient care
5. proper experienced business and administrative personnel
6. University affiliation
7. space for growth
8. Research and Diagnostic center with instrumentation, equipment
9. Holistic Concept
10. Touch for Health training, lay and paraprofessional training
11. Multiple facilities as part of the main campus
12. satellite facilities
13. Research facilities and recreation facility for ambulatory health patients. TFH part of this.
14. Diplomate offices as satellites
15. Complete laboratory and diagnostic procedures, all encompassing
16. Hotel-motel overnight accommodations – air strip nearby

D. Public Relations and Information

1. How do we tell the story?
2. Hire professionals
3. Make influential contacts
4. Contact and make acquaintance with TV and radio writers, producers, directors, so that they will know the story so it can be worked into regular programs.
5. Develop a weekly TV series about Kinesiology
6. Develop an educational piece about AK
7. Encourage doctors to become athletic
8. Get AK information into all institutions of learning by being guest faculty, permanent faculty, or training faculty.
9. Put information articles in all DC Journals in how to become Diplomate of AK.
10. Select specially trained or qualified members to appear on TV and give necessary support.
11. Get articles in weekly national newspapers, magazines.
12. Develop association with National Athletic Trainers Asso.
13. Develop articles for Athletic Journals
14. Meet and know the coaches at the local schools & PE classes
15. Write articles for lay people, Health magazines, Womens magazines, Farm and Sports magazines.
16. Hire ghost writer to write articles for members.
17. TV Documentary on Olympic athletes who were treated by AK procedures.
18. Storage Library for TV tapes and distribute to both public and professional organizations.
19. Teach TFH classes by member and their staff
20. Become more proficient in our work
21. Develop primary reading books for children on AK. TFH ideas
22. Do school and other postural analysis programs
23. Use TFH programs for five, police, post office personnel. Offer free service as a community PR.
24. TFH program as a employee benefit for Corporation and relate to safety and accident program.
25. Get outside diplomate on local TV and radio talk shows.
26. Develop a speaker bureau for sending out to all DC colleges with specific topics, also for service club.
27. Library of Printout of the orthodox documentation of AK.
28. Give support to TFH institution
29. Support other groups sympathetic to our cause.
30. Support DC Colleges with strings
31. Loan TV tapes to schools and service clubs
32. Invite Editors of magazines to attend our meetings.

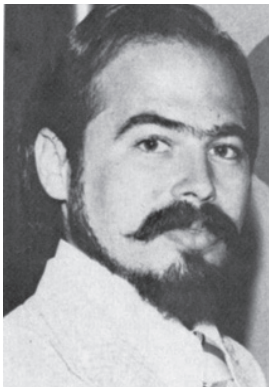
Misc. Ideas

1. funding other research
2. Directory of AK members and their status
3. Make a friend with a MD or other professional.
4. Develop a monthly newsletter or House Journal.
5. Funding of scholarships for DC schools, PhD programs, MA or MS programs.

6. Scholarships for High School students to go to DC school ($100 plus)
7. Join scientific organization AAAS and others.
8. 2,000,000.00 in grants ad funds by 10 years or less
9. All papers presented be excellent and printable form
10. List of Qualified AK men.

1976 (July/Aug): *Digest of Chiropractic Economics* [19(1)] includes:

- "I.C.A.K. holds annual meeting" (p. 4)
- John W. Brimhall, D.C. of Holbrook AZ, Palmer grad and one of 55 "charter Diplomates" of ICAK, authors "Mineral analysis by hair" (pp. 50, 52–3, 55, 108); includes **photo** of Dr. Brimhall
- full-page ad for NutriDyn features Applied Kinesiology (p. 54)



Leroy R. Perry, Jr., D.C., D.I.C.A.K.

1976 (Sept/Oct): *Digest of Chiropractic Economics* [19(2)] includes:

- "I.C.A.K. announces board exam" (p. 9)
- Leroy R. Perry, Jr., D.C., D.I.C.A.K. of Pasadena CA authors "Applied Kinesiology and athletics" (pp. 30, 32); includes photograph & bio-sketch of Dr. Perry:
- full-page ad for ICAK (p. 31)
- John J. Triano, M.A., D.C., Associate Dean of Pre-clinical Academic Affairs at Logan College, and Barry P. Davis, Ph.D., who holds appointments as Assistant Professor at Logan and at Washington University School of Medicine, author "Experimental characterization of the reactive muscle phenomenon" (pp. 44–6, 48–50), a test of AK technique
- George Goodheart, D.C. authors "Applied Kinesiology: postural indices" (pp. 92–7)

1976 (Oct 6): handwritten letter from David Allen, psychologist of Xenia OH to **John F. Thie**, D.C. (in Schmitt file):

Dr. John Thie, Chairman I.C.A.K.
1192 No. Lake Ave.
Pasadena, Calif. 91104

Dear Dr. Thie,

Dr. Blossom recommended that I write you concerning membership in I.C.A.K. I am a professional psychologist and a Touch for Health Instructor.

Also, I would like any articles you might have on the psychological effects of Applied Kinesiology.
Thank you in Advance,

Sincerely,
Dr. David Allen

1976 (Oct 6): letter on Thie stationery from **John F. Thie**, D.C. (in Schmitt file):

Walter Schmitt, Jr.
542 Michigan Bldg.
Detroit, Mich. 48226

Dear Wally:

I have received the attached letter that is self explanatory.

I think we have to make a decision on who we are going to allow as members of the ICAK. **We say licensed health practitioners, does that include psychologists?**

In my opinion, it should, as in California they have a license to practice and many of them are becoming very interested in body work.

Sincerely,
JOHN F. THIE, D.C.
JFT/la

1976 (Nov/Dec): *Digest of Chiropractic Economics* [19(3)] includes:

- "Applied Kinesiology reviewed following 'holistic' conference" (pp. 6–7)
- Daniel H. Duffy, B.S., D.C. of Geneva OH authors "Glaucoma and the kinesiological approach" (pp. 48–9); includes photograph of Dr. Duffy and bio-sketch:

Daniel H. Duffy, B.S., D.C.

ABOUT THE AUTHOR
Dr. Daniel Henry Duffy, the author of this month's Applied Kinesiology article, is a graduate of the Logan College. He is a member of the ACA, Ohio State Chiropractic Association, state and national roentgenology councils, the ACA Nutritional Council, and a charter Diplomate of the International College of Applied Kinesiology. He teaches classes in Applied Kinesiology in Ohio and Pennsylvania. Dr. Duffy is in practice at 299. S. Broadway, Geneva, Ohio. This paper was presented at the summer meeting of the ICAK in Detroit.

1977 (Jan/Feb): *Digest of Chiropractic Economics* [19(4)] includes:
- "George Goodheart challenge cup awarded at I.C.A.K. meeting in Arizona" (p. 4)
- "Sports injury seminars" (p. 4)
- "I.C.A.K. unveils 100-hour syllabus" (p. 7)

1977 (Mar/Apr): *Digest of Chiropractic Economics* [19(5)] includes:
- "Deadline nears for I.C.A.K. board eligibility" (p. 7)
- "Dr. Thie installed as member of Health Advisory Board" (p. 9); includes photo of Carolyn L. Vash, Ph.D. and John Thie, D.C.

1977 (May/June): *Digest of Chiropractic Economics* [19(6)] includes:
- "Chiropractic and dentistry" (p. 4); notes that December 1976 issue of the *Journal of the American Society for Preeventive Dentistry* "was devoted to Applied Kinesiology and Biofeedback…"
- Walter H. Schmitt, Jr., D.C. of Detroit authors "One common cause of foot subluxations" (pp. 28, 58)

1977 (June 1): "By-Laws of International Colleg of Applied Kinesiology" (in Schmitt file)

1977 (July/Aug): *Digest of Chiropractic Economics* [20(1)] includes:
- "I.C.A.K. meets in Dearborn" (p. 6)
- Kenneth S. Feder, B.S., D.C. of Atlanta, a CIC/NYCC grad, authors "Correlative orthopedic kinesiology" (pp. 32–4); **photo** of Dr. Feder, who is ICAK member

1977 (Nov 29): "International College of Applied Kinesiology, Board Meeting Minutes" (in Schmitt file)
- present are: Bert Hanicke, Chairman; Sheldon Deal, vice chairman, David Walther, secretary; Gerald Deutsch, treasurer; Paul White, membership chair; Karl Hawkins, ethics and credentials chair; George Goodheart, research chair; John Stoutenburg, certification board; Walter Schmitt, education committee chair; Mike Edmunds, guest
- absent are: John Thie, immediate past-chairman; Otis F. Thomas, public relations; Jack Rarey, finance

1977 (Dec 2): "ICAK Special Board Meeting, San Diego" (in Schmitt file); includes:

Present at this meeting:
Chairman – Bert Hanicke
Vice-Chairman – Sheldon Deal
Secretary – David Walther
Treasurer – Gerald Deutsch
Membership – Paul White
Ethics and Credentials – Karl Hawkins
Research – George Goodheart
Certification Board – John Stoutenburg
Education – Walter Schmitt
Immediate Past-Chairman – **John Thie**
Public Relations – Otis Thomas
Guests: Mike Edmunds, John Triano, Kathy Conable
Absent: Finance – Jack Rarey…

REPORT BY ETHICS AND CREDENTIALS COMMITTEE
Karl Hawkins. The complaint against Ken Feder by Glen Hammer was withdrawn after discussion by the Ethics Committee of the complaint with the two individuals involved. The problem will be handled privately between the two.

OLD BUSINESS
There was a lengthy discussion regarding the purchase of the computer by ICAK. John Thie questioned the purchase of the computer, programming of the computer, and where the budget for the computer will come from. John Triano recommended that one individual handle the input for the computer. Dr. Goodheart stated that he would have Gordon Collett go to California to visit John Thie, if requested, since he was not present at the meting where the extensive discussion of the computer was accomplished.

NEW BUSINESS
Discussion of having representatives and vendors' booths available to offset the cost of meetings and the adjusting room. **Motion by Thie** that we do not solicit money from commercial representatives and vendors. Seconded by Walther. Passed.

Motion by Thie that we bring the above subject of representatives and vendors to the general membership for straw vote by mail. Seconded by Walther. Passed.

General discussion by the Board showed by general consensus of opinion that the evening workshop room should be close to the hospitality room at the annual meeting.

Motion by Deal that John Brimhall be accepted as Board-qualified kinesiologist. Second by Goodheart. Considerable discussion followed, revealing that there was confusion as to whether John Brimhall should have been brought in as a diplomate on the grandfather procedure. Motion passed.

Motion by Thie: The Board instruct the Research Committee to meet. Seconded by Goodheart. Passed.

John Triano brought up a discussion of the necessity to review papers prior to publishing in the collected papers. Considerable discussion followed. General consensus of opinion that the reviewing of papers is being upgraded on a consistent basis.

A discussion was held that the **Touch for Health Foundation** has a library of video tapes of George Goodheart treating problem patients during **Touch for Health** meetings. Motion by Goodheart that the ICAK donate $1,000 for video tapes to be paid after the June, 1978 meeting. Seconded by Deutsch. Passed. Secretary is instructed to write letter to **Touch for Health Foundation** regarding this matter.

Meeting adjourned at 3:30 p.m.

Respectfully submitted,
David S. Walther, D.C., Secretary

1977: photograph of Goodheart and Hoveys at LACC:

Goodheart and Hoveys

1978 (Jan/Feb): *Digest of Chiropractic Economics* [20(4)] includes:

- "More on cranial adjusting" (pp. 4, 6)
- "I.C.A.K. holds winter meeting in San Diego" (pp. 6–7)
- "Multidisciplinary textbook includes section on chiropractic approach" (p. 7)
- "Second annual George Goodheart challenge cup awarded" (p. 9)
- "Nicholas N. White, D.C. of Pulaski NY authors "Applied Kinesiology used in detecting potentially harmful ingredients in nutritional supplements" (pp. 14–5)
- full-page ad lists ICAK seminars around the nation (p. 38)
- Daniel H. Duffy, D.C. of Geneva OH authors "Kinesiological differentiation of low back syndrome including the pseudo disc, true disc, & the ramrod spine" (pp. 60–2, 64–5)

1978 (Mar/Apr): *Digest of Chiropractic Economics* [20(5)] includes:

- "I.C.A.K. approved articles to be so designated" (p. 9)

- John F. Thie, D.C. and Leroy R. Perry, Jr., D.C. author "Vitamin C (ascorbic acid) testing methods; a comparative clinical investigation reviewed and approved by ICAK" (pp. 14–5)
- full-page ad for White/Walther Seminars in Applied Kinesiology (p. 37)
- Siva Ford of Portland OR authors "AKSIM: a computer model of Applied Kinesiology" (pp. 38–9, 41–2)

1978 (May/June): *Digest of Chiropractic Economics* [20(6)] includes:
- "I.C.A.K. holds annual meeting in Detroit" (p. 4)
- "Siva Ford article correction" (p. 4)
- Clarke C. Odden, D.C. of Ogden UT authors "The role of the adductor muscle group in persistent posterior shoulder girdle pain; reviewed and approved by I.C.A.K." (pp. 14–6); includes **photo** of Dr. Odden, a Logan graduate and ICAK member
- one-third page ad for Goodheart & Schmitt seminars in AK

James J. Badge, D.C.

1978 (May/June): *Digest of Chiropractic Economics* [20(6)] includes:
- two-page ad for Fred Stoner's Stoner Foundation seminars includes testimonials, including photograph of James J. Badge, D.C.:

Dear Fred,

I wanted to take this opportunity to "thank you" for having the foresight and courage to develop and implement the B.A. program.

I must be completely honest with you regarding my skepticism of the B.A. program when I first heard of it. I was quite certain that it could not be of much substance – only a means to attract more doctors to your seminar with the promise of an "easy" B.A. Degree.

I must confess that the program is full of substance and is a real challenge to those willing to apply themselves.

As you know, Fred, I have been wiling to criticize your seminar from the beginning whenever I felt a need to do so. I also feel a responsibility to praise your work when I think other members of your profession should know about the many good things you are doing.

My "CONGRATULATIONS" to you on a fine and progressive B.A. program.

James J. Badge, D.C.
Sedona, Arizona

1978 (July/Aug): *Digest of Chiropractic Economics* [21(1)] includes:
- "Applied Kinesiology board eligibility requirements" (p. 6)
- "I.C.A.K. elects new officers" (p. 7)
- George Goodheart, D.C. authors "Hypothyroidism and myofascial relationships; reviewed and approved by I.C.A.K." (pp. 40–1, 94–5)
- Walter H. Schmitt, Jr., D.C. of Detroit MI authors "Vertebral fixations which mask other faults; reviewed and approved by I.C.A.K." (pp. 62, 64–5)

1978 (Sept/Oct): *Digest of Chiropractic Economics* [21(2)] includes:
- full-page ad for "Systems DC" (p. C)

1978 (Nov): *LACC News & Alumni Report* [2(6)] includes:
- "Quotable notables" (pp. 7–8) includes photograph and quote from George G. Goodheart, D.C.:

"There is a rational, reversible, reasonable, predictable, practical, simple answer to everything that happens in the body." — George Goodheart

1979 (Jan/Feb): *Digest of Chiropractic Economics* [21(4] includes:

- "I.C.A.K. meets in Houston" (p. 4)
- "Third annual George Goodheart challenge cup tennis tournament" (p. 4)
- George J. Goodheart, D.C. authors "Reactive muscle testing; reviewed and approved by I.C.A.K." (pp. 22–4, 27)
- Thomas W. Wing, D.C., N.D. of Woodland Hills CA authors "Applied Kinesiology, related organs, meridians and ear-ricular therapy" (pp. 51–3)

1979 (Mar/Apr): *Digest of Chiropractic Economics* [21(5)] includes:

- "I.C.A.K. offers student placement service" (p. 4)

1979 (May/June): *Digest of Chiropractic Economics* [21(6)] includes:

- **"White/Walther A.K. seminar presented in Norway"** (pp. 4, 6)
- half-page ad from Goodheart promotes "Advanced Applied Kinesiology" seminar (p. 103)

1979 (July/Aug): *Digest of Chiropractic Economics* [22(1)] includes:

- "Scientific community breakthrough" (p. 4)
- "I.C.A.K. holds fifth annual meeting" (pp. 4, 6)
- full-page ad for AK patient pamphlets (p. 13)

1980 (Mar): *ACA Journal of Chiropractic* [17(3)] includes:

- **"DC received Olympic appointment"** (p. 18); includes photograph of George Goodheart, D.C.:

George Goodheart, D.C.

1980 (Mar/Apr): *Digest of Chiropractic Economics* [22(5)] includes:

- George J. Goodheart, D.C. authors "Observations of the winter Olympics" (pp. 26–7, 113); many **photos**

1980 (July 2–6): "Chiropractic Goal Strike – 29th Annual PCRF Homecoming" is 248th Parker seminar, held at Hilton/St. Francis Hotels in San Francisco (Springer, 1992, pp. 359–63); photographs include:

248th Parker Seminar, San Francisco
Two-time Nobel Prize winner and independent researcher, Linus Pauling, Ph.D., met and conferred with VOICE (Voluntary Organization of Independent Chiropractic Educators) members. Standing, l to r: Bill Brown, executive director of VOICE; Dr. Major DeJarnette (Sacro Occipital Technique); Dr. John Thie (Touch for Health); Dr. Monty Greenawalt (Orthopedic); Dr. David Walther (Applied Kinesiology); Dr. Clay Thompson (Thompson Terminal Point); Dr. LaMar Rosquist (Spinal Touch); Dr. George Goodheart (Applied Kinesiology); Dr. Glenn Stillwagon (Pierce-Stillwagon Technique); and Dr. W. Karl Parker, secretary/treasurer of VOICE. Center, seated: Dr. Arlan Fuhr (Activator Method), and Dr. Linus Pauling. Front, seated: Dr. David Denton (Sacro Occipital Technique), and Dr. Russell Erhardt (X-ray).

1981 (Jan/Feb): *Digest of Chiropractic Economics* [23(4)] includes:

- Richard H. Tyler, D.C. authors "The education dimensions of Applied Kinesiology" (pp. 34, 134)

1982 (Mar/Apr): *Digest of Chiropractic Economics* [24(5)] includes:

- Bert T. Hanicke, D.C. of Logan faculty authors "German electro-acupuncture, Applied Kinesiology and gastric digestion" (pp. 10–12); includes short biosketch:

ABOUT THE AUTHOR
Dr. Bert T. Hanicke is a graduate of Logan College of Chiropractic, where he has served as a faculty member for 25 years. In addition, he is a Founding Diplomate and Immediate Past Chairman of the International College of Applied Kinesiology, and was the first Chiropractor to be certified at physician level in German Electro-Acupuncture. Dr. Hanicke

completed graduate studies in Acupuncture at Logan College, and has been successfully engaged in private practice for 31 years.

1983 (May/June): *Digest of Chiropractic Economics* [25(6)] includes:

- Carl A. Ferreri, D.C., Ph.C. of Brooklyn NY authors "Dyslexia and learning disabilities cured" (pp. 74, 148)

1984 (Jan/Feb): *Digest of Chiropractic Economics* [26(4)] includes:

- **John F. Thie**, D.C. and James V. Durlacher, B.A., D.C. author "Applied Kinesiology celebrates 20th anniversary" (pp. 14–5):

In the early part of the 1960's, George J. Goodheart, Jr., D.C. made a discovery in his private practice that seemed so elementary and fundamental to the manipulative practice of healing that he felt it was necessary for him to share this information with others.

This discovery was that what appeared to be muscle spasm was not an over tight, pathologically contracted muscle, but a normal muscle that didn't have opposing muscles doing the necessary counter pull. Previously, all members of the healing professions, whether they were doctors of chiropractic, osteopathy, or medicine directed their attention to the "tight" or "spasmed" muscle. Goodheart had discovered that by directing his examination of the patient to the inhibited or weak muscle and the treatment to that correction, rapid changes in the body posture could be made. Goodheart gave the name "applied kinesiology" to this approach of examining the body to determine muscle inhibition.

The combined terms "applied" and "kinesiology" describe the basis of this system, which is the use of manual muscle testing to evaluate body function through the dynamics of the musculoskeletal system. "Kinesiology" – the study of motion of the body and "applied" – to put to practical use, put together, describes the use of kinesiology in the practical application known as applied kinesiology.

The applied kinesiology examination follows the standards set up by Kendall and Kendall in their work on muscle testing, except that much more minor variations in the muscles were considered significant in the diagnosis and treatment.

Postural analysis, always a significant part of chiropractic practice and procedures, took on much more importance as changes in the posture appeared almost instantaneously. Goodheart's original discovery that the hard rubbing of the origin and insertion of a weak muscle would strengthen it, lead him to research many of the discoveries of other investigators. He soon found that the Chapman (an osteopath) reflex points (neurolymphatic) for various organs has a correlation with specific muscle weaknesses. For instance, if the sartorius muscle was weak, the Chapman reflex for the adrenal gland was stimulated and the sartorius muscle was strengthened.

Further investigation in Bennett (a chiropractor) reflexes (neurovascular) revealed the same thing – by stimulating the Bennett adrenal reflex on the head, the sartorius muscle would strengthen. Now he had three ways to strengthen a weak muscle.

Further investigation into the work of Sutherland (an osteopath), at the time well known to DeJarnette, brought in the knowledge of the cerebral spinal fluid flow patterns and cranial faults. Added to this was the knowledge of the meridian system commonly known as the acupuncture system which was treated with manual stimulation instead of needles.

The reaction of the patient knowing that his body was responding in a very rapid way, from the methods that were unsuspected prior to this time, caused a great enthusiasm on the part of both the practitioners and the patients. Patients with intractable frozen shoulders, chronic sciaticas, palsies and other difficult cases in the musculoskeletal conditions of the body and other organ systems, seem to get almost miraculous results.

Goodheart, in his enthusiasm to share this knowledge accepted speaking engagements from coast to coast at state and national conventions and special seminars sponsored by chiropractic organizations. His presentations and monographs were accepted with enthusiasm.

He has added a visual and manual muscle testing technic to the practice of chiropractic, which seemed to prove, with the testing of the patient, that what chiropractors and osteopaths had been doing for almost 100 years with good clinical results could be

now demonstrated readily to the patient and the doctor. When the muscle balance was restored, improvement in the clinical picture often occurred simultaneously.

By now, Goodheart was traveling every weekend lecturing and demonstrating, but many doctors were having trouble duplicating what they had seen. Soon the format was changed to a workshop style so that each of the doctors could actually do the things that Goodheart was demonstrating and they could utilize the technics the next day in their offices.

The groups grew and then grew again. As the success of the workshop method grew more and more workshops were needed, far beyond the capacity of Goodheart alone to do, so Goodheart named study group leaders in various areas where persons interested in learning applied kinesiology could now do so.

One of the first group study leaders was Dr. **John Thie**, who encouraged Goodheart to make the study group leaders a formal organization and volunteered to put this first meeting together.

The first meeting of the Goodheart Study Group Leaders was held in Detroit, MI, in the summer of 1973. The criteria for attending this meeting was that each person was personally designated by Goodheart to be a study group leader and that he would present a paper of the methods that he used in teaching applied kinesiology classes or some of the new findings in AK.

The meeting was a great success and another meeting was planned for the summer of 1974. At that meeting, plans were begun to make the organization formal. The name "International College of Applied Kinesiology" was chosen and ideas regarding its structure were presented.

At this meeting, it was also decided that a second meeting each year be held where papers would not be required, but could be presented. This would be more social with time to meet informally, while enjoying a pleasant atmosphere. The winter meeting was held in Hollywood, Florida in November 1974.

At that time, Dr. **Thie** was authorized to proceed with by-laws similar to the general provisions of the Touch For Health Foundation of Pasadena, CA. At the 1974 meeting in Gaylord, MI, the proposed by-laws were adopted.

Officers elected were **John F. Thie**, D.C. – chairman; Bert Hanicke, D.C. – vice chairman; Nancy McBride, D.C. – secretary; Walter Schmidt [sic: Schmitt], D.C. – treasurer and George Goodheart, D.C. was appointed chairman of the research committee and serves as a member of the executive board in that capacity.

The first meeting under the new by-laws was held in San Juan, Puerto Rico November 1975. At this meeting, the executive committee named the original thirty nine study group leaders as Charter Diplomates. This group represented doctors from the United States, Canada, and Australia.

Among this group was John Diamond, M.D., who was later to write the very popular book, "Behavioral Kinesiology." Dr. Diamond, a psychiatrist, continued to research the function of the human body, mind and soul, using muscle testing, however,, calling his adaptation, behavioral kinesiology and is no longer with the ICAK.

Fred Stoner, D.C., charter diplomate, wrote his text "The Eclectic Approach to Chiropractic," which was the first comprehensive text on applied kinesiology and introduced it to ICAK at the 1975 Gaylord, MI meeting. Dr. Stoner how heads a number of clinics around the world, all utilizing the applied kinesiology.

David Walther, D.C., seeing the need for an organization teaching syllabus, developed a 100-hour course syllabus with program workbooks and wrote the correlating textbook, **"Applied Kinesiology, the Advanced Approach to Chiropractic."** This monumental work now allowed uniform presentation by diplomates wherever it was taught. In addition, Dr. Walther developed 750 slides to enhance the visual presentation. He continued to research and develop these methods and has now developed a computerized multi-screen visual slide presentation. In addition, he has completed two of an eventual five volume series of applied kinesiology textbooks: Volume I – 473 pages, **"Basic Procedures in Muscle Testing"**; Volume II – 539 pages, **"Head, Neck and Jaw Pain and Dysfunction – The Stomatognathic**

System." Future volumes will be Volume III, "Meridian System," (including unique applied kinesiology methods of evaluation); Volume IV – "Orthopedic Conditions" and Volume V – "Systemic Conditions" (covering metabolic involvements, the endocrine system, digestive function, etc.)

In Oregon, Alan Beardall, D.C., documented manual muscle testing of over 300 muscles of the body. Some of these texts are not yet in standard medical anatomy tests, as his approach is so new, that until the AK methods were developed, the medical field had no need for the isolation of these muscles.

Dr. George Goodheart was selected as the first chiropractor to officially be a member of the United States Olympics Sports Medicine Committee in 1980 and treated athletes at Lake Placid, N.Y.

Dr. **John Thie**, the first chairman of ICAK, who was followed by Dr. Bert Hanicke, Dr. Sheldon Deal and the present chairman is Dr. Wally Gunn.

The ICAK is composed of doctors from all disciplines who are required to be licensed to diagnose or treat human ailments. Requirements for application are that the doctor must be enrolled in a 100-hour Introduction Course to Applied Kinesiology and be recommended by two diplomates.

The International Board of Applied Kinesiology was formed to administer written, oral and practical examinations for the doctor desiring to become a diplomate. Before applying for the examination, doctors must have completed a minimum of 300 hours of instruction and used applied kinesiology as their main approach in their office for three years and have written two research papers to be presented to the membership of ICAK.

So from the beginning of an idea of one chiropractor, George J. Goodheart, Jr., D.C., applied kinesiology has grown to a stature in the past twenty years where it is bridging the gaps between all the health professions so that they can work in harmony for the benefit of the patient.

To celebrate the 20th anniversary of the discovery of applied kinesiology, the International College of Applied Kinesiology will present the "Super 20 Seminar" at the Fairlane Club, Dearborn, MI, May 19th and 20th. It will feature Dr. Goodheart, along with eight other nationally recognized speakers.

1984 (Spring): *TCC Review* [10(1)] includes:
• "Dr. Goodheart speaks" (p. 21); photograph:


The International College of Applied Kinesiology
presents
The Super 20 Seminar
Featuring these world-respected authorities on Applied Kinesiology. In one weekend, this unprecedented event will supply you with 13 hours of information, demonstrated techniques and detailed notes that will increase your effectiveness with patients when you return to your office on Monday morning.
Saturday & Sunday May 19 & 20 • 9-5 p.m. • Fairlane Manor, Dearborn, Michigan
Guest of Honor
George Goodheart, D.C.
Dr. Goodheart is the founder of Applied Kinesiology. His pioneer work fostered the growth and acceptance of AK since his Applied Kinesiology text was first published twenty years ago.
Guest Speaker — Dr. E. Cheraskin, M.D., D.M.D.
Dr. Cheraskin has written many books and recently co-authored The Vitamin C Connection and Psychodietetics. His research reveals how Vitamin C can prevent and treat colds, cancer, glaucoma, periodontal disease, pain, stress and much more. This inspiring speaker offers evidence that "food is the key to emotional health."
John F. Thie, D.C.
Seminar Chairman & Program Moderator
Dr. Thie is Founding Chairman of ICAK, president of the Touch for Health Foundation, author of Touch for Health, Chairman, Certified Teachers of Applied Kinesiology.
Evan Mladenoff, B.Sc., D.C., D.T.
Director, Toronto, Chiropractic Clinic; Founder, Applied Kinesiology Supra Learning Team doctor for 1978 and 1979 Canadian Canoe Teams, with degrees in physiology and biochemistry.
Topic: Head, Face, TMJ and Neck Complaints; AK Treatment by the Dentist and Chiropractor
Sheldon C. Deal, D.C., N.D.
Head clinician of Swan Clinic, Tucson, Arizona; author of two books on nutrition, international AK seminar teacher and winner of numerous physical fitness awards.
Topic: The Low Energy Patient—Fatigue and Exhaustion
Walter H. Schmitt, Jr., D.C.
Lecturer on AK, nutrition and functional endocrin problems. Author, Compiled Notes on Clinical Nutritional Products (1979) and Common Glandular Dysfunctions in the General Practice (1981). Vice Chairman, ICAK.
Topic: Eliminating Pain in the Upper Abdomina and Back Areas—Gallbladder Reflex Pat
Alan G. Beardall, D.C.
Developer and originator of Hand Modes and Biocomputer Concepts, author of five books on AK, a cross country, track and road racing record holder.
Topic: Handling Difficult Wrist and Elbow Problems; Neuromuscular Dynamics of Forearm and Wrist
David W. Leaf, D.C.
International lecturer on AK, known for his concise, easily understood presentation of AK materials. Chairman, ICAK Education Committee
Topic: Developing Visual Skills to Aid Diagnosis and Treatment of Foot, Ankle and Gait Problems
H. Wallace Gunn, D.C.,
Seminar Co-chairman
Dr. Gunn is Chairman of ICAK.
Otis Thomas, D.C.
Topic: Humorous Events in Applied Kinesiology, 1964-1984
*Limited Seating. Subtract $25 from fee if registration is received before April 1, 1984. Seminar includes luncheon both days.
David S. Walther, D.C.
International AK lecturer, author. Applied Kinesiology, the Advanced Approach in Chiropractic (1976), Applied Kinesiology Vol. I, Basic Procedures and Muscle Testing (1981), Applied Kinesiology Vol. II, Head, Neck and Jaw Pain—the Stomatognathic System (1983), Secretary ICAK.
Topic: Handling the Difficult Shoulder and Arm Problems—The Thoracic Outlet Syndrome
Name
Address
City State Zip
Phone: Office ( ) Phone: Home ( )
Make checks payable to International College of Applied Kinesiology and mail to: ICAK Administrative Office • 1800 Park Avenue, Box 68054 Park City, Utah 84068 • Phone: (801) 649-0082
Fee: ICAK Members $150*/Non-Members $250*
For hotel accommodations, contact The Hyatt Regency, Dearborn, Michigan • Phone: (313) 593-1234.

Full-page ad for AK seminar

From left to right: Dr. Nathaniel Wirt, Dr. George Goodheart, Mr. Bill West, Dr. Otis Thomas. Each year the Student Body Association invites Dr. Goodheart to speak at TCC about chiropractic and applied kinesiology.

2006 (Feb 23): e-mail from Stephen Perle, D.C. (perle@bridgeport.edu):

Joe,

I can tell you that the caption was not quite accurate. During the 4 years I was at TCC (79 – 83) Goodheart never spoke on campus. He did however come to speak in Houston at least once or twice a year.

Nate Wirt was my anatomy instructor. Otis Thomas' son Randy was a classmate of mine. I used to go watch Otis, an ICAK founding diplomate, use the "newest" research from Goodheart in practice the week after Goodheart came to Houston. Otis never did it correctly (I had a far better memory than he did) but it seemed to work anyway. It should have been my first indication that there was something rotten in the Denmark called AK.

Otis offered me a job when I graduated (I should say broached the subject) but my wife and I really couldn't stand Houston and moved two days after she graduated from U of H Law School which was one week after I graduated from TCC. BTW Otis was a very interesting guy he used to tell me stories about how he built his practice or how he got "into" AK. Worth a good laugh sometime.

Thanks for sending the photo its been a long time since I'd seen Nate or Otis.

Stephen

1986 (Nov/Dec): *Digest of Chiropractic Economics* [29(3)] includes:

- George J. Goodheart, Jr., D.C. authors "The interosseous vertebral holographic subluxation, Part II" (pp. 49–50, 52)

1988 (**???**): *In Touch For Health* [2] includes:

- **John F. Thie**, D.C. authors part 1 of 2, "The **history of Applied Kinesiology**" (pp. 1, 2):

We have all benefited from Touch for Health and Applied kinesiology, and yet, most of us know very little about its early history. This article is written by Dr. Thie, the Foundation and President of TFH and Foundation Director of the International College of Applied Kinesiology. We hope you enjoy this article as much as we have.

George Goodheart made a discovery in his private practice of chiropractic that seemed so elementary and fundamental to the manipulative practice of healing that he felt it was necessary for him to share this information with others.

This discovery was that what appeared to be muscle spasm was not an over tight, pathologically contracted muscle, but a normal muscle that did not have opposing muscles doing the necessary counter pull. By examining the patient for the inhibited muscle function and directing the treatment to that correction, rapid changes in the body posture could be made. Goodheart gave the name "Applied Kinesiology" to this approach of examining the body to determine muscle inhibition.

This type of kinesiological examination follows the standards set up by Kendall and Kendall in their work on muscle testing, except that much more minor variations in the muscles were considered significant in the diagnoses and treatment.

Postural analysis, always a significant part of chiropractic practice and procedures took on much more importance as changes in the posture appeared almost simultaneously.

The reaction of the patient knowing that his body was responding in a very rapid way, from methods that were unsuspected prior to this time, caused great enthusiasm on the part of both practitioners and patients. Patients with intractable frozen shoulders, chronic sciaticas, palsys and other difficult cases in the musculoskeletal conditions of the body and other organ systems, seemed to get almost miraculous results.

Goodheart, in his enthusiasm to share this knowledge, accepted speaking engagements from coast to coast at state and national conventions and special seminars sponsored by chiropractic organizations. His presentations and monographs were accepted with enthusiasm.

He had added a visual and mechanical technique to the practice of chiropractic, which seemed to prove, with testing of the patient, that what the chiropractors and osteopaths had been doing for 100 years with good clinical results could now be demonstrated readily to the patient and doctor. When the muscle balance was restored, improvement in the clinical

picture often occurred simultaneously.

In June of 1965, Goodheart and I became acquainted personally when he appeared on the American Chiropractic Association program in Los Angeles. As a subject of his demonstration, I personally experienced the dramatic change that can take place in the ability of the patient to control the strength and function of isolated muscles.

The following year, Goodheart was invited to California by the California Chiropractic Association, and I spent the two one-day programs as Goodheart's assistant. Since that time, Goodheart and I have been close friends and worked to develop the concept of Applied Kinesiology and methods of presentation that made the material a practical clinical approach for all the health professions.

As Goodheart returned each year, his presentations were a delight to his audiences, as he seemed always to have a new wrinkle to his presentation – a new idea that was a part of the already existing knowledge but in a dramatically different and exciting way, with the possibilities of helping patients with difficult problems by the use of Applied Kinesiology.

Complaints began to be heard among the doctors learning the techniques – "I see him do it, but I can't seem to make it work in my office"; "His material is not clear"; "It is difficult to understand"; "He's a great showman, but…" Many did not return for subsequent lectures. Many of urged Goodman to change his presentations from lecture demonstrations to a workshop format, so that they could be able to utilize it in their practices on the next day.

Goodheart was amenable to this idea, but it was difficult for everyone to test the same muscle, which was necessary to develop the skill in feeling the differences in muscle strength. As Sheldon Deal, D.C. of Tucson, Arizona, later was demonstrate, the differences were minor compared to the dramatic differences as appeared from stage.

Deal showed that the differences between what we considered weak and strong muscles were all probably less than 20%. This difficulty led me to attempt, when sharing this information with other when Goodheart left each year, to utilize acupuncture sedation points to inhibit the muscle function so that all the members of the workshop could develop the skill of feeling the variation in the muscle strengths, and the restoration of the muscle strength by the acupuncture stimulation points or other techniques.

Goodheart adopted this format for his California seminars and the groups then grew again. As the success of the workshop method grew, more workshops by chiropractors teaching other chiropractors grew, and Goodheart encouraged this development by naming study group leaders in various areas, where persons interested could learn the material that he had originally presented, in a paced, workshop style.

Having discovered the difficulties in teaching this material myself, at various other meetings speaking to others designated by Goodheart as workshop leaders, I encouraged Goodheart to make the study group leaders a formal organization and volunteered to put the first meeting together.

This first meeting of Goodheart Study Group Leaders was held in Detroit, Michigan, in the Summer of 1973. The criteria for attending this meeting was that you were personally designated by Goodheart to be a Study Group Leader and that you would present a paper on the methods that you used in teaching classes in Applied Kinesiology or on some original finds in AK.

The meeting was a great success, and another meeting was scheduled for the Summer of 1974, when plans were begun to make the organization formal. The name "International College of Applied Kinesiology" was chosen, and ideas regarding its structure were presented.

At this meeting it was also decided that a second meeting each year be held where papers would not be required, but could be presented. This would be more social with time to meet informally while enjoying pleasant atmosphere. The Winter meeting was held in Florida in November, 1974.

At that time, I was authorized to proceed with bylaws under the general provisions of the Touch for Health Foundation of Pasadena, California, but I later discovered that Goodheart and other members of the group had serious objections to having ICAK

a part of the TFH Foundation. At the 1975 meeting of the group, in Gaylord, Michigan, the proposed by-laws were adopted eliminating the sections that made the ICAK part of the TFH Foundation.

End of part one

1988 (**???**): *In Touch For Health* [3] includes:
• **John F. Thie**, D.C. authors "**The history of Applied Kinesiology, part 2**" (pp. 4–5):

This is the second part of a three-part article on the History of A.K. and Touch For Health written by Dr. Thie.

The following officers were elected: **John F. Thie**, D.C. Chairman; Bert Hanicke, Vice President; Nancy McBride, Secretary; Walter Schmidt [sic: Schmitt], Treasurer; and George Goodheart was appointed Chairman of the Research Committee and serves as a member of the executive board in that capacity.

The first meeting under the new by-laws was held in San Juan, Puerto Rico, in November, 1975, where plans were laid for cooperation with the Touch for Health Foundation.

The Foundation sponsored the first Touch for Health/AK nationally advertised programs. These included the leaders in the AK movement who taught a complete program. This brought together not only members of the chiropractic and medical professions, but also dentists, nurses, physical therapists, athletic coaches, trainers, educators and lay public.

Speakers on these programs included Drs. John Thie, George Goodheart, Sheldon Deal, LeRoy Perry, victor Frank, Fred Stoner, Nancy McBride, Jerry Deutsch, Alan Beardall, Katherine and Terry Hovey, and many others who later developed much of what is now the basics of AK.

In the summer of 1976, the first members of the International College of Applied Kinesiology were certified as Charter Diplomates. This group represented three countries – the U.S., Canada and Australia. Among this group was John Diamond, M.D., who was later to write the very popular book, Behavioral Kinesiology. Dr. Diamond has continued to research the function of the human body, mind and soul using muscle testing, although he has not remained active in ICAK.

The course of study for becoming a diplomate was developed and standardized. After four years as Founding Chairman, I stepped down and Dr. Bert Hanicke of St. Louis, Missouri, was elected. Dr. Hanicke served as chairman and was followed two years later by Dr. Sheldon Deal of Tucson, Arizona, a member of the Board of the Touch for Health Foundation.

The Touch for Health Foundation continued its programs for the layman's use of Applied Kinesiology, as well as advanced courses for Registered Nurses. (Where nurses are required to complete post-graduate training, the Touch for Health courses are approved to provide these Continuing Education Units**.) The layman's text *Touch for Health* was utilized by many members of the ICAK to train their assistants and to give to their patients, so that the patients could be more effective in their home care**.

Dr. Fred Stoner, a Founding Member of the Board of the Touch for Health Foundation, wrote his text *The Eclectic Approach to Chiropractic*, the AK methods practiced by the larger Stoner Clinic in Las Vegas, Nevada. Dr. Stoner now heads a number of clinics around the world, all utilizing the Applied Kinesiology approach.

Dr. David Walther developed one of the outstanding seminar programs in Applied Kinesiology, along with the first textbook for the 1000 hour course, allowing for uniform presentation of the AK materials. Dr. Walther has continued to research and develop these methods and to interest many other members of other health care professions.

In Oregon, Dr. Alan Beardall documented the manual testing of over three hundred muscles of the body. Some of these are not yet in standard medical anatomy texts, as his approach is so new that until the AK methods were developed, the medical field had no need for the isolation of these individual muscles. A former associate of mine, Dr. Victor Frank of Tujuna,

California, has a specialized AK methodology which he calls "Total Body Modification," dealing with patients who have allergies, in a very rapid fashion.

continued in next edition

1989 (May/June): *Digest of Chiropractic Economics* [31(6)] includes:

- Philip Maffetone, D.C. and James Durlacher, D.C. of ICAK author "Celebrating Applied Kinesiology's gold and silver" (pp. 14–5)
- George J. Goodheart, Jr., D.C. authors "**Applied Kinesiology – the beginning**" (pp. 15, 17–20, 22–3); includes photo of Dr. Goodheart

Drs. John Triano and George Goodheart confer during the FCER's 1989 research conference

1991 (Sept/Oct): *Digest of Chiropractic Economics* [34(1)] includes:

- Kerry M. McCord, D.C. of St. Petersburg FL (Logan 1973) authors "Applied Kinesiology: an historical overview" (pp. 20, 22, 24, 27)

1993 (Jan/Feb): *Digest of Chiropractic Economics* [35(4)] includes:

- Thomas W. Wing, D.C., N.D., CA authors "How a chiropractic modality became a medical modality: the 20th anniversary of MENS microcurrent" (pp. 28–9); credits Goodheart with inspiration

1996 (**???**): *Touch For Health Education Newsletter* [5(4)] includes:

- **John F. Thie**, D.C., authors "How were correlations of muscles/meridians discovered?" (pp. 2–3):

I just received a letter from a physical therapist who "took TFH 10 years ago and have used it off and on during this time. I recently had the opportunity to use it when an interested patient inquired about the chart on my wall. We had a session and extra time after she became balanced. I'd always wanted to experiment with some reversed thinking. Started with a physical condition-muscle contraction, spasm etc.-thinking of weakening a meridian – this I did by weakening the meridians that went through the muscle – the result was complete range of motion of a shoulder that had been frozen for two years. What was interesting is that I didn't know about her frozen shoulder until that session; for we were treating her for another condition and I had not treated her previously. I am very curious to as to how you came up with which indicator muscle to correlate with which meridian."

The answer to her curiosity is that I didn't come up with these correlations alone. These were worked out by trial and error, after the relationship between the neurolymphatic and neurovascular points had been worked out by George Goodheart, D.C. in the mid 1960s. when in the early 1970s acupuncture became a new approach because of the publicity given the opening of China to the West again, the ICAK (International College of Applied Kinesiology), of which I was the founding chairman, began seeing the correlation between the beliefs of chiropractic and Chinese traditional medicine. I personally did my research by first finding a muscle weakness. Then I'd trace the meridians one by one until I found a strengthening of the muscle. I made the correlation if the reversed tracing of the meridian caused the muscle to again be inhibited. This allowed me to open and close the meridians by tracing the energy flow either from the traditional beginning points to facilitate or from the end points back to the beginning to inhibit. When members of the ICAK also found the same thing we could draw conclusions. Gradually all the major postural muscle/meridian relationships were found. Many members of ICAK worked together and shared their findings so that it was a wonderful cooperative adventure in learning how to help our patients and clients more.

1997 (**???**): **DRAFT** of *Touch For Health Education Newsletter* [6(4); most content from **John F. Thie**,

D.C.:
- "ICAK defines 'Applied Kinesiologist'" (p. 5); includes:

In response to a regulatory body that disapproved the practice of AK in their jurisdiction, the Executive Board of the ICAK (International College of Applied Kinesiology) is sending the following definition to all chiropractic boards, major insurance companies and chiropractic colleges: "**In order to call yourself an Applied Kinesiologist, a doctor must have taken the basic 100 hour course in applied Kinesiology, passed the final exam, and earned the 100 hour certificate or be certified by the Credentials Committee of the BCT and successfully completed an equivalency exam to be given at an ICAK-USA regional or annual meeting. In order to say that you specialize in applied Kinesiology, you must be a Diplomate**."

Because Touch for Health originated from Applied Kinesiology as a lay and/or a paraprofessional program, it behooves all who are using Touch for Health or Specialized or Systematic Kinesiologies in clinical or educational settings to know the current stance of the ICAK regarding those who are qualified to use the term "Applied Kinesiology" or "AK." In the late 70's and early 80's the TFH program developed a different approach to using muscle testing. *While the ICAK advocates the use of muscle testing ONLY as an adjunct to a medical or chiropractic, reductionist diagnosis, TFH employs muscle testing to assess changes in subtle energies through touch healing and SPECIFICALLY PRECLUDES diagnosis for those not licensed to diagnose*. Currently the IASK (International Association of Specialized Kinesiology) is working with the TFHKA of American and other Associations using Specialized Kinesiology to develop and define protocols an standards of care and will be publishing these criteria in the future. In Australia, New Zealand, UK, Hungary, Switzerland, Italy, Norway, etc., various efforts are under way toward achieving government recognition. **The rising dissatisfaction with the Medical paradigm of Western Medicine will only further this rapid change to a more Holistic view**.

2002 (June 29): e-mail from John Thie, D.C. (thie@touch4health.com):

Dear Joe,

Thanks. I gave a copy to the Acupuncture Dean when I visited the campus last month.
I am glad you are starting a history of Goodheart. I have worked with him in the development of AK since 1965 and was the first chairman of the ICAK, and wrote the first set of by-laws. The organization did not agree that a lay program was advisable when it started so I had to take the TFH out of the by-laws and did that on my own. Goodheart was on the first Board of Directors of the Touch for Health foundation (my vocational training school approved by the State Board of Education here in California as a vocational training school for Touch for Health Instructors) and served as vice president for a couple of years. I may be able to make a contribution to the history of Goodheart and Applied Kinesiology. I served as a member of th International Examining Board until January of this year. I am busy with developing the Touch for Health Kinesiology worldwide through the International Kinesiology College, incorporated in Zurich Switzerland, which was the successor to the Touch for Health Foundation when I closed that school in 1990. The TFH international faculty just transfered to the new college.

I leave for two weeks starting July 2. The TFHK Association has its annual meeting in Naples Florida and I present there. Keeping in Touch,…

2003 (Feb 4): e-mail from Larry Wyatt DACBR (beauxtx1@earthlink.net):
Has anyone see this whole study or the follow-up? Interesting results. NO, I do not practice AK.

Correlation of applied kinesiology muscle testing findings with serum immunoglobulin levels for food allergies. Int J Neurosci 1998 Dec;96(3–4):237-44 (ISSN: 0020-7454) Schmitt WH; Leisman G Applied Neuroscience Laboratories, The College of Judea and Samaria, Ariel, Israel.

The pilot study attempted to determine whether subjective muscle testing employed by Applied Kinesiology practitioners, prospectively determine those individuals with specific hyperallergenic responses. Seventeen subjects were found positive on Applied Kinesiology (A.K.) muscle testing screening procedures indicating food hyper-

sensitivity (allergy) reactions. Each subject showed muscle weakening (inhibition) reactions to oral provocative testing of one or two foods for a total of 21 positive food reactions. Tests for a hypersensitivity reaction of the serum were performed using both a radio-allergosorbent test (RAST) and immune complex test for IgE and IgG against all 21 of the foods that tested positive with A.K. muscle screening procedures. These serum tests confirmed 19 of the 21 food allergies (90.5%) suspected based on the applied kinesiology screening procedures. This pilot study offers a basis to examine further a means by which to predict the clinical utility of a given substance for a given patient, based on the patterns of neuromuscular response elicited from the patient, representing a conceptual expansion of the standard neurological examination process.

Larry Wyatt, D.C., DACBR

2003 (May): *News Update* (ICAK) [20(1)] includes:
- photograph of George Goodheart, D.C. during WWII (p. 2):


A young Dr. Goodheart

2005 (Nov 28): downloaded from www.icak.com/about/history.shtml:
Adapted from chapter one ***You'll Be Better The Story of Applied Kinesiology*** by **George J. Goodheart, Jr., D.C.**

I graduated from the National College of Chiropractic in Chicago, Illinois, in 1939, after attending pre-chiropractic at the University of Detroit. I began practice in association with my father late in 1939; however, the advent of World War II didn't give me much time to practice. I went through the Air Corps Cadet Program in 1941, during the early war years, and through a happy series of fortunate events became involved in innovative air operations research. My active practice really began in 1946, following my release as a major from the United States Air Force. I resumed active practice with my father until his death in the early '60s.

Because of my father's background in general practice, we saw many patients with numerous problems. As is usually the case, the further along I got in practice the more intelligent my father seemed to become — the obvious fact being that I became more aware of my inadequacies and his excellent qualities. I grew in stature and development because of my association with him and his superb diagnostic and clinical work.

My time in the Air Force give me a taste for innovative opportunities, and also taught me a practical method of dealing with problems. This has proven to be very beneficial in my life.

Not long after my father's passing, a young man presented himself at the office complaining of a relatively common problem, although it was occurring at a very early age. He was losing his hair. He had a rapidly receding widow's peak, and at the age of 24 seemed quite concerned. He was a stocky young man, quite well built, and he recently had been discharged from the paratroopers. Despite apparent good health he was suffering from a rapid hair loss.

Examination revealed a hyperthyroid problem. At that time we were testing the thyroid function as we still do, by measuring the speed of the Achilles tendon reflex. The Achilles tendon is put on a stretch and tapped with a testing hammer; the speed of the Achilles reflex is thus measured by the foot's path through a photoelectric beam. This is the same type of activity as when your knee jerks under the knee jerk test. This impulse is transferred electrically to an EKG, which then gives a printout of the degree of functional capacity of the Achilles tendon reflex responding to the tap. The normal time is 330 milliseconds, and the patient's time was approximately 220 ms which is abnormally fast. I had learned that natural amounts of vitamin A and a source of thymus were practically specific for hyperthyroid problems, along with regular chiropractic care. Upon administering this nutritional support and the proper treatment mechanically, he showed a tremendous response in about two weeks. His hairline stopped receding, for which he was very grateful and pleased, and he asked my advice about another problem.

The young man couldn't get a job in any of the factories in our town because he was unable to pass the physical, due to his inability to press in a forward direction with one of his arms. One of his shoulder blades stuck out in a rather unusual fashion, protruding from the chest wall. He asked if I could do anything about it. I said, "Well, probably it's some type of anomaly, a variation in a probably normal function." We did some x-rays to prove this potential but; there was no abnormality I could offer him no further advice as to why this particular condition was present.

Fortunately or unfortunately, depending upon your point of view, I was able to procure a job for him with a nutritional company where we had our offices. He would come into our office, and quite often in a crowded waiting room would ask me in a loud voice, "When are you going to fix my shoulder?" This embarrassed me somewhat, and I would motion him to come to the inner office away from the scene of my embarrassment. I still had to tell him that there wasn't much I could do about it.

Having been embarrassed for the last time by his frequent inquiry, I resurrected a book given to me by a colleague, Dr. Raymond Koshay, a very fine chiropractor in Port Huron, Michigan, whom I had helped with a knee problem. I remembered that there is a muscle that pulls the shoulder blade forward so that it lies flat on the chest wall. I knew the muscle existed, but I wasn't sure of its actual origin and insertion.

When I applied myself to the book, Muscle Testing by Kendall & Kendall, I soon found the muscle that pulls the shoulder blade forward on the chest wall is the anterior serratus. There was a method for testing it that involved placing the patient's hand on the wall, then pressing on the spine in a forward direction. I did that, and the shoulder blade immediately stuck out.

My patient said he had had the condition for as long as he could remember. When I palpated the muscle on the side of involvement I found no muscle atrophy, which is the usual pattern that occurs, for example, if you keep your arm in a cast. Upon palpating the muscle I felt an unusual nodulation at the attachment of the muscle to the anterior and lateral aspects of the rib cage, which I didn't feel on the other side. The small nodulations were quite apparent to the palpating finger, and in an effort to identify their nature I pressed on them. Not only were they minimally painful, they seemed to disappear as I pressed on them with my palpating pressing finger. Encouraged by the apparent disappearance of the first one or two nodules, I continued to press on all of the small areas that we later learned to be avulsive in character, which means a tearing away of the muscle from its attachment on the covering of the bone, the periosteum. This tearing of the muscle attachment from the periosteum, produced a characteristic nodulation in these cases of micro-avulsion.

Having palpated and pressed on all the small nodulations coinciding with the attachments of the muscle to the rib cage, I then surveyed the muscle. It felt the same, but this time I noticed the patient's scapula (shoulder blade) lying in a normal position on the posterior chest wall. Surprised but pleased I repeated the test, having him place his hands in front of him against a plywood panel that separated one section of the office from another, and I pressed hard on his spine. The shoulder blade did not pop out, and he looked at me with an inquiring glance and said, "Why didn't you do that before?" I looked back at him, serious of face and direct of eye, and said, "Well, you have to build up to a thing like this. You didn't get sick overnight." It was an automatic response, but all I could think of at the time. He was pleased and I was delighted. It was unusual to see such a rapid response.

In an effort to identify this unusual reaction without revealing my surprise, I requested that he return to the office the next day so I could check on his hair loss. Surprised, he told me that he hadn't lost any hair in six months. I mentioned that he could never be too sure, so he showed up the next day. I looked at his hair and said it looked fine. Then I said, "By the way, let's test that muscle." The muscle remained strong and has done so ever since! I have seen this patient from time to time since that first incident in 1964.

Emboldened by this unusual success, I began to test muscles by the method of Kendall & Kendall that is used by military, civil and government agencies to

rate disability and is a standard method of diagnosis. I found that many patients showed muscle weaknesses. They also denied a history of trauma, but many patients responded to the hard, heavy pressure at the origin and insertion, although many did not.

Fundamentally, my rate of success with patients was rising and I communicated this method of testing along with the rather primitive method of treatment, to my colleagues. One of those colleagues, Dr. Pat Finucan, sent me a patient who had an unusual type of sciatic neuralgia, a painful problem involving the lower limb that caused severe pain if he were to stand, sit or lie down, but disappeared when he walked. Dr. Finucan had found a weakness of the tensor fascia lata, the muscle covering the lateral portion of the thigh that is associated with outward movement of the leg. Despite efforts to correct the muscle by spinal adjustment or locally, using the origin-insertion technique, he had been unsuccessful in relieving the patient's pain or changing the disability diagnosed by the muscle testing

Because of the unusual history, I felt that this was an involvement of the lymphatic system. It is drained by a variety of modes, but fundamentally by the squeezing action of the muscles on the lymph vessels. Walking relieved his pain, indicating this possibility. I palpated the lymph glands on the lateral aspect of the thigh and felt nothing unusual in comparison to the uninvolved left side. I also palpated for the potential of any sacroiliac disturbance, because occasionally we get lymph nodulation in the region of the sacroiliac joint if there is a sacroiliac disturbance. I found none of these, and the patient was in a great deal of distress while lying on his back. After palpating for diagnostic information, which I did not find, the patient looked up at me and said, "That's the first relief I've ever gotten." I looked at him and said, very bravely, "That's what you came here for," indicating that it was not the surprise to me that it was. Astonished by this rather quick success but not understanding the basis, I continued to initiate the palpation I had accidentally used to relieve his pain. He remarked that the pain he had experienced for many, many months was now completely absent; subsequent investigation and diagnosis revealed a complete disappearance of the longstanding and chronic irritation of the sciatic nerve.

My secretary, a very fine German woman, who had been with me for many years, had quite a bit of sinus trouble and consistently showed a head tilt when she had a sinus disturbance. Despite the fact that I could find a weakened muscle associated with the head tilt, the original technique used on the young man with the hair loss did not produce any muscle strengthening, nor did it affect the sinus involvement. Thinking that one had to simply palpate and treat the muscle, such as had been done to the sciatic patient earlier that afternoon, I tested her neck flexors by having her raise her head and turn it slightly to one side; the neck muscles tested weak. I attempted to repeat the procedure that helped the sciatic patient by running my hand along the lateral aspect of the sternocleidomastoid muscle that runs from the back of the head to the collarbone. I felt nothing different on palpating and testing the muscle with the technique used earlier in the day on the gentleman with sciatic neuralgia.

I triumphantly tried to test her neck muscles again, and to my chagrin her neck muscles were possibly even weaker than before, I almost injured her head by the sudden collapse of her neck to the testing direction of my hand. I said rather despairingly, "It sure seemed to work on that fellow this morning. I can't understand why it doesn't work on you now."

Then I thought that perhaps what I pressed on was something unassociated with the muscle itself, but possibly associated with some lymphatic circuit breakers postulated by an osteopath named Chapman. Chapman's reflexes were associated with organs and glands. I stimulated the sinus reflex of Chapman and not only did it improve her sinus condition, it also strengthened the sternocleidomastoid muscle. Investigation soon found specific muscles associated with the different Chapman reflexes. When stimulating the reflex strengthened the associated muscle there was often a change in the associated organ. By now I was becoming convinced of a relationship between muscles and particular organs or glands. A muscle moderately weak on testing often appeared to be associated with a weak viscera or organ. Evidence of a weak pancreas, stomach, liver, or kidney that could be measured by x-ray, biochemistry, or by some other accepted test, would correspond to a weakened muscle. This relationship,

rather tenuous at first, became more and more evident as time went on. The use of muscle testing gave a diagnostic ability to determine the need to stimulate the reflex and whether the stimulation was effective as observed by the muscle strength immediately improving. A more descriptive name for Chapman's reflexes is neurolymphatic reflex.

This began to explain, in part, the visceral improvements that occurred from musculoskeletal corrections. I found a strong relationship between the spinal level of neurolymphatic activity and structural aberrations of the spine, but this was not always the case. It was as if there might have been an original subluxation or lesion of the spine, a functional disturbance of the spine, that either spontaneously self-corrected or was corrected by manipulation, but the long-term effects of that disturbance remained. For example, if a heavy rug's eccentric position in a spinning home washer-dryer causes a vibration, the washer's vibration sensor turns the washer off to prevent damage from the vibration. This usually triggers an alarm as well until someone attends to the problem by opening the washer and, seeing the rug in an eccentric position, rearranges it. After closing the panel on the washer, a circuit breaker must often be reset. In other words, two things need to be done: rearrange the rug structure, and then reset a circuit breaker.

We postulated that the lymphatic centers were circuit breakers in this sort of analogous context. This proved to be a valuable system of analysis, and the response rate continued to rise in patients. We started to see more and more patients upon whom we did more and more muscle testing.

An Italian woman came to see me, complaining of a headache for 30 of her 49 years. On testing the muscles I observed some muscles to be weak on both the right and left sides of her body. I noticed that if she took a deep breath, some muscles on her right side strengthened; but the deep breath seemed to weaken the muscles on her left side. Instead of taking a deep breath and producing strength on her left side, letting the air out seemed to strengthen the muscles on that side. She also exhibited a rather unusual configuration in terms of analysis of the level of her head. Looking at the position of her ears in relationship to her head, the right ear was lower than the left, as was her occiput, a bone at the back of the skull. Looking at her from the rear confirmed lower on the right, but looking at her from the front revealed eyebrow and eye to be higher on the right and lower on the left, just the opposite of what I had observed looking at her from the back view.

Thinking perhaps that the patient's ears were in an altered position, I compared her ear position by measuring down from the vertex. I found that the ears were equally spaced on her head measuring from the top down, yet there was an obvious discrepancy between the level of her ears and the level of her eyes; instead of making a parallel pattern they made a wedge pattern, which was very confusing. Could this be related with a cranial fault as described by Sutherland?

I had been aware of the work of William Garner Sutherland, an osteopath who postulated the concept that the bones of the skull move as you breathe, much like the gills of a fish. He developed the concept that there is a vestigial gill mechanism in the skull, and by long experimentation on himself, using many ingenious devices, he attempted to limit the motion of his skull. By observation of his own response he published an original text entitled, The Cranial Bowl. His work was later documented and revised by Harold Magoun, DO, entitled Osteopathy in the Cranial Field. Both the first and second editions of Dr. Magoun's books are available.

The concept that the bones of the skull have motion was contrary to my anatomical and osteological training, yet in an effort to understand the problems produced by the patient I was examining, I attempted to make a gentle correction to her skull in coordination with her breathing. After four or five deep inspirations and expirations with my directed pressure on the skull she looked at me and her eyes widened as she said, "That's the first relief I've ever gotten." I looked at her, again serious face, and with true sincerity said, "Well, that's what you come here for," to again disguise my surprise at her rapid response.

We then began to test muscles with phases of respiration and found that many muscles respond to inspiration, some to expiration. Interestingly some

even respond to a half-breath held out, some respond only to a breath taken only at the nostrils, and some respond to a breath taken only at the mouth. Some respond to breathing through one nostril as opposed to the other, and some respond in an opposite fashion. We soon found fourteen basic cranial faults with the primary investigative method being what strengthened a weak muscle.

This resulted in many, many cases improving from numerous conditions. Investigation revealed that not only do the bones of the skull move in a predetermined fashion, but so do the vertebral segments which have a rocking-type of motion. We soon found there was also sacral and coccyx motion, as well as a specific pattern of motion within the entire pelvis that corresponds to the phases of respiration.

This new muscle association aided greatly in the application of the cranial concept. The Sutherland concept, as well as those that followed, used topographical anatomical changes for cranial corrections. The addition of respiration affecting muscle strength added a measure of diagnostic certainty and also safety to this relatively new science. Time has shown that a respiratory relationship exists in the spinal fluid flow rates; a critical factor in the production of routine cranial correction is to correlate muscle weakness that strengthens with respiration.

While lecturing in Rochester, NY, I was asked to treat a young boy with asthma. The usual medications had been ineffective, but he was having some response to chiropractic technique by a young doctor attending the lecture. The boy was suffering an acute asthmatic episode at the time of the lecture. I saw him during the lunch period.

By now we had found that the adrenal glands are responsible to a great extent for failure to produce adequate adrenalin, agreeing with the medical approach—the crisis care type of approach to asthma seemed time-honored, at least pharmaceutically. We found a weak sartorius and gracilis muscle that time had shown to be related to potential failure of lymphatic circulation to the adrenal gland, but investigation of the neurolymphatic reflexes and their treatment did not change the weakness found on testing the sartorius muscles.

The young boy was lying on his back, one foot pointing straight up and the other foot lying loosely to one side. In an effort to correct the problem I had already used the neurolymphatic reflex and attempted an origin-insertion technique, with no success. I knew that occasionally the lymph system is sluggish because of failure of the system to drain. I used what was called a lymphatic pump. This, too, was unsuccessful, but I was aware of a primitive cranial technique of simply spreading the cranial sutures as advocated by Dr. James Alberts, Sr., a very fine chiropractor in the Southwest.

On attempting to spread the cranial sutures in a very simplified fashion there was no change. To evaluate the problem I re-attempted to spread the sagittal suture, which experience had shown me was occasionally of some value in lymphatic blocks. My index fingers were resting on the posterior fontanel area with the rest of my fingers spreading the sagittal suture on top of the skull. I felt an insistent pulsation, very faint at first, at the posterior fontanel. The pulsation was 72 beats per minute despite the fact that his carotid arteries were beating at a rate of about 120 and his respirations were at least 40. I placed my fingers on a wall to see if I still felt the 72 beat, maybe coming from my own fingers; it was not there. I reapplied my fingers to the posterior fontanel and again felt the pulsation that became more insistent and persistent and gaining in strength. Finally the young man gradually stopped his labored breathing, took a deep breath and began to breathe easily. Simultaneously his foot rotated up into a parallel position with its opposite member. The doctor attending the youngster, who had asked me to see the patient, looked at me and said, "Good gracious, Doctor, that's marvelous." And I looked at the doctor, very serious of face, and said, "That's what you come here for."

I recognized the pulsation might relate to reflexes first discovered by Terence Bennett, a chiropractor in California. He developed a foundation for teaching his material and wrote extensively in the early '30s on the technique. With his departure from active practice, and upon his death, Dr. Floyd Slocum, one of the early pioneers in the American Chiropractic Association, took over his activity. The Neurological

Research Foundation continues to be active under the auspices of Dr. Martin King from California.

Continued investigation found many of the Bennett reflexes related to muscle weakness. We now had another method, called the neurovascular reflex technique, for the correction of muscle weakness. The methods now included the hard, heavy pressure at the origin and insertion of the muscle described earlier, the activation of the neurolymphatic reflexes, the application of cranial technique, and the use of neurovascular receptors.

By now I had become pretty well convinced of a relationship between viscera and muscle. A patient and good friend returning from Hawaii brought me one of the first copies of Felix Mann's book, Acupuncture, Ancient Chinese Art Of Healing, published by Random House. In the book's chapter entitled "The Five Elements," on page 92, he spoke about an organ relationship which included many aspects of acupuncture, giving four points to tonify or stimulate the area and four points to sedate if the organ was overactive.

In an effort to relate these points to kinesiology parameters, we attempted stimulating the points for tonification and found occasional response in muscles. Attempts to weaken muscles with the sedation points found occasional response in muscles. I wrote the first book showing acupuncture's relationship to applied kinesiology in 1966. It was the only AK research manual that did not go to a second printing; the concept was too new at the time. Since that time acupuncture has grown to be a standard portion of applied kinesiology and forms a basis of much of the information we have been able to identify about the meridian system.

We now have five arrows, so to speak, in our quiver. We can shoot an arrow along the origin-insertion, neurolymphatic, neurovascular, cranial, and the acupuncture path. Each of these develops its own rules and special circumstances.

Applied kinesiology is based upon the fact that body language never lies. The opportunity of understanding body language is enhanced by the ability to use muscles as indicators of body language. The original method for testing muscles and determining function, by the methods first advocated by Kendall and Kendall, is a prime diagnostic device. Once muscle weakness has been ascertained, a variety of therapeutic actions is available too numerous to enumerate here.

The opportunity to use the body as an instrument of laboratory analysis is unparalleled in modern therapeutics because the response of the body is unerring. If one approaches the problem correctly, makes the proper and accurate diagnosis and treatment, the response is adequate and satisfactory to both the doctor and patient.

The name of the game, to coin a phrase, is to get people better. The body heals itself in a sure, sensible, practical, reasonable, observable, predictable manner. "The healer within can be approached from without." Man possesses a potential for recovery through the innate intelligence or the physiological homeostasis of the human structure.

This recovery potential with which man is endowed needs the hand, the heart, and the mind of a trained individual to bring it to potential being, and to allow the recovery to take place which is man's natural heritage. This benefits man both individually and collectively, and it also benefits the doctor who has rendered the service allowing the force that created the structure of the body to operate unimpeded. This benefit can be compounded by knowledge with physiological facts and with predictable certainty.

2006 (Nov 13): e-mail from (cranialdc@hotmail.com):

Dear ICAK USA Board,

I just talked with Don McDowall who was visiting with Dr. Goodheart and Joanne. His report:

"Hi Scott,

I felt George has done everything he set out to do and is at peace with himself. He was excited about the Standard Process Program he did. He feels there is a lot that the AK org can still learn from nutrition. We talked about some of those stories. He was frustrated with his slow memory.

It is cold here in Detroit.

I think his goal is the next Detroit meeting."

Dr. McDowall then spoke about his desire (which was expressed at our last ICAK USA Board Meeting) to see Dr. Goodheart's manuals and other writings made available to a new audience. Many of the students new to AK don't even know that Dr. Goodheart's manuals exist and have no way of getting them if they want them (at least the vast majority of them). There is a lot of information in them that has never been promoted. The thinking processes and deductions and background that Dr. Goodheart used to create AK will be lost to the next generation if it isn't represented to the profession every generation.

Dr. McDowall wondered with me how this could be encouraged...?

This repeats the ICAK USA Board Discussion we had in the last meeting. ICAK USA could and should hire a professional writer to review all of Dr. Goodheart's written material, and then out of that process create:

"The Selected Writings of George J. Goodheart, Jr.: Founder of Applied Kinesiology Chiropractic Technique."

Such a book could be offered to Eastland Press or North Atlantic Books (who publish chiropractic authors regularly).

If I had a full year to give to that project I could do it myself...but the reward (personal reward) wouldn't be enough. How much would it cost us to hire someone to do this work and could we find someone who knew enough about AK to make the best choices?

Could Joseph Keating be hired for this work...he's a brilliant chiropractic academic, a very fine writer, knows our profession's leaders and their value better than almost anyone in the world, and as you remember he was very fond of Dr. John Thie.

This project should be started very soon in my opinion....

Let's think about this. Producing a very fine book in the next year:

"The Selected Writings of George J. Goodheart, Jr.: Founder of Applied Kinesiology Chiropractic Technique."
Scott Cuthbert, D.C.
ICAK USA

Resources

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Response to the "Quintessential Applications Clinical Protocol" Developed by Dr. Walter H. Schmitt

Matthew G. Keschner, D.C., CCSP

Abstract

Objective: Demonstrate the utilization of the "Quintessential Applications" Clinical Protocol in the rapid and successful evaluation and treatment of a patient presenting with chronic neck, shoulder, and arm complaints.

Clinical Features: The patient presents with a history of chronic neck, shoulder, and arm complaints, without relief from prior therapies.

Intervention and Outcome: The application of the Quintessential Applications Clinical Protocol led to rapid improvement and resolution of symptoms.

Key Indexing Terms

Applied Kinesiology, Quintessential Applications, IRT, Systemic Factors, Protocol, Neck, Radiating Pain, Chronic Pain

Introduction

The Quintessential Applications Clinical Protocol provides the Applied Kinesiology practitioner step-by-step functional neurological assessment procedures for a diverse range of patients with varying symptoms and conditions. The QA Protocol addresses ingrained responses to traumatic injury, systemic nutritional factors (the body biochemistry), systemic structural factors (including neurological switching and cranial faults), systemic endocrine effects, sources of autonomic dysfunction and GI disturbance, emotional stress, spinal and extraspinal subluxations, and gait. By treating the body as the sum of its parts, systems, and processes the desired outcome is reached in an efficient manner, regardless of the condition.

Materials and Methods

A neurologically based comprehensive clinical protocol, presented in a clinical reference manual, *Quintessential Applications: A(K) Clinical Protocol,* co-authored by Walter H. Schmitt, DC, DIBAK, DABCN and Kerry M. McCord, DC, DIBAK,[1] and discussed in the ICAK Paper of the Year, *A Neurological Rationale for a Comprehensive Clinical Protocol Using Applied Kinesiology Techniques* written by Dr. Walter H. Schmitt (2005),[2] was used in the evaluation and treatment of a patient with chronic radiating pain, chosen without regard for race or gender, and whose case history appears below. The clinical protocol proposed by Dr. Schmitt utilizes, as co-written by Schmitt and McCord, "the manual muscle testing response (inhibited, facilitated, over-facilitated) as a reflection of the status of the anterior horn motor neuron pool (AHMN) for the muscle being tested. Sensory receptor based diagnostic challenges result in muscle testing outcomes

(changes in the AHMN) that are then used to direct appropriate therapy."[2] The protocol begins with the utilization of IRT to "reduce cortical and/or cerebellar asymmetry and restore normal muscle spindle control mechanisms," which subsequently optimizes response to subsequent therapies. Systemic nutritional factors are then addressed as they are "vital for proper healing and have a direct impact on nerve, brain and immune function, inflammation, energy production, tissue oxygen supply, cartilage and connective tissue repair." Ensuing attention to systemic structural factors then has "a direct impact on the mesencephalic reticular formation affecting pattern generation, TMJ muscle function, and autonomic expression." Further, nutritional factors in the form of the Citric Acid Cycle and Electron Transport Chain components are then assessed, "assuring adequate ATP production, the production of carbon dioxide, synthesis of bicarbonate ion (important for cerebrospinal fluid, hydrochloric acid, and pancreatic enzyme production) and optimal neuron firing." Following the favorable influencing of neuroimmunologic function, "heart-focused activity positively influences autonomic, endocrine, and immune function." With sources of endocrine disturbance including injuries, immune dysfunction, histamine elevation having already been addressed, the need for increasing or decreasing endocrine function is then identified, which may be influenced by faulty liver detoxification. Hyperinsulinism is also considered. Further assessment of gastrointestinal tract function is then performed, including evaluating for hiatal hernia/GERD "prior to examining the Ileocecal Valve as part of a fully integrated digestive system." With biochemical, neurological, and gastrointestinal factors ameliorated, the practitioner is then directed at "relieving persistent somatic manifestations of emotional stress." "At this juncture, local problems, including origin-insertion, Chapman's Reflexes, fascial sheath shortening, iliolumbar ligament," spinal and extraspinal subluxations (with special attention to the importance of coupled spinal motion), are addressed. Near the end of the treatment session, gait assessment confirms that "necessary mechanical corrections have been effectively made" and assesses if further therapy is needed. If pain persists, LQM and Tonification Point techniques are most effectively utilized.

The QA Clinical Protocol's easy to use format, and rapid favorable responses in treatment settings suggest applicability in the care of any and all patients in an applied kinesiology practice. The QA Protocol's attention to all systems and processes of the body eliminate second-guessing by the practitioner and provides a thorough, effective, and efficient treatment.

Discussion

HISTORY: Single 26 year old African American female, 5'3", 115 lbs presented with general fatigue, neck pain radiating into her right shoulder and arm, with severe tenderness in the right upper trapezius region. The patient has had neck pain radiating into her shoulder for several months, with the condition (reported by the patient as) turning "severe" two weeks prior to her initial visit in our office. Etiology and cause of the increase in severity was unknown by the patient. The patient appeared well-nourished, and was able to work (duties: computer, phone) at the time of the initial visit.

Visit #1:

The patient presented with the following weak muscles: Right PMS, bilateral Latissimus Dorsi, bilateral SCM, left quadratus lumborum, left gluteus medius, and left psoas. Using a Subjective Pain Scale: The patient reported pain at a 9 on a pain scale of 1–10 (10 being most severe).

Assessment and Treatment: Injury Recall Technique provided immediate strengthening of the right SCM. The right PMS responded favorably to the oral administration of aspirin, acetaminophen, and ibuprofen mixture and anti-histamine mix (yakriton, cimetidine, diphenhydramine) suggesting the presence of fatty

acid balance and allergic hypersensitivities and was followed by evaluation for nutritional need. Further assessment revealed negative neuromuscular effects from the tasting of peanuts, coffee, wheat and animal fat. IRT was performed while the patient therapy localized to organ related neurolymphatic reflexes identified, with corresponding offender(s) on the tongue. The patient was instructed to abstain from ingesting the offenders identified. Further assessment revealed that the sniffing of bleach caused weakening of a strong indicator muscle (left PMC). No nutrients tested on that visit resulted in resolution of the bleach sniff induced weakening. IRT was performed to liver and lung neurolymphatic reflexes following bleach sniff. Indicator muscle now strengthened following IRT. *Paper bag breathing caused the response of a strong indicator muscle weakening*. In this case, oxygenation technique (adjusting pelvis, lower anterior ribs, and clavicles in I-S vectors during inspiration; spreading mandible and palate during inspiration) was performed which resolved the re-breathing induced weakness. Evaluation of endocrine systemic factors revealed a need for thyroid neurolymphatic reflex stimulation. The thyroid neurolymphatic reflex was rubbed for approximately 30 seconds, followed by cold low level laser (645 nm) therapy treatment, using an AMD Quantum IV, on the neurolymphatic points at 59 Hz and 42 Hz simultaneously for 90 seconds. Assessment of the diaphragm indicated the need for rubbing of the sternal (diaphragm) neurolymphatic reflex for 30 seconds, and "turning down the psoas" using neuromuscular spindle cell activity to inhibit. No fixation of the dorsolumbar area was found. An open ICV was found and the patient tested positive for calcium lactate. The patient was advised to take 5 Calcium Lactate per day on an empty stomach. Evaluation of structural factors including spine and extremities revealed fixations along the neck and back from T10 to C1. These were addressed. The spine was evaluated using FRA (flexor reflex afferent) revealing a need to adjust the Sacrum, T10, T5, T2, C5, and C2. A percussor (by IMPAC) was used for 30 seconds on all adjusted segments. A spinal extensor inhibition pattern was identified and corrected using spindle cell and golgi tendon organ activity, followed by flushing the fascia of the soles of the feet. It was suggested that the patient return for follow-up in 3-4 days, but was unable to return for one week.

Visit #2 (one week later):

The patient reported feeling much better for two to three days, but then the pain returned. She reported pain in her shoulders and neck, with radiating pain into the right arm. She also reported fatigue. The patient reported her pain at a 7 on pain scale of 1 to 10 (an improvement over the initial visit).

Muscle testing revealed weakness of: Bilateral latissimus dorsi muscles and left psoas. Right PMS, bilateral SCM's, left quadratus lumborum, and left gluteus medius previously identified were now facilitated, showing drastic improvement in terms of quantification of facilitation of previously identified weak muscles.

Assessment and Treatment: The left psoas responded favorably to the oral administration of acetaminophen, and ibuprofen mixture and anti-histamine mix (yakriton, cimetidine, diphenhydramine) suggesting the presence of fatty acid balance and allergic hypersensitivities and was followed by evaluation for nutritional need. Further assessment revealed negative neuromuscular effects from the tasting of wheat and animal fat. IRT was performed with offenders in the mouth and patient therapy localizing the corresponding neurolymphatic reflexes. The patient was again instructed to abstain from ingesting offenders identified. The assessment of endocrine related activity revealed a need to stimulate large intestine neurolymphatic reflexes. These were rubbed for 30 second followed by cold low level laser (635 nm) therapy treatment, using an AMD Quantum IV for 90 seconds with simultaneous frequencies of 20 Hz and 42 Hz on the neurolymphatic points for the large intestine. The ICV was again open and the patient again tested positive for calcium lactate. The patient was advised to continue to take 5 Calcium Lactate per day on an empty stomach. Ileal Brake was identified and corrected by rubbing the Liver neurolymphatic reflex with extra virgin olive oil in the mouth. Evaluation of structural factors including spine and extremities utilizing FRA (Flexor Reflex Afferent) activity

revealed subluxations of C2, C5, T1, T3, T10, and Sacrum. These segments were adjusted after coupled spinal motion was confirmed. The percussor (IMPAC) was then used for 30 seconds on all adjusted segments. The patient was instructed to return in three days.

Visit #3, three days later:

The patient no longer has any pain in the back or neck nor radiating into the upper extremity. She reports that her arm feels "fine". Her subjective pain scale score was 3 (Pain Scale of 1–10), but remaining complaints included: her neck feels "fatigued", and her shoulders "pop," but without any perceived pain.
Upon muscle testing evaluation, the following weak muscles were found: Left latissimus dorsi, left quadratus lumborum, left psoas, right deltoid, right tensor fascia lata.

Assessment and Treatment: A strong PMS weakened with cheese (as a source of cholesterol) in her mouth, but strengthened with TL to the liver neurolymphatic reflex. The Liver neurolymphatic reflexes were rubbed with cheese in mouth. This resulted in the facilitation of the left LAT, the left quadratus lumborum, and the right deltoid. Evaluation of systemic endocrine effects revealed that both the TFL and psoas muscle responded to therapy localization of the kidney neurolymphatic reflexes. Further assessment utilizing the knowledge of the five factors of the intervertebral foramen revealed the need for stimulation of the Large Intestine Luo Point (to draw energy between kidney and large intestine meridians). Stimulation of kidney neurolymphatic reflexes for 30 seconds, was followed by stimulation of large intestine meridian The LUO point was stimulated using a Tei-Shin (25 taps). Further assessment of the gastrointestinal tract yielded no significant findings. Evaluation of local problems including spine and extremities using FRA (Flexor Reflex Afferent) activity revealed subluxations of L3, T2, C7, and C3, and misalignment of Scapulothoracic joint. All spinal segments were adjusted, scapular mobilization performed, and the percussor used on all adjusted segments and the scapula.

The patient exited the office commenting that she felt "100%, with no complaints whatsoever." Follow-up was suggested in 10 days, but patient insisted she would call if she had further problems, reporting financial concerns as being a factor.

Phone follow-up one week later revealed that the patient had remained pain-free and reported no fatigue or persistent complaints.

Conclusion

The use of an organized, coherent, and comprehensive clinical protocol allows the practitioner to review all systems of the body, and treat the patient that has the condition instead of focusing on a condition that seemingly owns the patient. The QA Clinical Protocol is easy to follow, eliminates second-guessing, and accelerates results. This practitioner took it upon himself to utilize cold laser therapy, Luo points, and percussion. These modalities/techniques are not a part of the Quintessential Applications Clinical Protocol, however, the QA Clinical Protocol is an open system. It is open to the application of techniques and procedures past, present and future. It suggests that these techniques be appropriately placed in a neurological and biochemical hierarchy so that the response to whatever therapy employed is optimal. Therefore, any effective therapy has a place within the QA Clinical Protocol. The ordered accomplishment of physiologically defined tasks is the dominant feature of this open system.

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Division II

Critical Review

Applied Kinesiology and Pediatric Crohn's — A Case Study

Alexander W. Bellinghausen, D.C.

Names of departments and institutions to which work should be attributed: Dr. Walter Schmitt D.C., DIBAK and Dr. Terry McCord D.C., DIBAK with Quintessential Applications; Dr. Harry Eideneir, Jr. with Balancing Body Chemistry With Nutrition; Dr. Herve Bezard,M.D. with Family Doctors of Boulder City, Nevada; the doctors and staff of Sunrise Children's Hospital, Nevada; the doctors and staff of Desert Radiologists of Nevada.

Disclaimer

Applied Kinesiology is a system of diagnosing and correcting the altered functioning of a person with a named or unnamed condition; the treatment contained here is not "cookie-cutter", it was and continues to change to meet the needs of the patient in real time. This is one of the benefits of Applied Kinesiology when used appropriately. Dr. Alexander W. Bellinghausen, D.C., 1330 S. Eastern Avenue, Las Vegas, Nevada, 89104, 702-382-4546, 702-382-4499

Abstract

This case study discusses a pediatric patient diagnosed with Crohn's disease presenting with chronic abdominal pain who is, with their parant, seeking a doctor who practices applied kinesiology for a viable alternative treatment to recommended bowel resectioning. Applied kinesiology diagnostic and corrective techniques, chiropractic adjusting, detoxification protocol, gluten free diet, interpreting blood chemistry functionally, and CT's of the abdomen and pelvis with contrast are used during the recorded three month period.

Key Indexing Terms

Abdominal Pain, Applied Kinesiology, Balancing Body Chemistry With Nutrition, Bowel Resectioning, Chiropractic, Crohn's Disease, CT of the Abdomen and Pelvis with Contrast, Detoxification, Enteric Nervous System, Functional Interpretation, Functional Neurology, Gluten Free Diet, Secondary Hyperalgesia.

Introduction

A 12 year old female was referred to my care by her mother complaining of lack of sleep due to chronic lower right abdominal pain described as cramping, pressing, and 10/10 VAS; intermittent bouts of anorexia, nausea, diarrhea, constipation, and pain in the right wrist. Only administering 10 mg.Prednisone at night and 10 mg. in the morning allows her relief enough to sleep and move. She is also taking aloe vera, probiotics, digestive enzymes, Omega 3-6-9 oils, and Benedryl. She appears pale and bloated.

The patient has been medically diagnosed with Crohn's disease. CT imaging of the abdomen and pelvis with contrast suggest two abscesses of 3.3 x 2.5 cm. and 2.9 x 3.2 cm., lymph nodes throughout the whole mesentery and edematous changes of the inferior mesentery, a long segment of of diffusely thickened portions of the terminal ileum consistent with a history of Crohn's disease as well as some mild stricturing of the small bowel.

Blood studies were allopathically interpreted as within normal limits bicarbonate of 28, amylase and lipase normal, CRP is 3.9, hemoglobin of 12.6, albumin is 3.6. Functionally interpreted as requiring support for anemia, immune system, and digestive dysfunction. (See chart).

Initial examination observes bilateral abdominal bulging with increased tissue tension over the region; warmer over the lower right abdominal area, increased lumbar lordosis, anterior pelvic tilt. Injury Recall Technique is applied. A right T-10/Small Intestine nodule on her T.S. line is found; weak bilateral quadriceps, weak bilateral tensor fascia lata muscles individually and then simultaneously after they were facilitated individually; weak abdominal rectus muscle; weak bilateral gluteus maximus; all muscles, except simultaneous bilateral weak tensor fascia lata muscles, strengthened with T.L. (therapy localizing) to small intestine Chapman's reflex. She is positive for aerobic deficiency, anaerobic excess, bilateral sphenobasilar inspiration faults, open ICV (ilio-cecal valve), hiatal hernia, Category II, taut and tender fibers of L-2 and L-4, Category I, atlanto-occipital fixation, bilateral hip imbrication, bilateral talus subluxation.

The tenderness of the lumbar vertebrae decreased 75% and the right lower abdominal area rated 1/10 VAS. Individually and with corrections between lingually testing gluten, dairy, and sugar; the pain located in the right lower abdominal area increased to 8/10 VAS. I had her complete a Biotoxicity Symptom Questionnaire indicating a moderate toxicity of 33. The completed Health Assessment Questionnaire indicated liver distress. The steps to helping her was to decrease the inflammation and what triggered it by supplementing her body to detoxify, keeping a food journal, staying on a gluten free diet, and supporting her body's immune system. She's to come in two times a week and maintain the nutrition that has tested well with her.

Material and Methods

Balancing Body Chemistry Health Assessment Questionnaire and Evaluation of the Balancing Body Chemistry Health Assessment & Blood Chemistry software are proficient tools to complement the diagnostic history taking and physical exam to match the treatment to the patient as well as quantify measurable outcomes on their progress. The one page, two-sided Health Assessment Questionnaire is filled out by the patient along with their case history; the results can be tallied within a minute and are accurate.

The functional or metabolic blood chemistry ranges differ from the commonly used or allopathic blood chemistry ranges by empirically recognizing patterns of dysfunction before they become "crises" as well as provide doctors with nutritional/supplemental guidelines as well as provide other possible considerations to match the treatment to the patient. The patterns described in the software and corresponding manual are the result of information gathered between 1980 and the present on over 10,000 people using what was known as the Biochemical Biopsy, a blood test that used electrophoretic methods, colorimetric studies, atomic absorption spectroscopy, hormonal studies, and standard hematological studies. It has been and continues to be integrated into information developed from physical examination, symptom histories, urinalysis, comprehensive stool and digestive analysis, and other diagnostic criteria available to the doctors who participate(d) in the gathering of information.

The Biotoxicity Symptom Questionaire is developed by the BioMedical Institute of Complementary Healthcare. It is a simple and effective way to assess detox needs and progress.

Biotics products used include Bio-Detox packs, Nutriclear, Whey protein, Dysbiocide, Intenzyme forte, Bio-Allay, Mg-zyme, IPS, Gastrazyme, Neutrophil Plus, Cyto-Pan.

Metagenics products used include Zinc AG, Glutagenics.

Quintessential Applications is a physiologically based, basic science driven, neurological heirarchy for the ordered application of clinical procedures and techniques. The ileal brake reflex indicates that fatty acid anywhere in the intestinal lumen stimulates enteric neurons to diminish peristaltic activity at the ileal area (a "closed ileo-cecal valve"). The ileal brake challenge is performed after correcting any ICV problems. If a positive challenge for a closed ICV occurs after lingually testing good fat with the patient, have the patient T.L. to the Chapman's reflexes for pancreas, liver, then gall bladder to identify which one negates the fat-induced ICV closed challenge. Next, identify which substance negates the positive challenge. For the patient of the case report, it was the Chapman's reflex of the pancreas and Cyto-Pan (Biotics) negated the positive challenge.

Knee to chest exercise is implemented for strengthening lower abdominal muscles which then promotes improved circulation of the lower extremities and "massages" the organs of the pelvic region.

This exercise is sandwiched between supine "swinging the knees" left and right. Patient is supine on a firm surface with arms stretched out perpendicular to the torso and palms up. The knees are bent with feet on the surface. Patient is then instructed to "swing" knees together gently to the left and then to the right while continuously breathing.

Results

Her fever resolved the night of the first visit,the pain and the bloating of her belly gradually decreased, the Biotoxicity Symptom Questionnaire was filled out again 11/5/07 and indicated a low toxicity of 6. She experienced exacerbations with various foods and supplements not recommended by me which were noted in the food journal I recommended they maintain.

C.T. imaging of 12/7/07 indicated previously seen periileal abscesses had resolved except for some pockets of free air noted in the areas of residual abscesses/scars.

Blood work of 12/12/07 indicated improvement of WBC, serum glucose, and sed rate. No serum differential was performed at this time.

I instructed her to begin active stretching of abdominal region by having her lie supine and, with feet on floor, swinging her bent knees to the left and to the right to decrease the fascial tension. On 12/21/07, she tested (+) for ileal brake (see Quintessential Applications)with fats and sugar which resolved with Cyto-Pancreas. She was practically symptom free by 1/2/08. Her usage of prednisone has been reduced about 75%. I was still addressing Categories I and III, therefore, pelvis integrity not yet returned. With improvement of symptoms,including her right wrist which I had not addressed, their visits decreased against my recommendations.

After being absent for over two weeks, the patient went to the emergency room on 1/19/08 with pain in the lower right abdominal quadrant and in the right buttock as well as a fever of 103 F. She was hospitalized for two days. Her WBC count is rising again and neutrophils are high out of normal range. C.T. scan showed no abscesses. She was prescribed antibiotics.

She returned to my office on 1/22/08. T.S. line and weak infraspinatus indicated immune dysfunction which resolved with lingual supplementation previously recommended and Chapman's reflex stimulation for immune system. Pain in the right lower abdominal quadrant, right flank, and right wrist were resolved with lumbo-sacral adjustment, bilateral spheno-basilar inspiration assist cranial correction, right frontal cranial correction, and right quadratus lumborum Chapman's reflex stimulation. I discovered at end of visit that the E.R. visit had resulted after using a glycerin suppository. They state they will be seen by me weekly.

Update as of 3/11/08; other than intermittent pain without Prednisone, patient is symptom free; patient is on 2.5 mg. Prednisone per day (decreased 90% usage since initial visit). Results are pending for an upper G.I. test. She is still being told 15 inches of ileum are required to be removed even though her symptoms have abated. She is improving and her visit schedule is now once every two weeks.

Blood Test	Allopathic Range	Test Value	Optimum Range
Glucose	70–110	101/ 131/ 119/ 118	80–95
Creatinine	0.5–1.5	0.54/ 0.58/ 0.6/ 0.8	0.6–1.1
BUN	5–20	15/ 5/ 5/ 10	10–15
Potassium	3.5–5.0	3.9/ 4.0/ 3.2/ 3.8	4.0–4.5
Sodium	135–150	137/ 138/ 140/ 137	135–142
Chloride	98–111	103/ 101/ 105/ 100	100–106
CO2	21–31	28/ 25/ 24/ 21	26–31
Anion Gap	5–19	9.9/ 16/ 14.2/ 19.8	8–12
Calcium	8.0–10.5	9.5/ 9.8/ 9.4/ 8.7	9.4–10
Total Protein	6.0–8.5	7.4/ -/ 6.8/ -	6.8–7.4
Albumin	3.5–5.5	3.6/ -/ 3.8/ -	4.0–4.9
Total Globulin	1.5–4.5	3.8/ -/ 3.0/ -	2.4–2.8
ALP	70–490	114/ 75/ 78/ -	60–300
AST	0–40	50/ 13/17/ -	10–30
ALT	0–40	37/ 10/ 8/ -	10–30
Bilirubin (Total)	0,1–1.2	0.46/ 0.3/ 0.1/ -	0.1–1.2
ESR	0–20		
WBC	4–12.5	20.2/ 11.9/ 15.6/ 12.2	5.0–8.0
Neutrophils	33–57%	81.2/ 76.7/ -/ 90.0	40–60%
Lymphocytes	28–52%	7.2/ 17.7/ -/ 2.0	24–44%
Monocytes	2–12%	8.8/ 5.6/ -/ 1	0–7%
CRP	0–4.9	3.9/ 162.1/ -/ -	0–3.0
Platelets	140–440	380/ 468/ 415/ 349	150–450
RBC	3.8–5.2	5.61/ 5.4/ 5.02/ 4.97	3.9–4.5
Hct	34–46	39.8/ 36.8/ 34.8/ 33.6	37–44
Hgb	11.6–14.8	12.6/ 11.1/ 11.2/ 11.1	13.5–14.5
MCV	80–98	71/ 68/ 69/ 67.7	82–89
MCH	27.0–34.0	22.5/ 20.6/ 22.3/ 22.3	27–31
MCHC	31–37	31.8/ 30.2/ 32.1/ 33.0	32–36
RDW	11.7–15.0	17.8/ 17.3/ 18.6/ 17.6	0–13.0

The Blood Test indicates the specific serum/blood markers.

The Allopathic Range indicates what is typically used; a person is "healthy" if the value of the chemistry is within the Allopathic Range and "dis-eased" if outside of that range.

There are four values under Test Value for the four different dates the patient had her blood drawn; October 16, 2007/ November 19,2007/ December 12,2007/ January 18,2008.

The Optimum Range is the functional interpretation; a person is at their "optimal health" if within the Optimal Range and "patterns-need-to-be-checked-before-it-becomes-a-crisis" &/or a "crisis" is occuring when the value is on one side or the other of "low alert" and "high alert",e.g., the low alert for Potassium is 3.3 and and less; the high alert for Potassium is 5.3 and more.

Discussion

There is no known etiology of Crohn's, however, Crohn's has been associated with food allergies, non-celiac gluten sensitivity, infection, a gene involved with recognizing microbes and signaling an appropriate immune response, dysbiosis, and stress. It appears, in recent research, changed activity of of the gut-associated mucosal immune system alters signalling between cells locally and in areas distant from the site of origin. Individuals with Crohn's have a increased production of substances that bring about inflammation such as interleukin 1 & 6, and tumor necrosis factor alpha. This is found in regions of the body rich in macrophages. This region also produces adhesion molecules including intercellular adhesion molecule - 1 (ICAM-1). When there is more pro-inflammatory production than anti-inflammatory production in the body, the gut permeability (also known as "leaky gut" syndrome) associated with Crohn's increases. This increased mucosa permeability can further imbalance the intercellular signals by releasing more pro-inflammatory cytokines resulting in chronic inflammatory conditions.Celiac dis-ease has the characteristic displays of flattened villi, crypt hyperplasia, and increased intraepithelial lymphocytes of the small intestines. All these features improved with a gluten-free diet.

Even with dietary changes and supplemental support, lumbo-sacral adjustments appear necessary in pain reduction and health restoration evidenced by the patients return of symptoms when she did not return as scheduled. Secondary hyperalgesia is a phenomena of increased pain sensitivity in regions distant to the site of injury or inflammation and is associated with visceral hypersensitivity and distention. Secondary hyperalgesia results from the altered mechanisms of synaptic transmission in the spinal cord. Remember the pain in the right wrist?

A glycerin suppository is trihydric alcohol that draws water from the tissues into the feces to stimulate evacuation. A person with increased gut permeability can be more sensitive to such an exchange of water. Adverse reactions listed to glycerin suppositories include gastrointestinal cramping pain and hyperemia of rectal mucosa.

The patient's most pressing concern at this time is her apparant inability to grow taller associated with the thickened walls of the intestine. I am actively seeking and open to practical information regarding this.

Conclusion

Applied kinesiology is a potent system that creates a focused direction with clear purpose to facilitate the healing ability of a person lost within a maze of symptoms and unknown etiologies. I will continue to facilitate her healing with a gluten free, dairy free, and whole foods diet to prevent triggering an inflammatory response; nutrient and herbal supplementation to assist strengthening her systems; continued chiropractic adjustments to stimulate and recondition her appropriate neurological synaptic transmissions and innate healing abilities; and continue utilizing applied kinesiology to match her treatment to her needs.

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A Case History – AK, Hypertension, and the Cranial Connection

Alexander W. Bellinghausen, D.C.

Abstract

This is a case study of a 79 year old caucasian female who presented to my office with headaches and arthritic pains. After two weeks of treatment, her blood pressure reading of 160/95 at the time of initial exam rose to 200/100. It would resolve with cranio-sacral techniques, however, not remain resolved. It was eventually observed that ill-fitting dentures disrupted the corrected cranial motion concomitant with the hypertension and headaches she was experiencing.

This demonstrates how inclusive applied kinesiology is to finding and correcting multiple trouble areas.

Key Indexing Terms
Applied Kinesiology, Cranio-Sacral Techniques, Dentures, Headaches, Hypertension

Introduction

The 79 year old female caucasian patient had pleasant disposition even though she suffered from intermittent suboccipital and hat band-like headaches; undiagnosed arthrititic pains of the hands, shoulders, and low back; loss of appetite; and loss of weight.

She informed me she had taken care of her husband who had been diagnosed with Alzheimer's 10 years previous and had recently placed him in a home. During that time she lost contact with friends and family and learned to live on a very tight budget. She smoked a pack of cigarettes a day, didn't drink much water, diidn't have much of an appetite, and had a glass of wine each night before going to bed.

I observed she had thin skin which tented for longer than six seconds after a light "pinch" on the anterior surface of her forearm and under her clavicle, a dry mouth with sticky saliva. She told me any lotion she put on was "sucked up" quickly. All indications of dehydration.

Seated blood pressure 160/95 dropped to 142/90 upon standing, then raised to 166/95 returning to a seated position indicating hypoadrenia. She was positive for the ligament laxity test. High left shoulder, bowed shoulders, anterior head, and loss of lumbar curve were noted.

T.S. line had a nodule at left T-6.Palpation evidenced decreased upper and lower rib excursion with bilateral taut and tender neck flexors. She was positive for Category II, Category I, and Category III. She had multiple fixations.

She was sensitive about how she looked without her dentures in her mouth and refused to remove them to allow cranial therapy.

Her symptoms of adrenal dysfunction were concomitant with the physical stressors associated with the pains of arthrits, headaches, and poor posture; the chemical stressors associated with her blood sugar imbalance associated with the high sugar/low, protein soft foods intake, dehydration, and smoking and; her emotional stress of isolation from friends while taking care of her husband with Alzheimer's for a decade on limited funds.

I adjusted her Categories with blocks and her fixations with an activator. I stimulated her adrenal and pancreas Chapman's neuro-lymphatic and neuro-vascular reflexes.

Her weak neck flexors did not strengthen with any of the five IVF factors. I listened to her and held her emotional points, stomach neuro-vascular points, while she thought of what distressed her like feeling alone. Her neck flexors strengthened.

She informed me she could not afford all the supplements for which she lingually tested well, so she purchased the essential fatty acids and B-complex vitamins. She attempted to drink more water throughout the day and to make better food choices.

Her joint pains were subsiding but not her headaches. She had gone for a medical checkup andtold me her blood pressure had been high but she couldn't afford the medication she was prescribed. I took her blood pressure reading which read 200/100. It remained that high even after the adjustments. There were cranial fault indications but she still refused to remove her dentures. I referred her to the hospital.

At the hospital, her blood pressure rose up to 265/134 before the medication they provided her returned it to 200/100. They told her that as long as she took the medication, 200/100 would be O.K..

At the beginning of her first visit to my office after her trip to the hospital, I took her blood pressure reading which was 200/100. She was taking her medication. I told her I would discontinue being her doctor until she allowed me to do the cranial adjustments. She agreed to remove her dentures. I identified and corrected a left temporal bulge correction, a bilateral sphenobasilar inspiration assist, a right frontal fault, and a sagittal suture compression. I immediately took her blood pressure reading which was 135/87. I told her to return the next day.

At the beginning of her second visit to my office after the trip to the hospital, she had a blood pressure reading of 200/100, I questioned her about her activities, diet, sleep, and any and all changed, new, or discontinued relationships with people, cleaning materials, or ideas. Everything was the same according to her. She removed her dentures and the same cranial faults were found and corrected. And her blood pressure was 140/90 after the adjustments. I asked her to return the next day.

The third visit to my office after her trip to the hospital showed a blood pressure reading of 200/100, the same as the day before. I found and corrected the same cranial faults and immediately after her blood pressure had dropped to 135/90. After work that day, I made time to review my 100 hour AK notes to get a clue as to what I could be missing. And there it was. Dentures that didn't fit correctly. I remembered seeing irritation on her gums, and her choices for soft foods. During her next visit she presented with a blood pressure of 200/100. I found and corrected the cranial faults. Immediately after, her blood pressure was again 135/87. Then I asked her to replace her dentures without moving off the table. I retook her blood pressure. It was 200/100. I asked her when she had last had her dentures fitted. She responded,"thirty-three years ago."

Results

It took eight months and a teaching dental school for her to get a set of dentures that fit her better. Not only did her blood pressure and headaches improve, but her ability to choose and eat better foods did also.

Discussion

The patient's increased blood pressure after two weeks of treatment may have been induced by not addressing the cranial bones. The hydraulic-like action of the cerebrospinal fluid was altered by having the sacral region moving well again without the mobility of the cranium. The body will innately attempt to compensate for the for the low level of of spinal fluid pressure by raising the diastolic and systolic pressure to maintain a cerebrospinal fluid pressure. Add to that the amount of resistance in the sutures of the palatine bones due to ill fitting dentures and its effect in the stomatognathic system as a whole. This includes diminishing the vagus nerves' ability to provide a parasympathetic response to the body, especially the heart.

Maintaining appropriate protocols is important to a system like applied kinesiology. Being aware of patterns producing poor health is no more important than being aware of communicating to a patient what needs to be done. It may place the physician in a temporarily hypertensive state; but know that these protocols, when done correctly, can facilitate the abundant innate healing ability to expand beyond perceived limitations.

Conclusions

The ability to connect the dots between the specialized domains of the healing arts like cardiology and dentistry, to have the tools to test out theories in the moment, to improve the quality of life of a person in that same moment is the absolute value of a system like applied kinesiology. As Dr. Blaich said during the first session of the first 100 hour course I took, we who practice applied kinesiology are generalists.

Resources

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Dorsal Scapular Nerve Syndrome

Hans Boehnke, D.C., DIBAK

Abstract

Dorsal scapular nerve syndrome is characterized by symptoms of a generalized dull ache along the medial border of the scapula, radiating into the lateral surface of the arm and forearm. It is also characterized by weakness of the rhomboid and or levator scapulae muscles. It is frequent factor in shoulder dysfunction, which needs careful evaluation and treatment in the care of patients with shoulder complaints. An examination and treatment protocol is given that was used with success on a small sampling of 10 patients.

Key Indexing Terms

Dorsal Scapular Nerve, Nerve Entrapment Syndromes

Introduction

The dorsal scapular nerve originates in the fifth cervical nerve root. It is found just proximal to the upper trunk of the brachial plexus. It pierces the scalenus medius muscle and passes posteriorly beneath the levator scapula, which it innervates and descends to innervate the rhomboid major and minor muscles.[1, 2, 3]

Nerves may be compressed or angulated by adjacent tissues within the body. These tissues can be a boney callous, synovial thickening, ganglia, tumors, fibrous bands or normal or aberrant muscles. There can be an acute, a continuous, or an intermittent compression.[5] The cases with which I have experience appear to fall into either the continuous or intermittent categories, mostly the intermittent. Abrams[5] states the following regarding symptoms of Entrapment Neuropathy: "The symptoms of an entrapment neuropathy may be sensory, motor or both depending upon the fiber types involved in the affected nerves. Most clinical entrapments involve mixed nerves so both motor and sensory complaints are present. Sympathetic or parasympathetic dysfunction can occur if there is an involvement of autonomic fibers."

The typical symptoms found in my experience are:

- Pain along the medial border of the scapula, radiating to the lateral surface of the arm and forearm.
- Complaints of shoulder pain and dysfunction, frequent thoracic outlet syndrome of the pectoralis minor syndrome type and weakness of various shoulder related functions.

I have found this syndrome to be a part of many shoulder dysfunctions and have found and treated it with many patients usually reducing their pain and dysfunction considerably.

Material and Methods

The symptoms of entrapment of the dorsal scapular nerve seen in my Chiropractic practice are usually those described by Walther.[1] They are as follows:

- Pain along the medial border of the scapula, radiating into the lateral surface of the arm and forearm. It is described as a generalized dull ache, characteristic of a motor nerve.

The etiology according to Walther[1] is as follows:

- Trauma to the scalene muscles caused by violent stretching such as cervical hyperextension-hyperflexion as in whiplash dynamics
- The entrapment is usually by the scalenus medius muscle
- Occupations that require overhead work, such as painters or electricians, make these individuals more susceptible to dorsal scapular nerve syndrome. In these cases the symptoms develop in association with the work position.

We must however; keep in mind that the entrapment can come from other etiologies as mentioned in the introduction, and if that is the case, the health professional doing the examination needs to make the appropriate referrals for the most effective care.

The examination for this syndrome, if caused by the scalenus muscle is as follows:

- If chronic, there may be atrophy of the rhomboid muscles and or the levator scapula.[1]
- Winging of the vertebral border of the scapula away from the thorax and away from the spinous processes. This scapular winging is not as prominent as that found with a weakness of the serratus anterior.[1]
- I have personally found that if I put my thumbs on the inferior angle of the scapulae bilaterally and have the patient abduct both arms as high as possible, that the inferior angle of the scapula on the affected side will travel farther laterally in the direction of the mid axillary line. This is made more dramatic if the patient puts their cervical spine into extension which would increase the entrapment in a case of a hypertonic medial scalene muscle on the involved side.
- The patient usually has a head forward posture, which may be accompanied by some lateral flexion and rotation of the neck in a posture that tends to relax the involved scalene muscles.[1]
- An important sign, is marked tenderness over the lower two thirds of the scalene muscle.[5] Pressure at this point can cause local pain and radiation, which can go to the scapular region and down the forearm.[1, 5]
- Manual muscle testing may demonstrate a weak test of the involved rhomboid and or levator scapula muscle without provocation of the entrapment. In that case the muscle(s) can be returned to a normal test strength by changing the head and neck position to take strain off the dorsal scapular nerve. The most common position that takes strain off the dorsal scapular nerve is head and neck lateral flexion and rotation toward the side of involvement.[1]
- If manual muscle testing does not demonstrate a weakness of the involved rhomboid and or levator scapula in the clear, then I have the patient extend and rotate the neck to a position that causes tension on the involved scalene muscle and retest the involved rhomboid and or levator scapula. It will usually now test weak. If other muscles also test weak in this position, then some other factor, such as the cervical spine and or reactive muscles, etc., can be involved and must be evaluated and treated appropriately.[1]

Treatments that I have found effective in this syndrome are as follows:

- A manual muscle test is done to the scalene muscle involved and it is usually found to test strong. A stretch is done to the muscle by passively extending the neck to specifically stretch the medial scalene muscle on the involved side. The scalene muscle is then retested, and if it now tests weak, it indicates the either, a myofascial release, trigger point therapy, or percussion is the treatment of choice. The differential diagnosis and treatment for these is in Walthers textbook,[6] pages 192–200.
- The myofascial release technique that I used when the findings indicated its need is a form of soft tissue manipulation, post isometric relaxation (a form of muscle energy technique), as well as proprioceptive neuromuscular facilitation (a form of therapeutic muscle stretching). These are described individually in detail by Hertling.[9] When I do it I list it in my notes as MFR-PIR-PNF (myofascial release-post isometric relaxation-proprioceptive neuromuscular facilitation). I first palpate gently over the scalene muscles to determine where the carotid artery is (it can be found by palpating its pulse). It is very important that this technique not be applied over the carotid artery or any artery so when I teach this I say IF IT PULSES LEAVE IT ALONE. The medial part of the scalene muscle is generally lateral to the carotid. I take a contact on the medial scalene in its upper aspect near C-2-3 approaching it from the lateral so that I can avoid the carotid and I have the patient gently flex their neck in the vector that isolates the medial scalene as much as possible. I then with my free hand take contact on their forehead and ask them to increase their flexion against my hand while I resist the movement. This is the isometric contraction part. I have them do this approximately 10 seconds which helps fatigue the hypertonic scalene muscle and then I ask them to relax as I stretch their neck into extension in a direction that lengthens the medial scalene as much as possible. This is the post isometric relaxation part. During this time I am doing a myofascial release using digital pressure on the scalene moving from superior to inferior. As I have them relax the scalene muscles I ask them to push their head back against my chest (as they are sitting and I am behind them), contracting the antagonist neck extensor muscles. This is the proprioceptive neuromuscular facilitation part. As my treating fingers go down on the scalene muscle I free up any adhesions felt and try to lengthen the fascia.
- If stretching the scalene muscles does not reveal any change in muscle function, I have the patient flex the neck to maximally contract the medial scalene muscles for 3 seconds. I then retest the muscle manually. If now a weak test is the result, it is an indication that strain and counterstrain technique is required, which would be to find a very tender point in the involved scalene muscle and to passively shorten the muscle in various vectors until a position is found that reduces the intensity of the tenderness by about 80–100%. The head, neck combination is held there passively for about 90 seconds or can be for 30 seconds if a deep phase of inspiration is maintained by the patient while the procedure is being applied while using digital pressure to pull apart the spindle cells. This is well described in Walther's Synopsis on pages 201–207.[6]
- Goodheart described what he called "The Fixation Vertebral Pattern" in 1973 in which he noted that when the left and right neck extensors test weak when tested individually and tested strong when tested bilaterally, it was frequently related to a sacral fixation.[7] This was also described in Walther[1] pages 86–93. Walther in[8] page 12–13 describes a tenet of Applied Kinesiology which is attributed to Goodheart in which muscle hypertonicity or spasm is frequently related to a functionally weak testing antagonist. I therefore test the neck extensor muscles bilaterally and individually to see if the pattern described is present. If so I treat the sacral fixation. This can be supplemented with exercises to keep improved sacral motion.

I tested a series of 10 patients for these various patterns and the results are listed in the appendix after the references.

Discussion

I have described an approach to the diagnosis and treatment of dorsal scapular nerve syndrome that has been very effective across many patients. I find this syndrome with a high frequency in my practice with those having shoulder complaints. Due to time constraints, etc., I have only documented a small series of 10 patients as a sample. Treatment modes for this syndrome may be refined and improved for this syndrome as more variations of diagnosis and treatment are discovered.

In my practice, I see many patients with shoulder pain and dysfunction. When I carefully examine and treat them, I realize that their dysfunctions are rarely from one cause and usually from numerous causes. For instance, as you can see in my case studies, all 10 of the patients in this small study showed a weak test of the infraspinatus and or supraspinatus only if the involved scapula was moved to an extreme position. According to Leaf[10] and Walther[11] on his website description of the syndrome (http://www.systemsdc.com/aktech/DSNerve2.html the unstable scapula caused by the weak testing rhomboid, and or anterior serratus (in cases where the long thoracic nerve of Bell is involved) causes the scapula to move excessively causing a stretching and or entrapment of the suprascapular nerve causing a weak testing infraspinatus and or supraspinatus. However, this suprascapular nerve syndrome is the topic for another paper and will not be discussed further at this time. What we can learn from this is that when we correct either the dorsal scapular nerve syndrome or a syndrome involving the long thoracic nerve of Bell, we can automatically improve the stabilization of the scapula and eliminate a frequent cause of the suprascapular nerve syndrome. This in turn can minimize straining of the supraspinatus and infraspinatus which are so often damaged in rotator cuff syndrome injuries.

Other factors such as an imbalance between the external rotator muscles and the internal rotator muscles, a slouched posture, and sometimes more remote factors such as sacroiliac joint dysfunctions, foot dysfunctions and or even temporomandibular joint dysfunctions can have an influence on shoulder pain. Cranial bone motion disturbances influencing cranial nerve #11, the spinal accessory nerve can affect the trapezius muscles and thereby influence scapular movement and shoulder pain. An unstable or misaligned acromioclavicular or sternoclavicular joint can affect the scapuluhumeral movement and thereby abduction of the arm at the shoulder. We can also include individual muscle strains and ligament sprains and a poor diet that is pro-inflammatory, and we can see how complicated shoulder problems can be. These all must be considered in the treatment of the shoulder

Conclusion

The dorsal scapular nerve syndrome is a frequent syndrome that affects shoulder motion, pain, and even at least one other syndrome. This syndrome should be a primary consideration when treating patients with shoulder complaints. If we can address as many factors as possible causing shoulder joint dysfunction, we can hope to prevent the need for as many shoulder related surgeries and help patients to have an improved quality of life.

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Appendix 1

Dorsal Scapular Nerve Syndrome Study

Patient name and number Date of the test	**#1** Jan 7–08	**#2** Jan 7–08	**#3** Jan 7–08	**#4** Jan8/08	**#5** Jan7/08
Atrophy of rhomboid and or levator scapula	X	Slight	Slight	X	X
Winging of the vertebral border of the scapula From the thorax and spinous processes	√	√	√	√	√
Active abduction causes the inferior angle of the scapula to lateralize toward the mid axillary line	√	√	√	√	√
Head forward posture (may have lateral flexion and rotation to relax the scalene muscles.	√	√	√	√	√
Marked tenderness over the lower 2/3 of the Scalene muscles on the involved side	√	√	√	√	√
Pressure over the marked tenderness causes local pain and radiation which can go to the scapular region and down the forearm	√	√	X	√	√
Manual muscle testing revealed a weak test of the rhomboid and or levator scapula in the clear	X	X	X	X	X
Manual muscle testing revealed a weak test of The rhomboid and or levator scapula only when the neck is placed in a posture that causes increased tension on the hypertonic scalenes	√	√	√	√	√
Scalene muscles test strong initially but weak after being stretched	X	√	√	X	X
Scalene muscles test strong initially but weak after they are subjected to a maximal voluntary contraction of 3 seconds.	√	X	X	√	√
Neck extensor muscles test weak when tested individually but strong when tested together	√	√	√	√	X
Neck extensor muscles test weak only on the involved side.	X	X	X	X	X
Infraspinatus and or supraspinatus tests weak in the clear	X	X	X	X	X
Infraspinatus and or supraspinatus tests weak only if the scapula is placed in a position that makes it move excessively anteriorly	√	√	√	√	√

Appendix 2

Dorsal Scapular Nerve Syndrome Study

Patient name and number Date of test	**#6** Jan8/08	**#7** Jan8/08	**#8** Jan8/08	**#9** Jan9/08	**#10** Jan9/08
Atrophy of rhomboid and or levator scapula	X	X	X	X	X
Winging of the vertebral border of the scapula From the thorax and spinous processes	X	√	√	√	√
Active abduction causes the inferior angle of the scapula to lateralize toward the mid axillary line	√	√	√	√	√
Head forward posture (may have lateral flexion and rotation to relax the scalene muscles.	X	√	√	√	√
Marked tenderness over the lower 2/3 of the Scalene muscles on the involved side	√	√	√	√	√
Pressure over the marked tenderness causes local pain and radiation which can go to the scapular region and down the forearm	√	√	√	√	√
Manual muscle testing revealed a weak test of the rhomboid and or levator scapula in the clear	X	X	X	X	X
Manual muscle testing revealed a weak test of The rhomboid and or levator scapula only when the neck is placed in a posture that causes increased tension on the hypertonic scalenes	√	√	√	√	√
Scalene muscles test strong initially but weak after being stretched	X	X	X	√	√
Scalene muscles test strong initially but weak after they are subjected to a maximal voluntary contraction of 3 seconds.	√	√	√	X	X
Neck extensor muscles test weak when tested individually but strong when tested together	X	√	√	X	√
Neck extensor muscles test weak only on the involved side.	X	X	X	X	X
Infraspinatus and or supraspinatus tests weak in the clear	X	X	X	X	X
Infraspinatus and or supraspinatus tests weak only if the scapula is placed in a position that makes it move excessively anterior	√	√	√	√	√

Lateral Axillary Hiatus Syndrome also known as Quadrangular or Quadrilateral Space Syndrome

Hans Boehnke, D.C., DIBAK

Abstract

In this syndrome, the axillary nerve is compressed where is passes through the lateral axillary hiatus which is also known as the quadrangular or quadrilateral space. This can cause weakness of the deltoid, especially when tested above 90° or in a throwing position. An applied kinesiology protocol for testing and treating this syndrome is described for cases that are due to neurapraxia, or axontemesis.

Key Indexing Terms
Quadrangular, Quadrilateral, Lateral Axillary Hiatus, Axillary Nerve Injury

Introduction

This syndrome, originally described by Bateman[1] (1955) involves entrapment or injury to the axillary nerve supplying the deltoid in a space referred to as the lateral axillary hiatus, also known as the quadrangular or quadrilateral space. A chronic compression syndrome of the axillary nerve is a frequent observation in throwing athletes, and may also result from dislocations, blunt trauma, or backpacking.[2] My clinical experience has shown that most physical problems of this type appear on a continuum, and as clinicians we see many cases that are of a more of a functional than a pathological nature. The problems begin as functional ones, which if untreated progress to pathological problems that may require the intervention of orthopedic surgeons. Using a conservative approach to therapy, we can intervene in less severe cases involving neruapraxia, or axontemesis. I will discuss the diagnosis and treatment protocol that I have used with success on a series of 12 patients in my office presenting with shoulder pain and dysfunction.

Material and Methods

Anatomy:

The lateral axillary hiatus (quadrangular space) is created by the relationship of three muscle bellies and the humerus. The axillary nerve enters this space and can be damaged or compressed. The lateral axillary hiatus is limited proximally by the lower margin of the teres minor muscle, distally by the upper margin of the teres major muscle, laterally by the humerus and medially by the long head of the triceps muscle. The axillary nerve and the posterior circumflex artery pass through this opening.

During abduction, the lateral axillary hiatus decreases in size as the teres major and minor as well as the long head of the triceps approach one another.

Diagnosis of the lateral axillary hiatus syndrome

Symptoms and signs frequently present:

- Shoulder pain that is poorly localized[3]
- Symptoms are often vague consisting of a dull ache in the shoulder with progressive use[2]
- Pain on abduction and external rotation[3]
- Paresthesias and hypesthesias around the shoulder and upper arm[3]
- Deltoid atrophy and contour changes around the shoulder[3]
- Compensatory activity of the supraspinatus muscle in conjunction with the long head of the biceps helps diminish the functional disability found with deltoid atrophy[3]
- Chronic compression of the axillary nerve typically presents with tenderness in the posterior shoulder area in the quadrangular space which is exacerbated by placing the arm in the throwing position and resisting internal rotation[2]
- Compression has been demonstrated of the axillary nerve and posterior circumflex humeral artery in the quadrilateral space documented by arteriorgraphy or angis-MR imaging with dynamic maneuvers.[5]
- Deltoid weakness which can be evidenced by shoulder elevation by the trapezius and slight abduction by the supraspinatus[4]
- Palpation of scar tissue and or adhesions in the lateral axillary hiatus.

Etiology:

- Fractures of the humerus and scapula[3]
- Shoulder dislocation[3]
- Abduction of the arm while sleeping[3]
- Muscle and or tendon strains of the long head of the triceps and or the teres minor or major resulting in scar tissue with adhesions. This can result from many different activities from excessive weight training involving activity with the arm elevated overhead, to falling on an outstretched arm without dislocation or some work positions using the arms overhead.

Weakness:

- Deltoid muscle either in the clear or when tested above 90° or in a position as if throwing a ball.
- Weakness of the deltoid if tested at 90° of abduction while digital pressure is applied to the lateral axillary hiatus.
- Weakness of the deltoid muscle in some cases if tested while the long head of the triceps is in a maximum contraction.
- Weakness of the long head of the triceps, teres minor, or teres major after being stretched.
- Weakness of the long head of the triceps, teres minor, or teres major after pincer palpation.

Differential diagnosis[2]

- Higher brachial plexus injury to the posterior cord
- Cervical root injury involving C5 or C6

Treatment protocol in 12 patients:

In a series of 12 patient's who reported shoulder pain and dysfunction in the involved shoulder and who did not have brachial plexus injury or cervical root injury, I observed the following:

- **Patient # 1 male.** The left deltoid tested weak in the position of sleeping with his shoulder abducted and the elbow bent. Pressure over the lateral axillary hiatus with the humerus abducted to 90° caused the left deltoid to test weak. It was treated using myofascial release using post isometric relaxation and proprioceptive neuromuscular facillitation on the left teres minor, teres major and the long head of the triceps. After the treatment, the left deltoid tested stong in the position of sleeping with his shoulder abducted and the elbow bent. Pressure over the lateral axillary hiatus with the humerus at 90° of abduction no longer caused the left deltoid to test weak. The patient reported improved shoulder function.

- **Patient #2 male.** The left deltoid tested weak in the position he usually assumed when sleeping, with the humerus abducted at approximately 110° and the elbow bent. The left deltoid tested weak if tested with the humerus at 90°of abduction if digital pressure was applied to the lateral axillary hiatus. A myofascial release was done to the teres minor, teres major and long head of the triceps. As in the case above I also used post isometric relaxation and proprioceptive neruromuscular facilitation to improve the result. After the treatment, the left deltoid no longer tested weak with the humerus abducted to approximately 110°. Pressure over the lateral axillary hiatus with the humerus elevated to 90° of abduction no longer cause the left deltoid to test weak. The patient reported improvement in shoulder function.

- **Patient #3 female.** She presented with right shoulder pain. Her right. deltoid tested weak if the right humerus was abducted above 120°. Her right deltoid also tested weak if tested with her right humerus abducted to 90° position with digital pressure on the lateral axillary hiatus. In this case I got more specific and tested each of the muscles involved with the lateral axillary hiatus for weakening after being stretched. This response of testing weak after being stretched was only found with the teres major. She was treated with myofascial release of the teres major muscle using post isometric relaxation and proprioceptive neuromuscular facilitation. The right deltoid no longer tested weak when the right humerus was abducted above 120°. The right deltoid no longer tested weak when the humerus was abducted to 90° with digital pressure over the lateral axillary hiatus. The patient reported improvement of shoulder function however there were other contributing factors involved with her shoulder symptoms which were treated as well.

- **Patient #4 female.** This patient complained of right shoulder pain and dysfunction. Her right deltoid tested weak if her arm was in the overhead position that she used to sleep on her back. Her right deltoid also tested weak in the usual test position with the humerus abducted to 90° with digital pressure applied to the lateral axillary hiatus. I found that the long head of the triceps weakened after being stretched and did a myofascial release using post isometric relaxation and proprioceptive neruromuscular facilitation. To make sure that I did not miss anything and because I was in a hurry, I also did a myofascial release involving post isometric relaxation and proprioceptive neruromuscular facilitation to the teres minor and major. After the treatment, her right deltoid tested strong if her arm was placed in the overhead sleep position that she used to sleep on her back. Her right deltoid now tested strong if her humerus was abducted to 90° with pressure over the lateral axillary hiatus. She also had other factors that needed treatment for her shoulder, which were also treated. The lateral axillary hiatus syndrome was therefore a contributing factor of her shoulder problem.

- **Patient #5 Female.** She had left shoulder and arm pain on waking in the morning with pain in the left shoulder and arm to the elbow. Her left deltoid tested weak if her humerus was in abducted over her head with her elbow flexed. That would be at approximately 160° of abduction as if she were lying on her back with her arms up with her elbows flexed. Her left deltoid tested weak if tested with the humerus at 90° of abduction while digital pressure was applied to the lateral axillary hiatus. The long head of the triceps tested weak after it was stretched. I did a myofascial release of the long head of the triceps using post isometric relaxation and proprioceptive neruormuscular facilitation. I did the same treatment to the teres minor and major to free any adhesions in case that was needed as well. On retesting, the left deltoid no longer tested weak with the humerus abducted to 160°. Her left deltoid no longer tested weak when tested at 90° of abduction while digital pressure was applied to the lateral axillary hiatus. The patient reported that her left shoulder and arm felt much improved.

- **Patient #6 Female.** Her left shoulder and arm had pain with some pain that radiated to her left thumb. Her left deltoid tested weak with the humerus above 120° of abduction. The left deltoid also tested weak with the left humerus in the normal test position of 90° abduction with digital pressure over the lateral axillary hiatus. I also found that her left deltoid tested weak with her humerus at 90° of abduction while contracting the long head of the triceps (elbow extended). The left long head of the triceps tested weak after stretching it. I did a myofascial release of the left long head of the triceps using post isometric relaxation and proprioceptive neuromuscular facilitation. The teres minor and major were treated in the same manner on the speculation that some adhesions may be present. Her left deltoid now tested strong when tested with the humerus above 120° of abduction. Her left deltoid now tested strong when tested with the humerus at 90° of elevation while digital pressure was applied to the lateral axillary hiatus. She had two other syndromes complicating the pattern of symptoms which were treated as well.

- **Patient #7 Male.** He had right shoulder problems. He complained of pain when he positioned his right arm as if to throw a ball. His right deltoid tested weak when his humerus was abducted to over 120°. His right deltoid tested weak if his right humerus was abducted to 90° test position if digital pressure was directed into the lateral axillary hiatus. His right deltoid tested weak if his right humerus was abducted to 90° while his right triceps was strongly contracted. His right triceps – long head tested weak after being stretched. The long head of the triceps was treated with myofascial release using post isometric relaxation and neuromuscular facilitation. This treatment was also done to the teres minor and major to free up any possible adhesions. He no longer complained of pain if his right arm was positioned as if to throw a ball. The right deltoid no longer tested weak if the humerus was abducted to 90° with digital pressure over the lateral axillary hiatus. The right deltoid no longer tested weak if his humerus was abducted to 90° while the triceps was strongly contracted. He reported that his arm movement felt better. He had two other dysfunctions with his right shoulder that were attended to on that visit that fully improved his shoulder symptoms.

- **Patient #8 Female.** She had right shoulder pain and neck pain. Her right deltoid tested weak in the clear and was treated by approximating the acromio clavicular joint as described by Leaf.[8] I then tested the deltoid at 120° of humeral abduction and it again tested weak. The right deltoid tested strong if the humerus was abducted to 90° but tested weak if digital pressure was directed at the lateral axillary hiatus while in that position. Her right long head of the triceps weakened after being stretched. I did a myofascial release of the long head of the triceps using post isometric relaxation and proprioceptive neuromuscular facilitation. Her right deltoid now tested strong above 120° of humeral abduction. She was also treated for a second shoulder area syndrome on this visit. She reported improvement in shoulder and neck pain as well as improved mobility.

- **Patient #9 Female.** She had a right frozen shoulder. I determined that part of her problem was probably due to a lateral axillary hiatus problem. Her right lateral axillary hiatus was very tender to palpation. Her right shoulder abduction capability was very restricted (approximately 60°. Her right deltoid tested weak if I had her abduct as much as she could with external rotation as much as she could. I had her abduct her right humerus as much as possible without causing severe pain, a position in which her right deltoid did not test weak. I then directed digital pressure to the lateral axillary hiatus and retested the deltoid. It now tested weak. The long head of the triceps tested weak after being stretched and was treated with a myofascial release utilizing post isometric relaxation and proprioceptive neuromuscular facilitation. The teres minor and major were palpated for adhesions and myofascial release was done where needed. She had some improved motion in her shoulder. Her abduction improved to about 70–80°

- **Patient #10 Female.** She had a frequent pain pattern of right neck and shoulder pain. Her right deltoid tested weak when her humerus was abducted to about 110–120°. Her right deltoid tested weak when her right humerus was abducted to 90° and digital pressure was applied to the lateral axillary hiatus. Her right triceps-long head tested weak after being stretched. I treated her right long head of the triceps with myofascial release using post isometric relaxation and proprioceptive neuromuscular facilitation. On retesting her, her right deltoid tested strong when her humerus was abducted to between 110–120°. Her right deltoid tested strong when her humerus was abducted to 90° while digital pressure was applied to the lateral axillary hiatus. She is a patient who had surgery for a scoliosis when a teenager with metal rods preventing movement for most of her spine and therefore she has many recurring problems. I also treated other problems at the same time which occur at the ends of the fusion areas. This treatment of the lateral axillary hiatus was one factor in reducing her recurring pain.

- **Patient #11 Male.** He had left shoulder pain. His left deltoid tested weak in the clear. He had a horizon sign and approximating the left acromial clavicular joint caused the left deltoid to test strong as per Leaf.[8] On abduction of the humerus to about 110° the left deltoid again tested weak. The left deltoid tested strong at 90° abduction of the humerus, but tested weak in this position when digital pressure was applied to the left lateral axillary hiatus. The left long head of the triceps, the left teres minor and left teres major each tested weak after stretching. The left long head of the triceps, the teres minor and major were treated with myofascial release incorporating post isometric relaxation and proprioceptive neuromuscular facilitation principles. On retesting, his left deltoid tested strong when the humerus was again abducted to approximately 110°. His left deltoid also tested strong when abducted to 90° while digital pressure was applied to the lateral axillary hiatus. He reported some improvement in shoulder motion and pain relief which was made pain free when a series of other shoulder related problems were corrected on that visit.

- **Patient #12 Male.** This patient on this visit had pain in his shoulders mainly on the left side. I had him place his left arm in the position that would be used to throw a ball and it created pain in the posterior deltoid area. His left deltoid tested weak when his humerus was abducted to approximately 120° of humeral abduction. His left deltoid tested weak if tested in the throwing position. His left deltoid tested strong if his humerus was abducted to 90° but when digital pressure as applied on the lateral axillary hiatus in this position the left deltoid tested weak. I compared the length of the triceps left to right by having him reach over the back of his head to try and touch the opposite scapula and the left one was more restricted. As I was aware that shortness of the long head of the triceps could be a reason for an ulnar sulcus syndrome Leaf,[8] I tested the flexor digitorum profundus to the 5th finger while he was in that positon and it tested weak. When I retested it in the neutral (arm at the side)

position, the left flexor digitorum profundus to the 5th finger tested strong. The long head of the triceps tested weak after stretching it. I therefore treated the long head of the triceps with myofascial release using post isometric relaxation and proprioceptive neruromuscular facilitation. The left teres minor and major did not test weak after being stretched and were not treated. The left deltoid now tested strong if the humerus was abducted to approximately 120°. The left deltoid tested strong if the humerus was abducted to 90° when digital pressure was applied to the lateral axillary hiatus. The length test for the left triceps demonstrated that it had balanced itself to that of the right triceps. The flexor digitorum profundus to the 5th finger now tested strong when in the position that was used to compare the length of the triceps. He had reduced pain and increased mobility and was treated further for two other shoulder related syndromes and then reported full pain free shoulder function. In this case the treatment of the long head of the triceps treated two syndromes at once, a left lateral axillary hiatus syndrome and an ulnar sulcus syndrome.

Discussion

I've described an approach to the diagnosis and treatment of quadrilateral space syndrome that has been effective across many patients. Treatment will likely be refined as more variations of diagnosis and treatment are discovered in the future.

The myofascial release technique, a form of soft tissue manipulation, post isometric relaxation (a form of muscle energy technique), and proprioceptive neuromuscular facilitation (a form of therapeutic muscle stretching), are described by Hertling.[9] I chose to combine these methods in the treatment as I felt they would give the maximum therapeutic benefit to the patient. In the case of a triceps involvement, where the long head of the triceps tested weak after being stretched, I would have the patient do an isometric contraction of the long head of the triceps by having the patient sit with their arm at their side with the elbow bent to 90°. I would contact the posterior of the upper arm on the soft tissues over the humerus and have the patient try and pull the elbow in a posterior direction while I resisted this for about 10 seconds. The patient is then told to relax and I take contact on the soft tissues of the triceps and begin to passively elevate the patients arm with one hand while the other does a deep tissue massage (mobilization) up the entire length of the muscle from insertion to origin. During the time that I am doing this I instruct the patient to reach behind their head neck area to try and touch their opposite shoulder blade which requires activation of the antagonist muscles. I do this about 3-5 times as necessary as I feel for release of adhesions in the fascia and or muscles, thereby lengthening the muscle. I treat the teres minor and major in a similar fashion when necessary. The diagnostic factor that I used, taking a muscle that tested strong and stretching if followed by retesting it for a weakening effect is a method that was originally discovered by Goodheart, and has been reported by Walther.[10] It indicates the need for fascial release, trigger point therapy, and or percussion to clear what is referred to as myofascial gelosis. There are further diagnostic signs for the need for trigger point therapy and or percussion which were not addressed in the approach I used in this study.

The findings indicate that at least in this small study group, dysfunction of the deltoid related to the lateral axillary hiatus can be found and treated by conservative means. There will likely be other cases that I will find that will require a surgical intervention. I first learned of this syndrome from cases which I found cited in the medical literature which often required surgery.[3] These cases were what stimulated me to try a non invasive conservative approach.

In my experience, I have noticed that most health problems are on a continuum between normal functioning

and pathology. It therefore made sense to me that shoulder joint problems involving the deltoid should be detectable at an early stage before pathology requiring surgery happens. This is the reason I approached this topic in a conservative fashion in the hope that by using conservative therapy long before pathology requiring surgery happens, we can help the patient to improved function and achieve freedom from pain. This will hopefully reduce or eliminate the likelihood that some patients would progress to the final pathological changes that would require surgery at a future date.

There is one case I read by Redler et al[6] which resulted in the patient attempting to change his pitching technique to correct the problem rather than having surgery. A review of surgical cases can be found in Bonnard et al.[7]

Conclusion

In a differential diagnosis and treatment of shoulder problems involving problems with abduction such as impingement syndrome, etc., the lateral axillary hiatus should be considered for a conservative approach. If this problem is diagnosed, and no serious injury such as a neuotmesis is found, a reasonable conservative trial therapy such as described should be attempted. If this approach has little or no success, a referral for a possible surgical intervention is recommended.

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Suprascapular Nerve Entrapment

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Abstract

The suprascapular nerve, supplies the supraspinatus and infraspinatus muscles. It also supplies sensory fibers to ligaments, bursa and the glenohumeral joint. When entrapped or stretched, it can cause shoulder dysfunction and pain which over time can cause impingement syndrome and rotator cuff tendon and muscle tears. An examination protocol for this syndrome and suggested treatment approaches (when in its earlier stages) is presented to help relieve this syndrome before it progresses to a stage where surgery is indicated. A small sampling of 10 patients I treated using this protocol is given.

Key Indexing Terms

Suprascapular Nerve, Nerve Entrapment Syndromes, Rotator Cuff

Introduction

The suprascapular nerve is a mixed motor and sensory peripheral nerve arising from the 5th and 6th cervical nerves of the brachial plexus with variable contributions from the 4th cervical nerve roots. It supplies the supraspinatus and infraspinatus muscles with sensory branches to the coracohumeral, coracoacromial ligaments, the subacromial bursa, acromioclavicular and glenohumeral joints.[1] When peripheral nerves are stretched or compressed, it results in nerve ischemia, edema, microenvironmental changes, and conduction impairment.[1] When the suprascapular nerve is either entrapped or stretched, the function of the supraspinatus and or infraspinatus muscles is altered resulting in various patterns of shoulder dysfunction such as impingement syndrome or improper scapulohumeral rhythm with consequent neuropathy.[1, 2] This can in turn result in damage to the rotator cuff muscles, tendon degeneration and tearing that may require surgical intervention.[3] The main symptom pattern of suprascapular nerve entrapment is deep diffuse pain that is poorly localized in the posterior and lateral aspects of the shoulder that may be referred to the neck, into the arm or upper chest or localized to the acromioclavicular joint. When the patient complains that shoulder motion aggravates the pain, in this case, it is scapular motion that aggravates the pain but the patient cannot differentiate it from glenohumeral motion.[2, 4] Pain is usually present only in cases of entrapment of the common trunk of the nerve at the scapular notch involving both sensory and motor branches of the supraspinatus and infraspinatus muscle. Painless atrophy has been the main finding with injury to the nerve at the spinoglenoid notch which has been frequently observed in high calibre volleyball players.[6]

This entrapment syndrome is most frequently found in volleyball players and athletes who repeatedly stress their shoulder. These include baseball players, weight lifters, tennis players, fencers, hunters using bows, dancers, figure skaters and individuals with occupations requiring a lot of overhead work requiring extreme abduction and external rotation.[1, 2, 5]

Injury and or compression of the suprascapular nerve may be by a mass, most commonly a ganglion cyst. Other masses that have been described in the literature are as follows; synovial sarcoma, Ewing sarcoma, chondrosarcoma, metastatic renal-cell carcinoma, and a bone cyst.[1]

One speculative article gives a case report on a 57 year old male cadaver in which a hypertrophied subscapularis muscle was covering the entire surface of the suprascapular notch and its related tissues. The authors felt that this type of hypertrophied subscapularis muscle might be a possible source of compression of the suprascapular nerve resulting in friction and inflammatory changes.[7]

This syndrome was first described in the applied kinesiology literature by Leaf in 1993.[8] He first demonstrated that when an unstable scapula was involved due to weakness of scapular stabilizing muscles that a normal testing infraspinatus would test weak with the arm flexed to 90° with anterior rotation of the shoulder. He hypothesized that this position created additional torsion on the suprascapular nerve which resulted in a weak test of the infraspinatus.

My clinical experience has shown that most physical problems of this type appear on a continuum, and as clinicians we see many cases that are of a more of a functional than a pathological nature. The problems begin as functional ones, which if untreated progress to pathological problems that may require the intervention of orthopedic surgeons. Using a conservative approach to therapy, we can intervene in less severe cases involving neruapraxia, or axontemesis. I will discuss an approach to diagnosis that combines that of various authors and some indicators that I felt could be logically associated with the suprascapular nerve syndrome. I will discuss but not describe in detail the treatment protocols that I have used with success on a series of 10 patients in my office presenting with shoulder pain and dysfunction.

Material and Methods

Examination for suprascapular entrapment, (according to various authors) is as follows:

- Pain elicited by applying digital pressure to the supraspinatus muscle in the general region of the suprascapular notch and or spinoglenoid notch.[2, 6]
- When the condition is chronic there may be atrophy of the supraspinatus and or infraspinatus muscle.[2]
- Have the patient bilaterally protract and retract the scapulae and observe for symmetrical motion.[2]
- Have the patient move the arms bilaterally in abduction and flexion and observe for symmetrical motion.[2]
- Have the patient move the arm into the painful position and analyze the shoulder complex motion. If the syndrome is present, there will usually be excessive scapular motion that stretches the suprascapular nerve, especially with flexion and or abduction across the chest. This test can be enhanced with simultaneous external rotation of the humerus.[2, 6]
- Have the patient bring his arm across the anterior portion of the body to bring the scapula maximally around the thorax. (This increases the distance of the suprascapular foramen from the cervical spine origin of the nerve, thereby stretching it). With this movement there is often increased irritation to the nerve and pain in related areas.[2]

- Manual muscle testing as done in applied kinesiology can aid in the diagnosis. The examiner tests the supraspinatus and infraspinatus muscles in the standard test positions. If they test weak initially, treat them in the usual ways to bring them to a normal testing strength. Then have the patient protract the shoulder around the thoracic cage as indicated above and retest them in this position. If they weaken only in this position, when the suprascapular nerve is stretched, it is an indication that the suprascapular nerve is being irritated or its ability to transmit its signals is impaired.[1, 2]

When considering the mechanics of the shoulder, it becomes clear that for the scapula to move excessively to a degree that stretches the suprascapular nerve there must be instability of the scapula. The scapula can be unstable for a number of reasons. A dysfunctional or non functioning acromioclavicular joint or sternoclavicular joint can cause an unstable scapula. Muscle imbalances to the muscles that stabilize the scapula can cause an unstable scapula. These muscles are the trapezius muscles, the anterior serratus muscles, the rhomboid muscles, the levator scapula muscles and the subscapularis muscles. In my clinical experience, the most frequent muscle involvements in the suprascapular nerve syndrome, are rhomboids, anterior serratus, levator scapulae, and lower or middle fibers of the trapezius muscles. Therefore, in the examination we need to consider all factors associated with scapular stabilization. The examination should continue as follows:

- Examine the acromioclavicular joints for symmetry, pain on palpation, as well as the influences of various vectors of pressure on the subclavius muscle.
- Do manual muscle tests of the serratus anterior muscle on the involved side. If the anterior serratus muscle on the involved side tests strong in the clear, test it with a head forward posture and or after a compressive pressure is applied to the vertex of the head. If this causes a weakening response, it is an indication that a cervical spine dysfunction is involved. This would indicate involvement of the long thoracic nerve which innervates the anterior serratus and is often due to an anterior C 5 or C6.
- Test the rhomboid muscles on the involved side. If the rhomboid tests strong in the standard test position, have the patient extend their neck in a vector that stretches the scalene muscles on the involved side (especially the medial scalene), and retest the ipsilateral rhomboid in this position. If it tests weak, it is an indication that the dorsal scapular nerve is being entrapped in this posture. This is often due to a scalene muscle that is tense or shortened (likely overfacillitated).
- Test the levator scapula muscles, especially on the involved side. if a test of the levator scapula on the involved side tests strong, have the patient extend their neck in a vector that stretches the scalene muscles on the involved side (especially the medial scalene), and retest the ipsilateral levator scapula. If it tests weak, it is an indication that the dorsal scapular nerve is being entrapped in this posture. This is often due to a scalene muscle that is tense or shortened (likely overfacillitated).
- Test the upper middle and lower trapezius muscles to determine if they have an involvement in the unstable scapula. Weakness in any part of the trapezius may influence the stability of the scapula.
- Test the deep neck extensors individually and bilaterally. If they test weak, it may indicate that the scalene muscles do not have the normal antagonist extensors to work against which can explain their increased tension.
- Test for spinal joint dysfunction in of C5, 6, and possibly C4. for a neurological influence on the peripheral nervous system.

Results

A series of 10 of my patients with complaints of shoulder area pain and dysfunction were tested as indicated above. The table of findings is below:

To understand the table, the letters A–L in column 1 are as follows:

A. Pain on palpation of the suprascapular notch, and or spinoglenoid notch

B. Atrophy of the infraspinatus and or supraspinatus (this also applies to minimal atrophy)

C. Excess scapular motion with active protraction and retraction

D. Disturbed symmetrical motion such as on abduction the angle of the scapula deviating toward the mid axillary line on the involved side, which can be compared to a usually normal functioning opposite scapula.

E. Pain with excessive scapular motion. This pain is produced by having the patient put their arm in a position that moves the scapula around the anterior torso putting a stretch on the suprascapular nerve.

F. Infraspinatus and or supraspinatus muscle test weak with the scapula in a position that causes excessive motion to the scapula as in E above.

G. Anterior serratus tests weak either in the clear or after vertex pressure was applied to the head, or a head forward posture was assumed.

H. Rhomboid and or Levator scapula tests weak either in the clear or with the neck placed in extension putting tension on the scalene muscles which if in a over facilitated state would cause some compression of the dorsal scapular nerve.

I. Trapezius muscles middle or lower, test weak either individually or bilaterally as in a dorso-lumbar fixation pattern.

J. Deep neck extensor muscles test weak either bilaterally or individually. This would relate to the sacral fixation pattern or sacroiliac fixation pattern, respectively.

K. Spinal joint dysfunction of C 5, usually or possibly C 4 or 6. The usual finding with the hidden cervical disc pattern in applied kinesiology

L. Acromioclavicular of sternoclavicular joint dysfunction which would be indicated by asymmetry of the joints, alignment of one joint as opposed to its contralateral joint, and challenge testing to the involved joint.

Research table for suprascapular nerve syndrome.

A	Pain to palp of SSN SGN	#1 √	#2 √	#3 √	#4 √	#5 √	#6 √	#7 √	#8 X	#9 √	#10 √
B	Atrophy of IS Or SS	√	√	√	√	X	√	√	√	X	√
C	Excess protraction & retraction	√	√	√	√	√	√	√	√	√	√
D	Disturbed symmetrical motion	√	√	√	√	√	√	√	√	√	√
E	Pain with excessive scapular motion	√	X	X	√	X	√	√	√	√	√
F	IS &orSS weakness in excessive scapular motion	√	√	√	√	√	√	√	√	√	√
G	Anterior serratus tests weak IC or with provocation	√	√	X	√	√	√	√	X	X	√
H	Rhomboid &or Lev Scap tests weak IC or with provocation	X	√	√	X	X	X	X	√	√	√
I	Trapezius tests weak any branch	√	√	√	√	√	√	√	X	√	√
J	Neck extensors test weak bi-or un	√	√	X	√	X	X	√	X	X	√
K	SJD C4-5-6	√	√	X	√	√	√	√	X	X	√
L	AC or SC joint dysfunction	√	X	√	√	X	X	√	X	√	X

Discussion

As seen in my small study the most common reliable indicators for the suprascapular nerve syndrome that I found were as follows:

- Excessive motion on protraction and retraction
- Disturbed symmetrical motion
- A weak test of the infraspinatus and or supraspinatus when tested with the scapula in a position that caused stretching to the suprascapular nerve.
- Pain on palpation to the suprascapular notch and or spinoglenoid notch.
- Atrophy sometimes minimal of the infraspinatus and or supraspinatus muscles.

The rest of the findings related to possible causes of instability of the involved scapula which appears to be a frequent causative factor in the suprascapular nerve syndrome. The type of treatment given each patient was according to the findings and challenge tests done. All patients had improved test strength of the infraspinatus and or supraspinatus after the treatments were administered. All of the patients had improved symmetrical motions which also included protraction and retraction with less excessive motion of the involved scapula. All of the treated patients, reported relief of symptoms and improved function. These findings and indications of sources to look up the specific treatments are as follows:

- Weakness of the serratus anterior (In my experience often caused by an anterior C-5 or C-6, or origin-insertion strains, etc.) The treatment in these cases would be a respiratory adjustment applied prone with the positioning as described by Walther[9] page 107 but without the thrust, just a push done repeatedly using about 3–4 pounds of pressure with inspiration.
- Weakness of the rhomboid and or levator scapula (often caused by entrapment of the dorsal scapular nerve by a hypertonic medial scalene muscle)[2] The treatment administered would by as described by Boehnke[12] in his paper on Dorsal scapular nerve syndrome. (available from the author)
- Weakness of the middle or lower trapezius (In my experience often caused by cranial bone motion disturbance affecting cranial nerve 11, or spinal joint dysfunction of C 3–4 which could be an anteriority or a coupled motion disturbance at C3) The cranial bone motion disturbance is treated as in Walther[9] Pages 385–396. The C 3 anteriority if present would be treated with a respiratory treatment as described by Walther[9] page 107 but without the thrust, just a push done repeatedly using about 3–4 pounds of pressure with inspiration. If a coupled motion disturbance was found, it would be treated with a respiratory treatment done as indicated by challenge to improve the coupled motion. This was described by Schmitt,[13] however I do it with a respiratory adjustment.
- Sprained, loose stretched ligaments of the acromioclavicular or sternoclavicular joints. In my experience this would mostly apply to the acromioclavicular joint. The acromioclavicular joint if involved would be treated as needed either as Leaf,[10] or Hearon,[11] describe. The sternoclavicular joint would be treated as described by Hearon.[11]

Please note: If there is a palpable mass present or the patient is not responding as anticipated, proper imaging for diagnosis and appropriate referral for further evaluation and treatment is strongly recommended.

Conclusions

The suprascapular nerve syndrome is in my experience a common finding when the scapula shows instability. It is often secondary to a more primary problem, which causes the unstable scapula. It is hoped that this paper gives some additional diagnostic factors to look for and demonstrates that an integrated approach to care is beneficial. A primary tenet of applied kinesiology is that muscle hypertonicity or spasm is frequently related to a functionally weak testing antagonist. This is attributed to Goodheart and described by Walther[9] on pages 12–13. I have used this idea in my approach to some of the causes of the unstable scapula which results in the suprascapular nerve entrapment or stretching by addressing the weak neck extensors—sacral fixation correlation, and or weak lower trapezius addressing the dorsolumbar fixation complex etc. To this can be added exercises to help maintain the corrections and if necessary, nutritional approaches to reduce inflammation.

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The Etiology of the Anterior Cervical Subluxation in Cervicobrachial and Thoracic Outlet Syndromes – A Case Study of Pseudo Angina, Upper Extremity Paresthesia and Odynophagia

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Abstract

A 17 year-old male with chief complaints of odynophagia, upper extremity paresthesia and pseudo angina presented for diagnosis and treatment. Examination utilizing Applied Kinesiology and Chiropractic procedures found causation due to an anterior cervical subluxation producing cervicobrachial and thoracic outlet symptomology.

Key Indexing Terms

Applied Kinesiology, Chiropractic, Anterior Cervical Subluxation

Introduction

Daniel, a 17 year-old high school student, along with his mother, presented to my office for evaluation of pain with swallowing. History revealed a gradual two month development of throat pain that had progressed to include anterior right chest pain and medial arm and hand tingling, all exasperated with swallowing.

Daniel had initially sought medical counsel from his general practitioner at which time routine medical inspection including otoscopic, physical examination, and laboratory studies revealed no apparent pathology. Daniel was sent home and told that this situation was temporary and would pass. After two weeks with no resolution Daniel returned once again to his GP with similar complaints this time prompting a referral to an Otolaryngologist for detailed throat and upper GI studies. A battery of tests including endoscopy and imaging were done to which no evidence was found to explain his gradual progressive disorder. Daniel was again sent home with no objective diagnosis as to his complaint.

Following another week of similar symptoms Daniel's mother took him to a local chiropractor in hopes of getting some answers or at least some relief with his problem. After several chiropractic treatments Daniel showed some improvement in his level of pain but still had difficulties with swallowing and drinking due to pain. With continued frustration and some sense of desperation Daniel was finally brought to my office for an Applied Kinesiology evaluation.

Methods

Postural inspection of Daniel revealed a quite thin, 140 lb. teenager with anterior head carriage and bilaterally protracted scapulae. Observations during swallowing showed accessory muscle use as to lift the shoulder girdle with each swallow. Over facilitation of the scalene and SCM groups was visible and a noted increase in pain was produced in the neck and right pectoral areas as well as initiating a burning sensation along the length of the right medial arm and hand.

Palpation of the cervical and chest musculature elicited very tender anterior and medial scalenes and SCM's bilaterally with considerable trigger points noted on the right side. Pincer palpation of these muscles produced a gelosis pattern with a referral of pain into the right anterior chest wall and right arm. Tenderness was found bilaterally in the Pectoralis muscle groups most specifically at the confluence of the coracoid process. The right upper extremity including the hand was noticeably colder than the left.

Routine spinal and upper extremity AROM was unremarkable. Neurological testing produced dermatomal deficits at the C5-C7 levels as well as myotomal weakness at the C8-T1 distributions, all on the right side. Orthopedic testing of the cervical spine and shoulder girdle produced a right positive scalene-cramp and finger-flexion test; all other tests were otherwise normal.[7]

Manual muscle testing was performed producing +4 (0–5) weakness in bilateral anterior scalenes and SCM's. Right sided weakness was found in both the pectoralis major sternal and clavicular division, triceps and flexor digitorum longus groups. All other muscles were found to be intact.

Spinal assessment showed a marked anterior rotation of C7 on the right which responded to both therapy localization and static challenge versus both the weak right triceps and pectoral muscle groups. Category I fixation and limbic fix were also both found on the right. Cranial assessment found bilateral inspiration assisted faults along with a sacral base posterior.

Discussion

As with most problems of the face, neck and upper extremity, gross inspection of the cervical spine is paramount in identifying and correcting many of the problems encountered in an Applied Kinesiology practice. These biomechanical and neurological relationships often account for, and explain, the myriad of symptoms and pathologies we see on a day to day basis.

Postural observation of the cervical spine finds that the lateral cervical gravity line extends from the apex of the odontoid process through the anterior portion of T2 creating a lordotic curve with its apex at C4/C5. Anatomically the degree of the lordosis is formed primarily by the wedging effect of the IVD's with some flattening due to hyperplastic articular pillars, short pedicles and reduced facet angles.[1]

A closer inspection of the cervical column reveals anatomical changes along its length that account for most of the motion patterns we see between segments. Facets are oriented at an approximately 45 degrees to the horizon. This angle increases from 30 degrees at C2/C3 to 60 degrees at C7/T1 as we move from cephalad to caudal. This design provides for more translation along the Z axis with an anterior and superior movement into flexion and posterior and inferior glide into extension. Total range of flexion/extension is 130 degrees of which 100–110 degrees are in the lower cervical segments.[1]

By design the angle of the facet joints within the cervical spine necessitates a coupling of motion between flexion and lateral flexion producing axial rotation. This coupling phenomenon decreases from cranial to caudal for which rotation in the lower cervical spine to one side is associated with a ipsilateral 25 degrees of lateral flexion.[2] These rotations are usually characterized as occurring about some center of gravity or instantaneous axis of rotation found within the vertebral body.[3]

As the cervical vertebrae goes through its range of motion the pattern of movement is determined by a combination of geometric anatomy of the structures along with their physical properties.[4] Range of motion into the sagittal plane is somewhat dictated by the shape and stiffness of the disc and design of the uncinate. The greater the height of the disc and the smaller the AP diameter the greater the motion.[4] However, because of geometrical irregularities or facet trophism, the center of gravity is rarely ever fixed at one point. This pattern increases with disorders of joint mobility including fixation/subluxation, hyper-motion and aberrant movement patterns.[4]

Mechanically the lower cervical composite movement of rotation, lateral flexion and extension is facilitated by muscles with long length and an oblique course posterior, lateral and inferior.[2] Lewit observed that blockage (immobility) of the first rib goes hand in hand with reflex spasm of the scalene on the same side. Continued impairment of joint mobility increases soft tissue strain leading to ligament and muscle thickening progressing to what Lewit calls "dynamic nerve compression."[5, 6]

Transitioning from the cervical to thoracic segments the lordosis of the cervical spine is sharply reversed at the level of the first rib and what we loosely term the "thoracic outlet." Bordered laterally by the first rib, medially by the vertebral column, and anteriorly by the claviculomanubrial complex, size and mobility of the thoracic outlet is largely dictated by cervicodorsal and first rib mechanics.

Typical motion of the first rib is elevation and depression with some degree of anterior/posterior glide. Restriction at this level is almost always compensatory with dysfunctions of muscle function and posture. The typical osseous restriction of movement of the first rib usually involves coexistence of restriction in cervical rotation and lateral flexion.[5] According to Travel an elevated 1st rib concurrent with T1 articular dysfunction may result from rotation of the vertebrae by the longissimus capitis complex.[6]

Intricate to the movement and geographic boundary of the thoracic outlet is the scalene muscle complex. With insertions to the upper cervical segments and the first two ribs, the scalenes function as a group to stabilize the spine against lateral movement as well as assist as secondary movers of respiration. Unilaterally these muscles function to flex the head forward and sideways.[6]

Not withstanding, this dynamic role is inherent with susceptibility to gravitational forces and postural changes leading to over-facilitation and adaptation. Anterior head carriage causes undue compensation on the posterior elements of the facets and vertebral body, stretch weakness of the anterior vertebral flexors, and reflex tightening of the neck extensors. These changes often culminate in muscle creep, historesis, and set, causing trigger points within the scalene belly. Referral from these trigger points is seen in the posterior scapular region, anterior pectoral girdle and along the length of the arm.[6]

The boundaries of the thoracic outlet work as a conduit for the neurovascular bundle that courses the thoracic wall and upper extremities. Anatomically this bundle passes through several small spaces including the interscalene and costoclavicular triangle, subcoracoid space and the slope of the first rib.[5] This torturous course according to Gatterman causes a set of physiological factors compromising this narrow passage including: **Developmental Factors** such as inclination of the clavicle at the acromioclavicular joint; **Anthropomorphic Factors** such as thin physique and poor muscle development leading to acromioclavicular decent and slender neck and cervical nerve root tractioning and; **Postural and Dynamic factors** such as hyperabduction and external rotation of the arm.[6]

These anatomical challenges contribute to entrapment of the neurovascular bundle leading to ulnar distribution of pain, tingling, numbness and dysthesia.[6] According to Travell "this close relationship between the diagnosis of thoracic outlet and scalene trigger point often cause pain symptoms and entrapment signs. Travell goes on to say that most cases of entrapment are secondary to elevation of the 1st rib along with adaptation of lower cervical vertebrae.[7] These associated presentations most likely account for the less than 50% success rate with surgery and the overwhelming success rate of conservative soft tissue and manipulative techniques.

Results

Patient management of Daniel consisted of six treatments over a three week period. Therapies were directed at mobilization of the cervicolthoracic junction and reduction of lower cervical anteriorities. Adjustive procedures at these locations followed traditional AK challenge with coupled mechanics of the lower cervical spine maintained. Adjustments followed closely the techniques as described by Goodheart, Bandy and Walther for the "hidden cervical disc." [8] Soft tissue correction of the scalene complex was resolved with a combination of percussions and Spray and stretch as illustrated by Travel.[7] Kinesiotaping of the cervical flexors and rotators was utilized to facilitate muscle reeducation and prevent recurrent anterior translation of the lower cervical spine. Cranial inspiratory faults and category I blocking, as well as full spine adjusting were directed at restoring joint mechanics and re-establishing postural integrity. A series of postural exercises including shoulder girdle rehabilitation was given as a take home exercise.

Daniel saw a quick resolution in his presenting complaints with an almost 75% resolution in his pain with swallowing following his first treatment. At his last treatment all of his original complaints had been resolved and schedules of perioidic follow ups were prescribed on a monthly basis. Patient education as to causation of his symptoms was heavily stressed through out his treatment and postural preservation was highlighted as a key to preventing the reoccurrences of his problems.

Conclusions

The relationship of spinal position and muscle length cannot be over emphasized in any case of cervicobrachial and thoracic outlet type syptomology. The etiology of the translation of the anterior cervical vertebrae, along with 1st rib dysfunction, holds the key to the resolution of most pain patterns of the shoulder girdle and upper extremity. Through the use of AK assessment and spinal manipulation most cases of this manner can be conservatively and effectively treated.

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Pilot Study on Prevalence of Therapy Localization to Luo Points, Tonification Points, and Source Points in Law of the Five Elements Acupuncture Imbalances

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Abstract

A convenience sample of fifty-one chiropractic patients was tested for meridian pulse diagnosis by an applied kinesiology protocol. A deficient meridian and a relatively excess meridian were identified for each patient. Potential meridian treatment points were evaluated by therapy localization (TL). All 51 subjects demonstrated T.L. to the luo point of the excess meridian. Twenty-seven had T.L. to luo of the deficient meridian and 48 had TL to the tonification point of the deficient meridian. Manual treatment to each of the points which T.L.ed and chiropractic adjustment of the vertebra at the level of the associated point cleared the pulse therapy localization and associated weak muscles in each case.

Introduction

The Law of the Five Elements is a description of the relationships among meridians and the organs and physiologic functions which they govern. It also is a description of the Chinese philosophical understanding of macrocosmic relationships among forces of nature. Although translations of the Chinese descriptions of these factors may appear metaphorical and rather difficult to grasp to western minds, many applications of the Law of the Five Elements are actually quite simple, especially with the tool of muscle testing to elucidate the patient's current situation.

The Five Elements relationships are summarized in a chart arranging all the meridians in 5 Yin/Yang groups around a circle, with a star connecting every second meridian. Energy flows from one element to the next around the circle in the Creation or "Shen" cycle, each feeding energy to the next element in the "Mother-Child" relationship. The star—the Destruction or "Ko" cycle—represents controlling or balancing effects between meridians. (See Figure 1)

In 1974, an ICAK member and acupuncturist, Dr. Robert Perolman, made a presentation at the annual meeting of ICAK in which he used muscle testing to evaluate acupuncture five-element interrelationships and treated imbalances using luo points. Goodheart subsequently published this procedure in the 1975 *Applied Kinesiology Workshop Procedure Manual*.[1] In Goodheart's and Perolman's original presentations of these techniques, the Luo points treated are consistently on the excess meridian to discharge energy past a blockage.[2] When a point on an excess meridian is treated, Goodheart recommended adjusting the vertebra at the level of the associated point for the excess meridian.

Beardall and Rarey presented a technique at an early ICAK meeting involving challenging alarm points backward along acupuncture 24-hour cycle. They also suggested treating the luo point of the meridian found to be in excess. Their original paper is not currently available, however, Goodheart described this procedure in the *1973 Applied Kinesiology Workshop Procedure Manual* and his Research Tape #11 and credited it to Drs. Allen Beardall and Jack Rarey.[3, 4]

Walther expressed concern that treating the luo point on an excess meridian may allow energy to travel in unintended directions.[5] He presented a variation on the Beardall/Rarey 24-hour cycle technique employing the luo point of the first deficient meridian. Leaf also recommended using the luo point on the deficient meridian for 24-hour cycle and for five-elements applications.[6]

The original Perolman/Goodheart application has become less well known in recent years, as familiarity with the original Goodheart manuals is less widespread. Although it has not been formally discredited by contrary evidence, it no longer is considered "official AK" for testing and teaching purposes by the ICAK International Board of Standards. The authors have used the original Perolman / Goodheart Five Elements procedure for decades with good clinical success and propose that it be reinstated as one of several "official" AK meridian therapy procedures.

The present study examined the frequency of AK therapy localization to various proposed meridian treatment points when a five elements imbalance has been identified in a patient and the result of treating these points.

Rationale

Coupled Meridians follow each other in the 24-hour flow of energy and have opposite polarity. Each meridian is connected to its coupled meridian by a "Transversal Luo Vessel." The Transversal Luo Vessel runs from the Luo point ("Gate" or "Connecting point") of the meridian to the Source point ("Iunn" or "Yuan" point) of its coupled meridian.[7, 8, 9]

Longitudinal Luo Vessels also begin at the Luo point and run a varying distance along the meridian and flow towards the organs, connecting external to internal.[10]

Luo points balance energy between:[11]
1. Coupled meridians
2. The same meridian on the right and left side of the body
3. The meridians related by the Midday-Midnight Law, or meridians 12 hours opposite to each other on the 24-hour cycle.

As noted above, A.K. Luo points can also be used to balance energy along the 24 hour cycle and the Creation (Shen) Cycle of the 5 Elements Law. This is possible because of the many connections from these points via the secondary vessels.

Goodheart's and Perolman's use of Luo points on the excess meridian to discharge energy past a blockage makes sense in light of the direction of flow of energy along the Luo Transversal meridians—**from** the Luo point to the Source point of the coupled meridian.

Each meridian also has a command point corresponding to each of the 5 Elements—Fire, Earth, Metal, Water, Wood. They are located between the elbows and fingertips and between the knees and the tips of the toes. The element points can be used to transfer energy between the meridians corresponding to the various elements. The 4-point tonification and sedation patterns traditionally used in AK[12] are composed of element points. These patterns have "official" status in A.K. already. Use of element points, such as the tonification point of the deficient meridian, in conjunction with Luo points may eliminate potential misdirection of energy by opening a door to so many meridians by using Luo points.

Methods

The examiners are each Certified Teaching Diplomates of ICAK with over 25 years of practice using applied kinesiology, including various A.K. acupuncture protocols. One examiner has used this exact protocol since the mid 1970's. The other has been using a variant, not including the luo or associated points of the excess meridian.

Convenience samples of patients in two chiropractic offices in separate cities were tested for meridian pulse therapy localization (TL) during routine visits. Fifty-one patients had a positive pulse TL and were included in the study. Upon finding a positive pulse TL, the doctor continued with the analysis (See appendix for details.), identifying whether one or both of the meridians represented by the pulse point which therapy localized was deficient (associated muscle weak) or not. If not, a deficient meridian was sought "downstream" or clockwise on the Shen cycle. Once a deficient meridian was identified, the alarm points in the element "upstream" from the deficiency were therapy localized to find one that would strengthen the weak muscle associated with the deficient meridian upon TL. This meridian was considered to have a relative excess of energy.

All of the following acupuncture points were then therapy localized and results recorded:

- Luo point of the excess meridian
- Luo point of the deficient meridian
- Tonification point of the deficient meridian
- Source point of the deficient meridian
- Associated point of the excess meridian (omitted in office 2 for the first 13 patients)
- Associated point of the deficient meridian

All points which therapy localized were treated by digital pressures except for associated points. The vertebrae at the levels of the involved associated points were challenged and adjusted. Pulses were again therapy localized and all weak muscles were retested after treatment and results were recorded. Thirteen of the subjects were followed up on the next visit. Pulse points were therapy localized. If positive, the same protocol was followed (2 patients).

Results

The pulse which therapy localized was the deficient meridian in 44 patients and the excess meridian in 7 patients. The luo point of the excess meridian T.L.ed in all 51 patients. The luo point of the deficient meridian T.L.ed in 27 patients. Subluxations were found at the level of the associated points both excess and deficient meridians. The tonification point of the deficient meridian T.L.ed in 48 patients. In all cases, pulse TL was gone following treatment and all muscles tested normal. (See Table 1)

Table 1
Results—Points which therapy localized and were treated.

	Positive pulse	Luo point	Tonification Pt.	Source Pt.	Associated Point	Pulse TL recurred on follow- up?
Excess meridian	7	51	N.A.	N.A.	20	Yes 2
Deficient meridian	44	27	48	31	41	No 11
Missing data	0	0	0	3	16 excess no data 3 deficient no data	No data 38

Table 2
Frequency of meridian points which therapy localized together.

Number of positive points	Luo of excess	Luo of deficient	Tonification of deficient	Source of deficient
1	1	–	–	–
2	15	1	13	1
3	14	5	14	9
4	21	21	21	21

Discussion

In this pilot study, using applied kinesiology criteria for the presence of an acupuncture imbalance, nearly twice as many patients had therapy localization to the luo point of the excess meridian than the luo of the deficient meridian. All of those with TL to the luo of the deficient meridian also had a TL to the luo of the excess meridian. Most patients also showed therapy localization to the tonification point of the deficient meridian. Fewer had a TL to the source point of the deficient meridian. Of those followed up, virtually all showed that the correction held, in A.K. terms, for several days to several weeks.

We believe that this is the first time data has been collected in A.K. on the relative frequency of finding an active pulse point at the excess compared to the deficient meridian. Similarly, we believe that it is the first publication of the frequency of finding associated point subluxations relating to the excess and deficient meridians. Eighteen of the 35 subjects who were tested for both levels had positive findings at both levels.

Limitations of the study include potential sampling bias due to the use of a convenience sample of patients in 2 chiropractic practices. Most but not all of the subjects were tested sequentially over a period of a few weeks, however time considerations in practice dictated that not all potential subjects may have been included. A future study should use at least a sequential sample and data on how many subjects were excluded for various reasons including negative pulse T.L.

No attempt was made to collect demographic data or information on chief complaints from our subjects. Some data was missing for some subjects due to either a failure to check or to record it.

In that all treatment in this study was done in the context of complete chiropractic visits including other procedures, follow up results cannot be ascribed solely to the study intervention. However, the acupuncture analysis was generally done at the beginning of the visit in question, minimizing the effect of other treatment that day on the initial findings. For all but one patient, more than one acupuncture point was treated. Therefore, it is impossible to distinguish which point or points is responsible for corrections in the muscle weaknesses observed. A future study should standardize these factors.

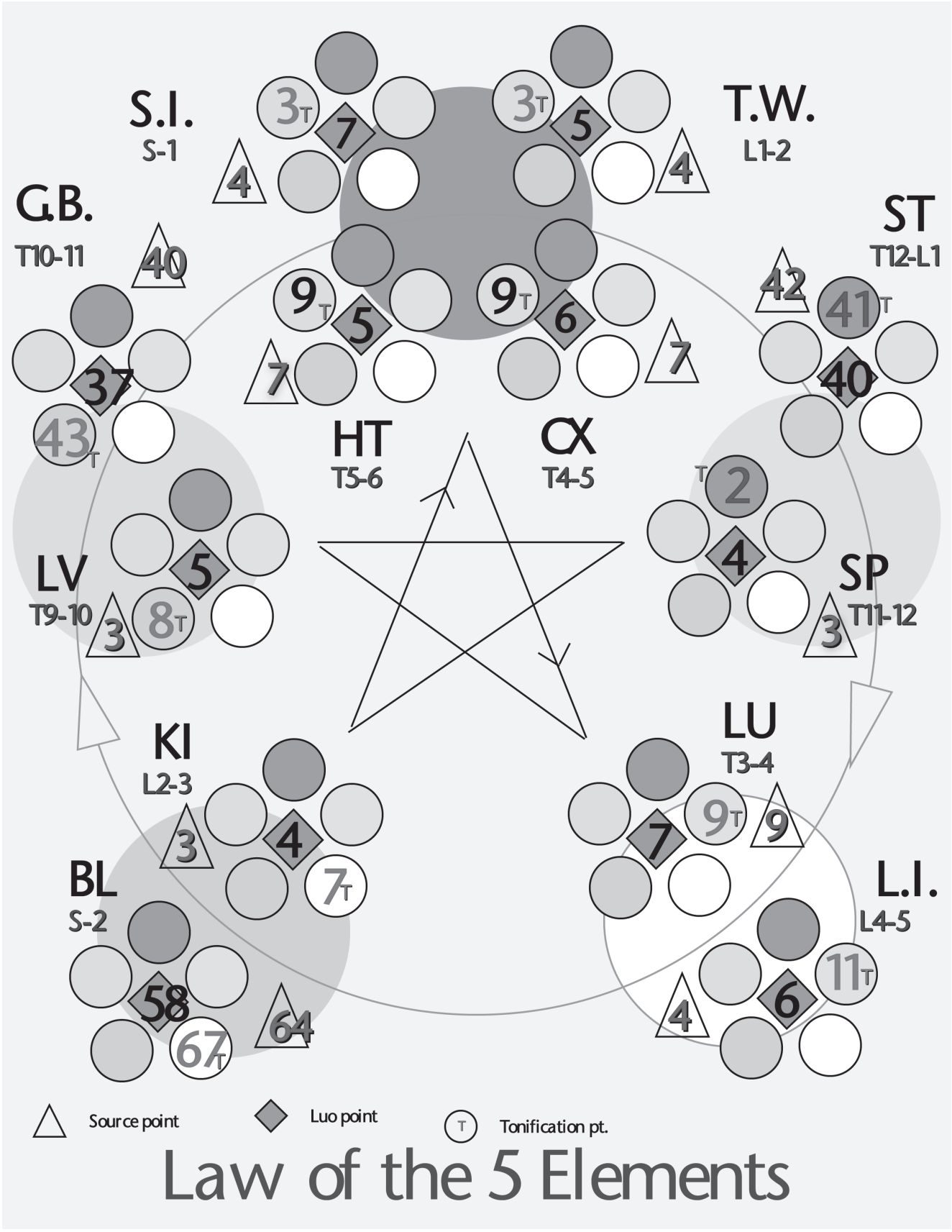
The ICAK Board of Standards recently attempted to collect data from other ICAK diplomates using a similar protocol. Informally reported findings from two other diplomates reflected different proportions of positive T.L.s to the luo points of excess and deficient meridians. One doctor tested patients in his chiropractic practice and found none at all demonstrated T.L. to the luo point of the excess meridian. Another reported results from data collection in a seminar setting and possibly a slightly different protocol and informally reported different proportions from those we found. It is likely that the present study and the Board of Standards data collection were both open to bias due to the examiners' expectations and differing protocols. This should be controlled for in future studies, perhaps by blinding the examiner doing the muscle testing to the point being therapy localized.

Dr. Eugen Burtscher[13] has proposed criteria for choosing the best among acupuncture points which therapy localize. In this study we made no attempt to apply these criteria but rather treated each point of those checked which T.L.ed to strengthen the associated weak muscle(s).

Conclusion

The luo point of an excess meridian was found to be involved in every case in this sample. The Goodheart/Perolman Five Element protocol utilizing the luo point of an excess meridian to balance muscle function and normalize pulse therapy localization, used alone or with other acupuncture points which therapy localize has continuing potential usefulness and deserves further investigation. More controlled studies are needed to resolve apparent conflicts of opinion and clinical experience in this area among AK practitioners.

Appendix: Five-Element Diagnosis (Perolman/Goodheart, 1974–5)



BASIC A.K. ACUPUNCTURE PRINCIPLES

All applied kinesiology applications of meridian therapy are based on a few basic principles:

1. There is a relationship between specific meridians and muscles.
2. A **deficient meridian** will have corresponding "weak" (non-intact, inhibited, hypo) muscles.
3. An **excess meridian** will have corresponding muscles which test "strong" and are not easily inhibited by sedation points, running a meridian backward, muscle spindles, etc.
4. A **normal meridian** has corresponding muscles which are normal – "strong" to manual muscle testing, but which can be inhibited temporarily by sedation points, muscle spindles, etc.
5. T.L. to the **alarm point** of an excess meridian will temporarily strengthen the muscles associated with any deficiency "downstream" from the blockage.
6. T.L. to an **acupuncture treatment point** that balances the meridians strengthens muscles that are weak due to that imbalance.

1. Therapy localize pulses.

a. Patient places 3 fingers over the pulse areas on 1 wrist. Test any intact muscle. If the muscle weakens, have the patient T.L. each pulse separately with one finger at a time to find the specific **pulse pair** which weakens the test muscle. (Note: Pulse T.L. is one of the few things in A.K. where either the doctor or the patient may T.L. effectively.)

b. Repeat on other wrist.

	LEFT PULSES		RIGHT PULSES	
DISTAL	SI	HT	LU	LI
MIDDLE	GB	LV	SP	ST
PROXIMAL	BL	KI	CX	TW

2. Determine which meridian is involved: Test the muscles associated with each meridian in the involved pair. The associated muscle's response will tell you whether the meridian is **deficient, excess, or normal.**

- **a. Deficient meridian:** The associated **muscle is weak** in the clear.
- **b. Excess meridian:** The associated **muscle is strong** in the clear and there is a weak muscle on one of the meridians in the next element "downstream" on the 5 Elements chart. **T.L. to the alarm point** of the excess meridian **strengthens the downstream weak muscle**.
- **c. Normal meridian:** The associated **muscle is strong**. T.L. to its **alarm point does not strengthen weak muscles** downstream.

3. Determine the relative excess and deficient meridians:

- **a. If the meridian from pulse T.L. is deficient: (muscle weak)**

  T.L to the alarm points of the meridian pair in the element next upstream from the deficient meridian. Test the weak muscle associated with the deficient meridian. One alarm point will help. This is the relative excess meridian.

  Example: LV/GB pulse T.L.s. Pec. Sternal is weak. T.L. to KI alarm point helps. Liver is deficient, Kidney in relative excess. Liver deficiency is the main problem.

b. If the meridian from pulse T.L. is excess: (muscles strong)

To find the relatively deficient meridian in the element downstream from the pulse which T.L.ed, test the muscles associated with this pulse pair. One will be weak. Its associated meridian is deficient. Now T.L. the alarm points of the meridian pair in the excess element against the weak muscle. One will help. The meridian which helped is the excess meridian.

Example: KI/BL pulse T.L.s. Psoas and Tibialis Ant. are strong. Pec. Sternal is weak. T.L. to KI alarm point helps. Liver is deficient, Kidney in relative excess. Kidney excess is the main problem.

Note: The symptoms and the pulse T.L. may be either on the excess or the deficient meridian.

4. **Treat the Luo point of the excess meridian.** Find the exact Luo point by T.L. using the weak muscle or an intact muscle. Massage this point firmly. Usually this needs to be done bilaterally. (At times an element point needs to be treated as well. This can be determined by T.L.)

   Example: In both above examples, the Luo point of the Kidney would be treated, discharging energy from the Kidney meridian to the Liver meridian.

5. **Challenge and adjust the vertebra at the level of the associated point for the meridian treated.** Associated points are points on the bladder meridian next to the spine which correspond to the various meridians.

6. **Recheck weak muscles.** They should be strong. If not, recheck alarm point T.L. and if still positive, treat the Luo point longer. If Alarm point no longer strengthens, recheck pulse analysis and / or treat other associated reflexes for the muscle. (Rare)

7. **Recheck pulse T.L.** This should be negative. If not, reanalyze. If pulse T.L. is inconsistent with other findings, check the wrist for subluxations and correct before proceeding.

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The Temporomandibular Joint and Coccyx Relationship

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Abstract

There is a relationship between the temporomandibularjoint (TMJ) and coccyx. This may be verified via Therapy Localization (TL). Correction of the coccyx subluxation will negate most TMJ dysfunctional patterns.

Introduction

The TMJ is the most important joint in the body according to Leaf and can be correlated to any joint dysfunction. The TMJ muscles (along with the upper trapezius and sternocleidomastoid) move the cranial bones via mastication, swallowing, and talking.

The coccyx is the final attachment point for the dura mater via the filum terminale and is the Lovett brother correlation for the sphenoid. The sphenoid is the center of cranial motion as it articulates with twelve other cranial bones.

The TMJ can be evaluated by testing a strong indicator muscle (IM) and having the subject move the mandible into a number of various positions with and without therapy localization (TL) to the TMJ. If a strong IM weakens, then TMJ dysfunction can be deduced and an appropriate treatment rendered (neurological tooth, fascial flush, and/or adjusting the spindle cell mechanism).

The coccyx may display TL only rarely in this author's experience and yet is a primary attachment for the dura and starting point for the governing vessel (GV) meridian as well as the attachment point for the pelvic diaphragm muscles. It moves with respiration (apex anterior on expiration and posterior on inspiration). Therefore, with such an obvious spinal importance why does it not TL more often?

TMJ imbalance is very common. If the TMJ displays this dysfunction via Applied Kinesiology (AK) protocols; then have the subject TL the coccyx. If the coccyx TL negates the IM weakness, challenge and correct the coccyx subluxation. Reexamine the TMJ and in a vast majority of instances the indicators for TMJ dysfunction are negated. This TMJ-coccyx relationship confirms Goodheart's original hypothesis and causal relationship within the dura.

Discussion

Penfield and Rasmussen have stated that thirty five to forty percent of all motor and sensory nerves of the body are related to the TMJ. The TMJ muscles move the cranial bones and have a dynamical relationship to sphenoid juxtaposition via attachment of the internal and external pterygoids as well as the anterior division of the temporalis. Normal cranial function is of paramount importance to overall body function and integration.

The coccyx is the final attachment of the dura via the filum terminale and is involved in the primary respiratory mechanism. The tip of the coccyx is the alarm point for the GV meridian and is the attachment for the coccygeus, ileococcygeus, and pubococcygeus muscles defining the pelvic floor. This makes the coccyx a pivotal key point for the spine and overall body function.

The TMJ should be observed for motion on opening and closing with the subject in the upright posture. Note any deviations of movement. Test a strong IM and have the subject bite down, open, lateralize, protrude, and retrude noting any change in the IM test. If there is a change in the IM in any mandibular position, TL the coccyx with both hands being careful not to let the hands touch each other. If this negates the IM weakness (which it does in a large majority of cases), challenge and correct the coccyx subluxation manually. Then recheck TMJ function utilizing the same protocol. The TMJ dysfunctional indicators should be negative. Then have the subject TL the TMJ and recheck all possible positions for weakening the strong IM (biting, opening, lateralization, protrusion , and retrusion). If the strong IM reweakens, cross TL (utilizing two hands-one to the TMJ and the other to the coccyx). Again, if this negates the AK indicators of TMJ dysfunction, rechallenge the coccyx and correct the subluxaton. Post correction of the coccyx usually corrects the TMJ malfunction. Reevaluate the entire pelvis. Often times there is a sacral involvement of the apex posterior variety and/or Category II that needs to be corrected. Have the subject walk, bend, chew, grind, and swallow. Re-evaluate the pelvis for a Category I and correct as indicated. The cervical spine should also be evaluated and correct any subluxations/fixations/imbrications that are found. The TMJ at this point is usually negative for AK diagnostic evaluation.

Conclusion

The TMJ-coccyx relationship appears to be universal in all cases evaluated thus far by this author. This has a profound effect thru out the body which may be evaluated by various means especially via AK analysis. The TMJ musculature appears to be a tension take up mechanism in response to a primary coccyx involvement. Correction of the coccyx seems to negate the TMJ indicators as well as to restore a more harmonious body status.

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Enhancing Emotional Recall Quick Fix: Utilizing Sensory Modalities Beyond the Primary Representational System

Matthew G. Keschner, D.C., CCSP

Abstract

Relieving somatic manifestations of emotional stress has been accomplished by tapping acupuncture head points while the patient thinks about an emotionally stressful problem, person, or event. Walter Schmitt, D.C., DABCN, DIBAK enhanced this technique with Emotional Recall Quick Fix, identifying acupuncture head points that negated thought induced weakness, and performing Injury Recall Technique, herein referred to as IRT, to the Chapman's Reflex related to the acupuncture head point.[1] Performing Emotional Recall Quick Fix using first the patient's primary representational system, followed by using additional sensory modalities not used in the primary representational system, will cause further physiologic changes than if using the primary representational system alone.

Key Indexing Terms

Acupuncture, Meridian, Emotional Recall, Applied Kinesiology, Chapman's Reflexes, Predicates, Sensory Modalities, Representational Systems, Neuro-Linguistic Programming

Introduction

Merriam-Webster Online Dictionary defines emotion as a "conscious mental reaction (as anger or fear) subjectively experienced as strong feeling usually directed toward a specific object and typically accompanied by physiological and behavioral changes in the body."[2] Applied Kinesiology methods and methods of techniques with origins tied to applied kinesiology to effect emotional and emotionally induced physiological states have included psychological reversal, emotional recall, emotional recall quick fix, Neuro-Emotional Technique, and emotional erase,[3] all of which include usage of the body's acupuncture meridians.

In the field of Neuro-linguistic Programming, the term "representational systems" refers to the neurological mechanisms behind the five senses. The basic representational systems are considered to be Visual, Auditory, Kinesthetic, Olfactory, and Gustatory. Most people have one primary representational system that is used predominantly, often emerging at a time when a person is under pressure or in a state of stress.[4] No matter which representational system emerges when the practitioner asks the patient to think of a stress/stressor, the practitioner must also consider sensory modalities in subsequent steps which while not used by the dominant representational system, are, and/or were used by the person's lead system as well as reference system. Further attention to these sensory modalities in subsequent steps added to emotional recall quick fix will lead to improved results for both the practitioner and the patient.

Discussion

David S. Walther, in his text, *Applied Kinesiology: Synopsis, 2nd Ed.*, notes "The effect of the mental side of the triad of health on function can readily be observed with applied kinesiology testing. When a person concentrates on a subject that is emotionally detrimental, a previously strong indicator muscle will test weak. The muscles that appear to reflect the emotional thought processes most efficiently are the pectoralis major (clavicular division) muscles."[5] Schmitt, in his Uplink newsletter, instructs, "Ask a patient to think of various stressors. After finding one that weakens the pec major clavicular indicator muscle, tap the acupuncture head points in pairs (left and right) to negate the emotional recall."[6]

In the field of Applied Kinesiology, tapping the beginning or ending acupuncture points of the Yang meridians (those beginning or ending on the head) falls under what is known as "Beginning and Ending (B and E) Technique." Walther notes that application of this technique often causes dramatic changes in temperature, oral pH, vitamin C, and blood sugar levels within 2–3 minutes.[7] Walther further explains that temperature regulation is by blood circulation and the paranasal sinuses, with a control by the meridian system.

Evidencing how physiological corrections may in turn affect the emotional side of the triad, Walther states, "with a broader knowledge of natural health, it became apparent that many mental and emotional problems are due to physiologic dysfunction."[8]

According to Dr. Walter Schmitt, in his *Uplink* Newsletter, in reference to his QA Protocol, indicates that some of the most obvious steps addressing physiological factors associated with emotional stress include "treating small intestine issues related to bad fats (Step 5) or food allergies (Step 6) which may correct psychological reversal patterns, and heart focused activity (Step 13) Correction of injuries (IRT, NSB, Set Point) helps to balance right brain-left brain function and may affect emotional stress patterns. Improving neurotransmitter function with nutritional therapies can also produce significant emotional changes." [9]

However, Schmitt adds, "even when considering factors like correction of injuries, we still see patients whose emotional stressors seem to be at the forefront of their clinical presentation.[10] Thus, it is imperative that the practitioner examine the emotional side of the triad.

When the practitioner asks the patient to recall a stressor, the patient utilizes a representational system made up of one or more sensory modalities. Aristotle's five senses of sight hearing, touch, smell, and taste are the basis of the five representational systems of Neuro-Linguistic Programming, hereon in referred to as NLP. According to Aristotle, as referenced in the NLP Encyclopedia, the five senses provided the mind (or psyche) with information about qualities in the outside world that fell into a certain range.[11]

The NLP Encyclopedia notes, "A representational system includes the entire system of processes relating to a particular sensory modality including input, processing, storage, retrieval, and output." All representational systems may represent information in at least two ways: literally and figuratively. Each representational system perceives certain basic qualities of the experiences it senses. These include characteristics such as color, brightness, tone, loudness, temperature, pressure, etc and are called submodalities in NLP since they are sub-components of each of the representational systems.[12]

In NLP, a person is said to have a "primary representational system" when that person values or uses one of his or her senses predominantly over the others in order to process and organize his or her experience of the world. Each person uses his or her auditory, visual, kinesthetic, olfactory and gustatory senses to create

his or her model of the world. Due to the influences in the person's background and environment, there is a tendency for an individual to develop or value the information processing capabilities of one of their representational systems to a greater degree than others.[13]

Unlike the nervous system, a representational system is not all or nothing. Under normal conditions, most people have access to all of their senses. Representational system dominance will usually come out most obviously when a person is under pressure or in a state of stress. It is then that a person will rely on the system that he or she is most familiar with.[14] It follows then that it is quite likely that a person will use a dominant representational system when asked by a practitioner to recall a stressor.

A further distinction must be made between a person's primary representational system, his or her lead system, and his or her reference system. Before information can be processed and internally represented, it must be collected and input. A lead system is the sensory conduit that the individual utilizes to input or gather information. A person may prefer to input information visually, but process it through language (i.e. internal self talk). This is an example of use of visual lead system but a separate auditory representational system. A person's reference system is the sensory modality which that person relies upon to verify conclusions and make decisions. The NLP Encyclopedia offers an example of a student in a spelling bee, who receives the word verbally (auditory lead system), pictures how the word is spelled (visual representational system), and then determines if it feels right (kinesthetic reference system) before it is spelled aloud.[15]

Hence, when a practitioner asks a patient to recall a stressor, that patient activates his/her primary representational system and its sensory modalities. An emotional recall quick fix treatment at this stage is incomplete, as the other systems and modalities must be used to thoroughly treat the effects on the patient by the stressor. Following the use and treatment of the patient's primary representational system, it is beneficial to allow the patient to now access other sensory modalities which may be used in the lead and/or reference system. Accessing further modalities in additional steps will then open futher meridian and neurolymphatic pathways for a more thorough treatment.

A practitioner may think it wise to simply have the patient, upon recollection of the stressor, see, hear, and feel simultaneously. However, this is not how the stressor is naturally represented within the patient's recollection. Furthermore, forcing the patient to experience multiple sensory modalities simultaneously, when the patient does not naturally do so when experiencing the stress, might create interferences between the different sensory representational systems. This interference will create a "noise" which makes it difficult to effectively treat the emotional and physiological process that the stressor creates. For this reason, it is best to allow the patient to recall the stressor using his or her primary sensory representational system, and then explore the remaining sensory modalities in subsequent steps.

In order to draw upon the sensory modalities, a practitioner should use predicates. Linguistically, predicates are the part of a sentence or clause that expresses what is said of the subject, and that usually consists of a verb. A primary method of elicitation and modeling in NLP, for instance, is to search for particular types of predicates which indicate a specific representational system or submodality quality, and how that system or quality is being used in the overall process of thought. This type of language is typically selected at an unconscious level, and thus reflects the underlying unconscious structure and system which generates from it.[16] Applying the usage of predicates to practice, when attempting to have a patient utilize his visual sensory modality, the practitioner may ask the patient to "see or paint a picture" of that stressor. When attempting to have a patient utilize his auditory sensory modality, the practitioner may ask the patient to listen to the sounds of the stressor, or listen for the tone. When attempting to have a patient utilize his kinesthetic sensory modality, the practitioner may ask the patient to either feel whatever emotions arise, or even simply

to note the temperature, the texture of his/her clothing, or whatever tactile memory can be drawn from the recollection of the stressor. Below are some examples of predicates, taken from *NLP Level I Practitioner and Personal Development Training Course by NLP* Center of New York teachers and founders Steven Leeds and Rachel Hott, which may help the practitioner better elicit desired sensory modalities:

> Examples of visual predicates: appear, clear, enlighten, examine, focus, frame, gaze, glance, hindsight, look, inspect, notice, observe, picture, reflect, reveal, see, shine, show, visualize, watch
>
> Examples of Auditory Predicates: amplify, announce, articulate, call, discuss, earshot, echo, hear, listen, murmur, quiet, report, ring, silent, sound, speak, state, talk, tune out, whisper
>
> Examples of Kinesthetic Predicates: agitate, balance, catch, embrace, feel, grip, hang, hard, hold, smooth, squeeze, stand, stuck, touch, warm[17]

When directing the patient to use a different sensory modality, it is important to use the phrases, "if you were able to," "in this moment," "just for now," and "allow yourself to." This will allow to patient to grant him/herself permission to switch systems, and access further sensory modalities. For example, if a patient feels an emotion, and the practitioner wants the patient to now visualize a picture, the practitioner might say, "if, just for now, you were able to paint a mental picture of everything associated with the stressor giving you that feeling, then, in this moment, simply allow yourself to visualize that picture or pictures." When asking a patient to "allow him/herself" to do something, the patient is not made to feel as if he or she is switching systems under orders, but will switch anyway because the patient has just given himself or herself permission to do so.

Step by Step Procedure:

1. Patient therapy localizes to painful area. Therapy localization is negative.
2. Practitioner asks patient to think about a stressor, *assuring patient that at no point will the patient have to reveal what he/she is thinking.* At this step, the practitioner *does not direct patient to use a particular sensory modality*.
3. Strong indicator muscle (pec major clavicular preferred) weakens when patient thinks about a stressor.
4. Patient continues thought that weakens indicator muscle and practitioner taps acupuncture head points until a pair is found that negates weakness.
5. Practitioner tests the laterality to see if the acupuncture head point is on the left or right side of the head. Positive point on either right or left strengthens weak indicator muscle while patient thinks about stressor.
6. Patient therapy localizes neurolymphatic (Chapman's Reflex) points correlated to coupled meridian acupuncture head points until one point, on either right or left side, is found that negates weak indicator muscle. For Triple Warmer meridian, test Thyroid NL point. For Circulation-Sex meridian, test adrenal NL point or reproductive organs NL point.
7. Practitioner places patient's indicator muscle hand on indicated NL point. Patient is instructed to use other hand to therapy localize the area of discomfort.

8. Practitioner taps acupuncture head point 120 times while patient continues to think of stressor that weakens, and while patient therapy localizes both the indicated NL point and the point of pain/discomfort simultaneously.

9. Practitioner performs IRT to NL Point/Chapman's Reflex and pain/discomfort point simultaneously while patient continues to think of stressor that weakened indicator muscle.

10. Recheck emotionally stressful thought to confirm correction.

11. Practitioner asks patient if he/she just visualized an image or picture, heard a sound, or felt an emotion/feeling, or any combination.

    a. Note: sometimes a patient will simply think of a word. If this is the case, the practitioner asks patient if he/she pictured the word (visual) or heard the word being said (auditory).

12. Practitioner asks patient to think about the stressor using a different sensory modality. For example, if the patient just visualized a picture, the practitioner asks, "if you were able to step into that picture, and you were able to hear all or any or even one of the sounds you could hear in any one moment being in that picture, simply allow yourself to hear that sound or sounds now." The practitioner might also want to add, in the case of an auditory sensory modality, "even if the sound is simply self-talk."

13. Practitioner retests strong indicator muscle (pec major clavicular) for weakening while patient continues thinking of stressor.

14. Repeat steps 4–10.

15. If any of the three major sensory modalities (seeing an image, hearing a sound, feeling an emotion) have not been used, ask patient to use that modality now. For example, practitioner, in this example, may ask, "if, just in this moment, you were in the picture, and hear the sounds in the picture, allow yourself to feel whatever emotion or feeling might come up, even if just in this moment, even if just a little bit."

16. Practitioner retests strong indicator muscle for weakening while patient continues thinking of stressor.

17. Practitioner may choose to have patient think of a different emotional stressor if warranted and repeat steps 1–16.

Table 1

Right = Right Leg; Left = Left Leg; ERQF = Emotional Recall Quick Fix; If Nec = If Necessary.

	Baseline ROM	After first ERQF	After second ERQF (if nec)	After Third ERQF (if nec)
1. Right	65 degrees	85 degrees	100 degrees	
Left	85 degrees	105 degrees	100 degrees	
2. Right	95 degrees	100 degrees	110 degrees	105 degrees
Left	90 degrees	95 degrees	100 degrees	105 degrees
3. Right	90 degrees	85 degrees	90 degrees	90 degrees
Left	100 degrees	100 degrees	95 degrees	90 degrees
4. Right	95 degrees	90 degrees	100 degrees	
Left	85 degrees	100 degrees	100 degrees	

Table 1 shows the results of hip flexor ROM (patient supine) of four random patients, two male, and two female, who were treated consecutively. Measurement of ROM was taken visually with the examiner passively flexing the supine patient's leg at the hip.

In the findings, there is a change in ROM measurement after each emotional recall quick fix application to a representational system. In all four cases, after all three major representational systems have been subject to Emotional Recall Quick Fix, *and only after* application of emotional recall quick fix to *all* of the major representational systems, there is symmetry in ROM. In the two cases where a third application was not performed, there was a combination of representational systems used by the patient in the first application.

Conclusion

The utilization of sensory modalities beyond the primary representational system when using the Emotional Recall Quick Fix technique allows for greater results, as well as a more thorough and comprehensive attempt to neutralize the stressor and its effects on the organ, meridian, and the person it affects. Further studies involving a greater number of measurements taken, testing for the facilitation of inhibited muscles, as well as subjective measurement of stress level by the patient need to be performed. Additionally, sensory representational systems often involve eye movement patterns, which after comprehensive research and investigation, may be tied in to the overall treatment.

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Retro Analysis of Injuries Sustained by Drivers in Auto Accidents Examined with Standard Muscle Testing

David Leaf, D.C., DIBAK

Abstract

Muscle testing is an excellent aid in uncovering injuries that are commonly overlooked. The use of muscle testing is demonstrated in a retro analysis of individuals who were involved in vehicular accidents. Insights into the cause of these injuries is also suggested based on the findings.

The initial response is to examine a patient involved in an auto accident for the classic whiplash type injury of the cervical spine. Experience has shown that there are other injuries that are commonly missed. This study was done to review the common other injuries sustained in a typical rear-end or front end collision.

Methods

Patients who had been involved in either a front end or rear end collision were reviewed for the injuries that they sustained. For this study, only drivers were reviewed.

In addition to the regular questions asked during the interview process, the following questions were asked and the responses recorded.

1. Where you driving an automatic or standard shift car?
2. If an automatic transmission, do you brake with the left or right foot?
3. Where you aware of the accident about to occur?
4. Where you wearing your seat belt and did the airbag deploy?
5. Where do you hold the steering wheel?
6. How much damage was done to the car?

A regular examination was done that included pertinent orthopedic, neurological and range of motion tests. In addition, muscle testing was used to evaluate the various joints that could have been compromised during the accident.

Additional tests

TMJ

Palpation was used under the zygomatic arch to assess the balanced translation of the condyles during opening and closing. Palpation was used to assess tenderness in over the masseters, temporalis and the pterygoid pocket.

Cervical spine
The scalenes, sternocleidomastoid, levator scapula, upper trapezius and both long and short neck extensor muscles were tested for strength and palpated for trigger points. Muscles related to each spinal level were also tested. The following muscles were added to the testing sequence. These included the triceps, biceps and lumbicales muscles. The muscles related tot he cervical nerve roots were tested with the neck in a neutral position and in both flexion and extension.

Shoulder
The following muscles were evaluated by palpation and muscle testing. These included the serratus anterior, subclavius, anterior middle and posterior deltoid, supraspinatus, infraspinatus, subscapularis and the pectoralis minor.

Elbow
The pronator teres, supinator and muscles innervated by the median and ulnar nerves including the flexor digitorum profundus were evaluated.

Wrist
The opponens pollicis and the opponens digiti minimi were tested for involvement of the median and ulnar nerves.

Thoracic spine
Rib expansion was measured. The sternalis muscle was palpated for tenderness. The abdominal oblique muscles were tested and the ribs were palpated for proper motion during inspiration and expiration.

Pelvis
The rectus femoris, sartorius, gracilis, gluteus maximus, gluteus medius, piriformis and hamstrings were tested for strength and trigger points.

Knee
The quadriceps, popliteus and gasttrocnemius were evaluated for strength and trigger points.

Ankle
The peroneal muscles, tibialis posterior and the extensor and flexor hallucis muscles were evaluated.

Findings

The following are the findings of this study. A discussion of each of the areas found will be discussed after.

Total cases = 240

Area	number of findings	percent of cases
Cervical injury	240	100
Sternocleidomastoid	188	75
Scalene -	163	68
Upper trapezius	218	91
Levator scapula	172	72
Neck extensors	214	89
Muscles related to nerve roots		
Neutral spine	182	76
Flexion	232	97
Extension	165	69
TMJ injury	196	82
Temporalis	165	69
Pterygoids	177	74
Masseter	140	59
Translation	194	82
Shoulder injury	211	88
Serratus anterior	209	88
Subclavius	187	78
Deltoid posterior	196	82
Pectoralis minor	114	48
Thoracic injury	132	55
Sternalis	106	44
` Abdominal oblique	98	41
Rib	121	50
Pelvic injury	181	75
Gluteus maximus	164	68
Piriformis	146	61
Gluteus medius	158	66
Knee injury	112	47
Popliteus	108	45
Gastrocnemius	57	24
Quadriceps	63	26
Ankle injury =	153	64
Peroneus tertius	149	62
Peroneus longus	114	47
Extensor hallucis brevis	86	36

Discussion

Cervical muscle testing findings

The left sternocleidomastoid was consistently found to be strained. The restriction of the left shoulder by the shoulder restraint possibly causes the additional stress to the muscle during the rapid flexion – extension motion that occurs during the accident. A significant finding is that those involved in an accident under 10 mph who did not wear a seat belt did not have a sternocleidomastoid injury.

TMJ

The left pterygoid pocket exhibited extreme tenderness and there was a dramatic decrease in the translation of the condyle. Due to the torque motion of the cervical spine during the accident and the tendency to open the mouth during the accident, the muscles and ligaments of the TMJ are injured. A significant finding is that those involved in an accident under 10 mph who did not wear a seat belt did not have a TMJ injury.

Shoulder injury

The common injuries found in the shoulder aside from decreased range of motion, were strains of the subclavius and serratus anterior muscles. These injuries were found in individuals who had their hands at or above 9:oo and 3:00 on the steering wheel. The speed of the accident was not a significant factor.

Thoracic injury

Patient's involved in an accident over 10 mph showed a strain type injury to the sternalis muscle. Those with accidents over 15 – 20 mph all showed rib imbalances and a strain of the right abdominal oblique muscle. These injuries occurred most likely from the seat belt crossing the chest. Three individuals who were involved in accidents at these speeds did not show these injuries.

Pelvic injuries

The most remarkable finding here was that those individuals driving standard transmission cars had the least injuries in this area. It is theorized that braking with one leg causes additional torque to the pelvis during the accident. Having both legs out as in a standard transmission car braces the pelvis and adds stability during the accident.

The right innominate was consistently found to be rotated anterior and internally. The gluteus maximus was found to be strained on the right in over 90 percent of these cases.

Knee injuries

The popliteus was found to be strained and tested weak in most of these cases. This would be caused by the slippage of the tibial plateau posterior under the femur at impact. Individuals who were driving sport cars with their legs at a more horizontal angle had less of these injuries.

Ankle injuries

The most common injury was a strain injury of the right ankle with weakness of the peroneus tertius. In accidents of 15 mph and above, there was a consistent finding of a strain of the proximal fibular head with stretching of the common peroneal nerve. The injury exhibited weakness of the peroneus longus that strengthened with approximation of the fibular head. Weakness of the extensor hallucis brevis was reversed with posterior pressure applied tot he talus potentially reducing a nerve entrapment at that level.

Conclusions

The above findings demonstrate the advantage of using standard muscle testing in the evaluation of a patient for locating injuries in a traumatic accident. The use of muscle testing aids dramatically in uncovering injuries that might otherwise be over looked. There are specific muscle patterns that are found depending on the mechanics of the accident. These patterns should be tested for in all cases to avoid over looking an injury.

Low Level Laser Therapy—A Possible Treatment For Chapman's Reflexes

H. Louis Obersteadt, D.C., DIBAK

Abstract

Low Level Laser Therapy (LLLT) is fast becoming one of the modalities of choice for the treatment of many conditions by physicians, acupuncturists, physical therapists, massage therapists and others. Chiropractors appear to be leading the field in the use of LLLT for the treatment of pain and inflammation. Some acupuncturist claim that the LLLT treatment of specific acupuncture points is as effective as needles in most conditions. Some chiropractors claim that spinal misalignments (subluxations) can be treated and corrected with LLLT. Applied Kinesiologists have demonstrated that allergies, cranial faults and functional health conditions can be effectively treated with LLLT. The Chapman reflexes have been one of the main treatment areas for applied kinesiologists for over forty years and LLLT may be an effective tool for the treatment of the Chapman's reflexes.

Introduction

Low Level Laser Therapy or Cold Laser Therapy is a hot ticket on the seminar circuit even though there has been little or no scientific evidence to support its use. That appears to be changing. Pub Med and/or Mantis list studies support the use of LLLT. Dr. Jeffery Spenser's successful treatment of the US cycling team and Lance Armstrong during the Tour de France covering a seven year period has had a large impact in the interest of the LLLT. At Dr. Spencer's seminars it's clear to see why he has been successful at treating athletic injuries. His diagnosis and correction of chronic and acute conditions are quick and accomplished with ease. Dr. John Brimhall and Dr. Daniel Murphy seminars have additional techniques to treat different conditions that are needed for patients on a daily basis. Dr. Murphy has published several articles on how the laser works at the cellular level.[1, 2] Dr. James Hogg wrote a paper for the collected paper of the ICAK explaining his diagnosis and treatment for digestive complaints.[3] I have had good results treating abrasions, bruising and different skin conditions. The common denominator with all of these doctors is that they are using a specific frequency or frequencies to treat different conditions. I have seen incredible results and I have also failed miserably where I thought success would be as easy as flashing a light on the body. I'm convinced that choosing the right frequency is the key for a successful outcome. For example Dr. Hogg used 16 and 81 hertz to successfully treat a chronic cranial fault. All the seminars have a list of frequencies that can be used to correct different conditions. A common frequency that is used alone or combined with other frequencies is 42 hertz for the lymphatic system.

The Chapman's Reflex points were discovered by Dr. Frank Chapman in the 1930's and rediscovered and introduced to the chiropractic profession as neurolymphatic (NL) reflex points by Dr. George Goodheart in 1965.[4] Drs Chapman and Goodheart believed that by stimulating these reflex points they would improve the lymphatic flow of that organ or gland.[5] At that time matching the patient's symptoms with the tender area was the indicator for treatment. For example, if the patient complained of digestive problems the stomach reflex point was palpated for tenderness at the left sixth intercostal space and or the gallbladder

reflex point was palpated for tenderness at the right fifth intercostal space. In 1974 Dr. Goodheart discovered that if the patient touched (therapy localized) these reflex points a weak (inhibited) muscle would become strong (facilitated).[6] Shortly after that he discovered that a specific muscle was related to a specific organ or gland, acupuncture meridian, and neurovascular point. A weak muscle along with the patient history, the tender reflex areas and touching or therapy localizing (TL) the reflex became the tools to diagnose the need for treating the reflex points. In some cases the tender indicator was there but the muscle was strong and touching the reflex point would inhibit the muscle. This was labeled a hidden NL point. Dr. Michael Lebowitz discovered in 1991 that these hidden reflex points could be diagnosed more accurately with a magnet.[7] For over 40 years treatment was to rub the reflex point with rotatory motion to the patient's tolerance. Dr. Wally Schmitt has expanded the use of the Chapman reflex by lightly rubbing or pinching a visceral referred pain area. Light rubbing indicated parasympathetic therapy and the reflex point would be rubbed. Pinching indicated sympathetic therapy and IRT (injury recall technique) was used for correction.[8]

With some patients, especially kids, rubbing the Chapman reflex point is next to impossible. The problem patient that started this study was a 38 year old white male. I could not touch the pancreas Chapman reflex point. He related that he could not stand for anyone to touch his chest but touching and adjusting his spine was not a problem. I recalled that using a laser at a frequency of 42 hertz was the protocol for treating the lymphatic system. I decided give it a try and programmed the laser to 42 hertz, placed to diode over the pancreas NL and tested the latissimus dorsi muscle. It worked immediately and the muscle stayed facilitated after the treatment when he TL the neurolymphatic. I decided to do a study to see if this was repeatable. It worked on the next ten patients. I then tried different frequencies but 42 hertz was the only one that worked. At this point I started recording my findings. On the chart at the top were columns for the date, the patient initials (so I would not test them again), muscle, the muscle grade, autogenic facilitation was positive (if it was negative they were not included it in the study), age, sex, positive TL to NL point (the muscle strengthen with TL), muscle grade after treatment and TL to the NL after treatment to determine if the muscle would stay facilitated. I tested 57 patients over a four week period and it worked every time. I thought with the next 50 patients the numbers would surely change but they didn't. I did another 51 over a four week period with the same results. At this point I thought my bias was playing games with my muscle testing. The muscle stayed strong on follow up visits and the patients improved but I reasoned that the improvement was because of the adjustment, the neurovascular, the acupuncture points, nutrition, etc. I then asked six doctors that I knew that used proper muscle testing to assist me in my study. I gave them a blank form labeled at the top and explained the procedure. The procedure consisted of finding an inhibited muscle, challenge for autogenic facilitation, TL the NL (must facilitate the muscle), treat the reflex area at 42 hertz for 30 seconds, and then TL the NL. Four of the six doctors responded. One doctor tested 25 patients with 3 not responding, the muscle stayed weak after treatment. Another doctor did 5 patients with all responding to the laser treatment but the facilitated muscle became inhibited when the reflex point was therapy localized. Another doctor did four and all the muscles treated stayed strong. The same brand of laser was used on 139 patients and all had a single diode. A different brand was used on 3 and it had 4 diodes. All laser diodes were programmed at 42 hertz.

Conclusion

It is faster, quicker and less expensive to rub a NL reflex area but for difficult patients or reflexes that are in an area that you feel uncomfortable treating the LLLT with a frequency of 42 hertz may be the tool of choice.

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Dynamic Muscle Propioceptors Testing

Jose Palomar Lever, M.D., Orthopedic Surgeon, DIBAK

Abstract

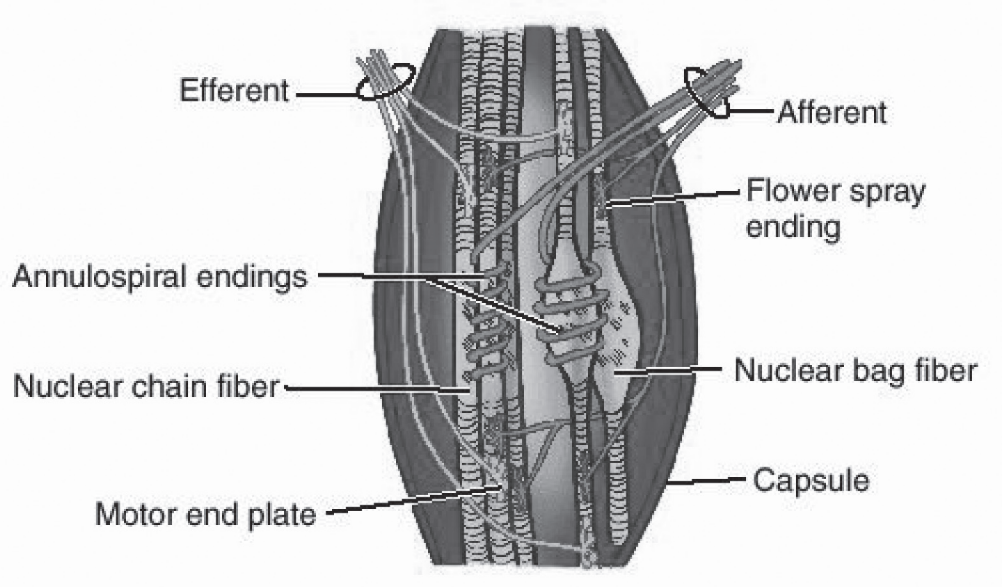
Reactive Muscles and Strain Counterstrain:
There are two new ways to distinguish the need of treatment for reactive muscles and also new ways to resolve this deficiency. There is too, a new way for strain-counterstrain correction.

Introduction

Classically, a reactive muscle pair is defined as both muscles are strong in the clear, but, when tested in sequence, A - B, B - A, one or the other muscle now tests weak. One muscle, neurologically, is dominating the other and results in dynamic dysfunction of the pair. Treatment by "turning down" the spindle cells of the Reactor muscle is indicated.

Rather lengthy lists of possible reactive muscle pairs have been determined. Thorough sequential testing of suspected reactive pairs is rather time consuming and compounded by the need to elicit two well defined muscle tests in quick succession, often beyond the concentration capabilities of the patient. At the same time, some areas of the body do not lend themselves to classical reactive tests due to the inability to perform sequential testing. TMJ and Sub-occipital muscles are two such areas.

Our investigations have determined alternative testing procedures for determining reactive muscle pairs and also a new approach to resolving this dynamic deficiency.



Procedures

I studied 150 random patients, 40% of which were males and 60% were females, who sought consultation for various reasons, and who showed reactive/reactor and /or strain/counterstrain muscle problems. After evaluating the patients with classical AK techniques, I reevaluated the patients using these techniques to confirm the diagnosis.

Method

Procedure #1

the Reactor, or dominating muscle, of a reactive pair can be found by testing the reactive, or weakening muscle, immediately after tapping the belly of the suspected Reactor muscle. Tapping the belly of different muscles tests the effects of individual 1a spindle barrages on the neurological system. This is quite different from the more commonly used deep tendon reflexes. Examples: Serratus Anterior tests strong but weakens after tapping the belly of the Upper Trapezius. Rectus abdominals weaken after tapping the Para spinal Erectors. Classical sequential testing will give the same result if a true reactive pair has been found. This procedure helps us to quickly find the reactive—reactor involved muscles.

TL to a suspected reactor muscle is negative. If the patient taps the Reactor muscle and then maintains Therapy Localization to the same muscle (tap once and hold) a previously strong indicator will now weaken. If the patient, now Therapy Localizes the related reactive muscle and performs the previous test, the indicator muscle will now not test weak. T.L. to the reactive muscle negates the original indication. This concept is important because it allows us to find reactor-reactive muscles within difficult to test muscles such as the TMJ muscle group as mentioned above. Example: Tap once and hold over the Temporalis muscle weakens a strong indicator, but this test is negated when TLing the Internal Pterygoid under the inferior border or the mandible. Thus, the reactor was found with tap and hold and the reactive was found with the TL that negated the challenge.

Procedure #2

Lorne Fedderson, my assistant, found that the Reactor, or dominating muscle, of a reactive pair can also be found by testing the reactive, or weakening muscle, while the patient Therapy Localizes the suspected Reactor muscle, (indicator muscles remain strong). Examples: Serratus Anterior tests strong but weakens after the patient Therapy Localizes the belly of the Upper Trapezius. Rectus abdominals weaken after the patient Therapy Localizes the belly of the Para-spinal Erectors. Classical sequential testing will give the same result and should be performed to confirm that T.L. is truly finding a reactor muscle and not some other factor.

The advantage to these methods is that the doctor can now use different challenges, such as rubbing (mechanoreceptors), pinching (nociception), structural vectors or others, and T.L. to possibly emotional N.L.s, cranials, dural attachments or what have you to see what other options, if any, are available that negate the original indication. This broadens the scope considerably from just the spindle cell compression normally used to resolve this situation.

Tap and Hold

Another commonly found dynamic deficiency is Strain-counterstrain. A previously strong muscle tests weak after a three second maximal contraction. My investigations have found an alternative testing method. If the patient taps the belly of a muscle three or more times in quick succession and then maintains contact (T.L.) over the belly of the same muscle, an indicator muscle will now test weak if the tapped muscle has a strain-counterstrain deficiency. Holding with Strain-counterstrain concepts, the indicator muscle will not test weak after multiple tapping to the Strain-counterstrain if the Chapman's point of the Strain-counterstrain muscle is therapy localized. This procedure is also applicable in examining hard to test muscle groups, specifically those of the TMJ.

Results

With both techniques: classical AK and these new methods were found to be 100% in agreement. I found two main advantages over the classical tests, they are easier and faster.

Conclusion

The preceding procedures will simplify and, at the same time, broaden the scope of treatment of two basic AK testing methods.

The TMJ muscle group is subject to the same dynamic deficiencies as all the other muscles, but, previously, it was impossible to test these muscles in a way that demonstrated the suspected failure modes. These examination techniques will enhance the understanding and correction of TMJ dysfunction.

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Neurogait II

Jose Palomar Lever, M.D., Orthopedic Surgeon, DIBAK

Introduction

Ligaments are a major source of afferent input to the brain, providing joint position sense, joint tension or load, relative position in space, and also influence dynamic functions as in gait and movement. In the same way ligaments can contribute aberrant information if the propioceptors are firing in an abnormal condition, and cause multiple problems.

Most investigators and doctors consider ligaments to be passive stabilizers of the joints. However, more than 100 years ago, clinicians and investigators recognized the presence and potential roles of mechanoreceptors in the function of joints. The ligaments are considered to be the primary restraints of a joint, keeping the bones aligned in their natural kinematic state throughout the range of motion. A growing pool of evidence shows that the musculature significantly contributes toward joint stability as well as to protection of the ligaments. Perhaps because of the frequency of injuries to the ligaments, and the functional impairment resulting from them, they recently have attracted considerable attention.

This study seeks to add more information around the physiology of the body's ligaments and their relationship to gait and movement. This research describes the neurophysiology of the ligaments and their function and pathology.

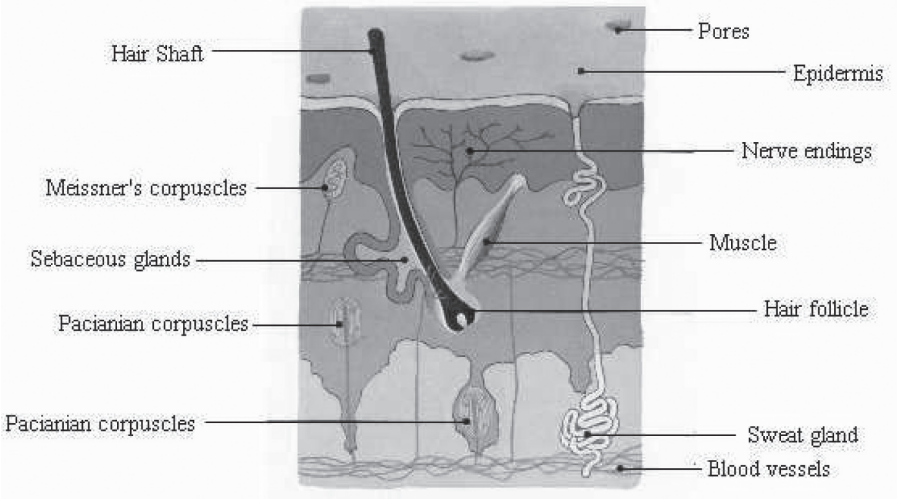
Background

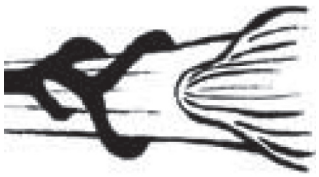
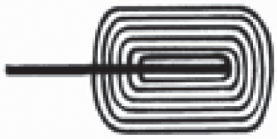
Specialized Sensory Organs

Proprioception is defined as "sensing the motion and position of the body." Specialized nerve endings are present throughout the soft tissues of the musculoskeletal system which interact with the central nervous system and coordinate our body movements, our postural alignment, and our balance. Athletic activities, in particular, rely on this delicately controlled and finely-tuned system of receptors and feedback loops, as well as the validity of the information which is sent into the spinal cord. This coordination normally allows for appropriate motor responses—and in some special cases, artistic physical performances.

Proprioceptive sensory organs are found in two distinct groups which are located in either muscles or tendons, or within the connective tissues (ligaments and capsules) of joints. These specialized nerve fibers provide information regarding the status and function of the musculoskeletal system with a constant flow of information to the spinal cord, the cerebellum, and the brain.

SENSORY ORGANS of PROPRIOCEPTION	
Muscles and Tendons	Muscle spindle fibers a.- Intrafusal muscle fiber b.- Nuclear chain fiber c.- Nuclear bag fiber Golgi tendon organs
Skins Receptors	a.- Hair Follicle Ending (A-beta) Responds to hair displacement. Wraps around hair follicle in hairy skin. b.- Ruffini Endings (A-beta) Responds to pressure on skin. c.- Krause corpuscle (A-beta) Responds to pressure (More common in lips, tongue and genitals). d.- Pacinian corpuscle (A-beta) Responds to vibration. Most sensitive in 150–300 Hz range e.- Meissner corpuscle (A-beta) Responds to vibration. Most sensitive in 20–40 Hz range. f.- Merkel Cells (A-beta) Responds to pressure of the skin (Touch). g.- Free nerve endings (A-delta and C) Nociceptive stimulation.
Joint Ligaments and Capsules (Mechanoreceptors)	Type I - low threshold, slow-adapting Type II - low threshold, fast-adapting Type III - high threshold, slow-adapting Type IV - nociceptive (pain endings)



Mechanoreceptors in Connective tissue: Ligaments, Tendons, Fascia.			
Receptor type	*Preferred location*	*Responsive to*	*Known results of stimulation*
Golgi Type I 	Myotendinous junctions • Attachment areas of aponeuroses • Ligaments of peripheral joints • Joint capsules.	Golgi tendon organ: to muscular contraction Other Golgi receptors: probably to **strong stretch** only	**Tonus decrease** in related striated motor fibers
Pacini & Paciniform Type II 	Myotendinous junctions • deep capsular layers • spinal ligaments • **investing muscular tissues**	**Rapid pressure changes and vibrations**	Used as proprioceptive feedback for movement control. **(Sense of kinesthesia)**
Ruffini Type II 	• Ligaments of peripheral joints, • Dura mater • outer capsular layers • and other tissues **associated with regular stretching.**	Like Pacini, yet also to **sustained pressure.** Especially responsive to **tangential forces** (lateral stretch).	**Inhibition of sympathetic activity**
Interstitial Type III & IV 	• **Most abundant** receptor type. Found almost everywhere, even inside bones. • Highest density in periosteum.	Rapid as well as sustained pressure changes. *-. 50% are **high threshold** units, and 50% are **low threshold** units	Changes in **vasodilation** plus apparently in **plasma extravasation**

When there is a communications breakdown, or when improper information is supplied by one or more of these sensors, movement efficiency decreases. This is harmful and possibly injurious to the muscles and joints, and results in problems with postural coordination and/or joint alignment. Beyond being just an annoyance, faulty coordination or misalignments can also be the source of chronic, unresolved pain.

However, thinking of somatic sensation in terms of a unique, one-to-one pairing of specific receptor types and specific sensations is an oversimplification. First, there are counterexamples in which a single receptor type signals different types of stimulation, depending on the location of the receptor. For example, Ruffini endings in the skin are activated by touch, but morphologically similar receptors in joint capsules are activated by changes in limb position. Another example involves free nerve endings. As noted previously, some of these respond best to temperature changes, others to mechanical stimuli, and still others to intense, tissue-damaging stimuli. Second, few situations dealing with mechanical stimuli such as touch and movement involve only one receptor type. The microneurography experiments just cited were performed under carefully controlled laboratory conditions, and it seems likely that under ordinary circumstances the overall pattern of activity in an array of receptors is important in determining the resulting sensation. Here again, Ruffini endings provide an instructive example. Whereas touching the skin overlying a Ruffini ending causes its axon to discharge, stimulating the same axon selectively in microneurography experiments causes no sensation at all. Presumably, because any naturally occurring touch stimulates many afferents in addition to the Ruffini ending, the CNS is unable to interpret isolated activity in the latter. Similarly, causing unmyelinated nociceptors to tire in response to chemical irritants produces a sensation of pain: causing the same firing rate with mechanical stimuli (and simultaneously exciting myelinated mechanoreceptor fibers) may produce only a sensation of firm pressure. The CNS thus seems to survey all the information coming in from a given area of the body before deciding about the probable nature of a stimulus.

Location of Nerve Endings

The most important sensory nerve endings for controlling the muscular system are the muscle spindle fibers and the Golgi tendon organs. Muscle spindle fibers are found interspersed within the contractile fibers of all skeletal muscles, with the highest concentration in the central portion (belly) of each muscle. Muscle spindles respond to changes in the length of muscles. A complex circuitry of these nerve endings, with interconnections in the dorsal horn of the spinal cord, maintains muscle tone and, most importantly, the appropriate tension in the muscles on opposite sides of each joint. Without this basic "wiring", proper joint alignment can't be maintained, and relaxed, upright posture is impossible.

Golgi tendon organs are located in the junctions of muscles and their tendons. These protective nerve endings exert a powerful inhibitory effect on contraction of the muscle fibers. They are stimulated by strong stretching of the muscle/tendon junction (as when the muscle fibers are contracting too strongly). Golgi tendon organs transmit their information to the spinal cord and cerebellum through large, rapidly conducting nerve fibers, and they can rapidly inhibit a muscle contraction in order to protect the tendon.

Joint Mechanoreceptors

Surrounding and protecting all joints are tough, fibrous tissues which contain a variety of sensory nerve endings. The input from these specialized sensors keeps the nervous system informed as to the location of the joint, and also the degree of stretch, compression, tension, acceleration, and rotation. These joint mechanoreceptors are classified by their anatomy and their neurological function. Type I mechanoreceptors are found in higher densities in the proximal joints. They sense the position of a joint by signaling the joint angle through normal ranges of motion. These help determine postural (tonic) muscle contractions. Type II nerve endings adapt to changes in position, and are most active at onset and termination of movement.

These are more densely distributed though the distal joints, and affect phasic muscle actions. Type III mechanoreceptors are high threshold, which means they require considerable joint stress at end ranges before firing. These receptors serve a protective function similar to the Golgi tendon organs. Type IV receptors are free nerve endings located in the ligaments, joint capsules, and articular fat pads which respond to pain stimulus. They can generate intense, non-adapting motor responses in all muscles related to a joint, resulting in the protective muscle contractions that restrict joint movement.

Anatomical Studies

The joint receptors differ histological and in function. Some of them are spray endings, others fusi and still others bag-like endings.

The terminology that has been used in discussing mechanoreceptors has varied among authors. Freeman and Wyke synthesized a number of previous reports and condensed this terminology into four types (Table I). Many, but not all, authors use their terminology, and so will we, except when it is not appropriate.

Table 1:
Classification of joint mechanoreceptors from Freeman and Wyke

TYPE	*MORPHOLOGY*	*AVG. SIZE*	*LOCATION*	*Diameter fibers (μm)*	*Eponyms*
I	*Globular or ovoid thin capsule*	*100x40*	*JC,P, L,T,*	*5–8*	*Ruffini, Golgi-Mazzoni*
II	*Cylindrical, thick lamellate capsule*	*280x120*	*C*	*8–12*	*Pacini, Krause, Vater-Pacini*
III	*Fusiform with thin capsule*	*600x100*	*L, T*	*13–17*	*Golgi, Golgi-Mazzoni*
IV	*UnMyelinated free nerve endings*	*0.5x1.5*	*JC, P, L, T, BV*	*0.5–5*	*Not reported*

(JC = Joint capsule, P = Periosteum, L =Ligaments, T = Tendons, BV = Blood Vessels)

Wyke (1980) stated that "articular neurology is one of the fundamental sciences of manipulative therapy". The following is the classification used for receptors in synovial joints and their function.

i. Type I Mechanoreceptors are:

- Numerous in the outer layers of capsular tissues of all limb joints and apophyseal joints.
- More densely distributed in the proximal joints and cervical apophyseal joints.
- 6 to 9 u in diameter.
- Subject to static and dynamic response to changes of joint position, pressure, direction, amplitude and velocity of active or passive joint movement.
- slow in adapting; their frequency of resting discharge rises in proportion to the degree of change in joint capsule tension.

ii. Type II Mechanoreceptors are:

- Embedded in the deeper layers of fibrous joint capsules.
- Relatively more numerous in distal joints.
- 9 to 12 u in diameter.

- Inactive in immobile joints.
- Fast adapting, with a dynamic response to acceleration or deceleration of joint movements.

iii. Type III Mechanoreceptors are:

- Present in joint ligaments (both extrinsic and intrinsic), but absent in the ligaments of the vertebral column.
- Active, when considerable stress is applied towards the extremes of active or passive movement or by a high traction force.
- 13 to 17 u in diameter
- They have a high threshold to mechanical pressure with a slowly adapting response.

iv. Type IV Pain receptors are:

- 2 to 5 u in myelinated fibers and less than 2 u in unmyelinated fibers.
- a plexus of unmyelinated nerve fibers that weaves in three dimensions throughout the fibrous capsule, adjacent periosteum, fat pads and advential sheaths of the articular blood vessels.
- Individual free unmyelinated nerve endings that weave between the ligament fibers.
- Entirely inactive under normal circumstances.
- Only active when irritated by the development of abnormal mechanical or chemical (histamine, bradykinin or 5HT) changes in the tissue.
- Absent in synovial tissue, intraarticular menisci, articular cartilage and intervertebral discs.

Mobilization

Different grades of mobilization according to Maitland's concept (Maitland, 1977) will produce selective activation of different mechanoreceptors:

Grade I

- activates Type I mechanoreceptors with a low threshold and which respond to very small increments of tension
- activates cutaneous mechanoreceptors.
- Oscillatory motion will selectively activate the dynamic, rapidly adapting receptors, ie. Meissner's and Pacinian corpuscles. The former respond to the rate of skin indentation and the latter respond to the acceleration and retraction of that indentation.

Grade II

- Similar effect as Grade I
- By virtue of the large movement amplitude, it will affect Type II mechanoreceptors to a greater extent.

Grade III

- Similar to Grade II
- selectively activates more of the muscle and joint mechanoreceptors as it goes into resistance, and less of the cutaneous ones as the slack of the subcutaneous tissues is taken up.

Grade IV

- Similar to Grade III
- with its more sustained movement at the end of range will activate the static, slow adapting, Type I mechanoreceptors, whose resting discharge rises in proportion to the degree of change in joint capsule tension.

Grade V

- in the premanipulative position (adjustments) it has the same effect as a sustained grade IV in the snapping action, manipulation certainly activates Type II and Type III (high threshold) mechanoreceptors.

Relative Scarcity of Mechanoreceptors in the Anterior Cruciate Ligament

Neurotracer studies have indicated that each ligament in a cat contains a total of six to twenty mechanoreceptors or, including free nerve-endings, thirteen to fifty-two. There also are very few receptors in humans; monoclonal antibody stains demonstrated a maximum of seventeen mechanoreceptors in the anterior cruciate ligament of a three-year-old child. These numbers decrease with age and disease.

Ruffini Receptors and Free Nerve-Endings

For example, the receptors in the anterior cruciate ligament are primarily Ruffini receptors and free nerve-endings. Ruffini receptors are the most frequently described mechanoreceptors, Pacini receptors are reported less commonly. Ruffini receptors are thought to function as stretch receptors, while Pacini receptors seem to be activated mainly by compression.

Ruffini receptors have a variable morphology and are classified on the basis of electromicroscopic images. The Ruffini receptors of the sub synovial layer of the anterior cruciate ligament are ovoid in shape and measure approximately fifty by 500 micrometers. They are composed of nerve-endings, endoneural connective tissue, and an incomplete perineural capsule. The endoneural connective tissue consists of collagen fibrils and fibroblasts and is connected to the surrounding tissue through gaps in the perineural capsule. In ligaments with parallel-oriented fibrils, the perineural capsule is well developed and the Ruffini corpuscles resemble Golgi tendon organs. Pacini receptors have an oval shape; measure approximately 150 by 600 micrometers, and have a thick, lamellate capsule, which consists of fifteen to thirty layers of flat perineural cells. The single afferent fiber, which measures four to eight micrometers, divides inside the capsule into several branches, which then lose their myelin sheath.

Free nerve-endings are more numerous than mechanoreceptors and function as nociceptors. They react to inflammation of the joint and pain stimuli, but they also function as high-threshold mechanoreceptors. In addition, vasoactive neuropeptides such as substance-P and calcitonin gene-related peptide have been reported in 10 per cent and 33 per cent of afferent free nerve-endings. Both of these neuropeptides are found in the cell bodies of the dorsal-root ganglion and their sensory afferent fibers, and both are thought to be involved in the processing of nociceptive information, but they also behave as vasoactive substances. Thus, afferent free nerve-endings in joints not only transfer information but also serve a local effector function by releasing neuropeptides.

Unimportant Direct Reflex Effect of Mechanoreceptors on Skeletomotor Neurons

Joint receptors do not have an important direct reflex effect on skeletomotor neurons. Since the 1950s, various authors have attempted to document such an effect of mechanoreceptors of the joint on the muscles surrounding the knee. However, many of these early experiments were confounded by disturbances of muscle or skin receptors. In a well controlled experiment by Grigg et al., a weak positive feedback was demonstrated after terminal extension of the knee (quadriceps facilitation and hamstring inhibition). These findings

contradict a putative protective reflex. Furthermore, many injuries occur over a time-frame that is shorter (considerably less than ten milliseconds) than that of monosynaptic reflex responses (more than twenty milliseconds). Even the weak effect that was noted in the study by Grigg et al. was much less than the effect that was mediated by the afferent-nerve fibers of muscles.

Influence of Mechanoreceptors of the Anterior Cruciate Ligament on the Output of Muscle Spindles (and Muscle Stiffness) through the Fusimotor System.
Johansson et al. investigated the hypothesis of Freeman and Wyke that ligament receptors influence muscle stiffness through reflex effects involving the fusimotor neurons. Muscle stiffness is defined as the change in length in a muscle-tendon complex for a given change in force. Fusimotor activity was studied indirectly by monitoring the response of 1a muscle-spindle afferent-nerve fibers. These fibers signal the change in the length of the muscle spindles and the speed of this change. An alteration in the response of most of the fibers occurred after traction was applied with use of a wire loop around the anterior cruciate ligament. Control experiments demonstrated disappearance of the reflex effect in the muscle when traction was applied to the posterior cruciate ligament after section of the posterior articular nerve. Therefore, there appears to be convincing evidence those afferent-nerve fibers in the ligament influence muscle-spindle afferent-nerve fibers. However, the functional importance of this phenomenon is far from clear. It may be partly due to the complex input of the fusimotor system. Johansson et al. suggested that the fusimotor system, after integrating input from the afferent nerves of skin, muscles, and joints, serves as a final common path for the regulation of muscle stiffness. Although the fusimotor system has a muscle-reflex effect, it acts only in an indirect manner. After muscle spindles have been activated through the fusimotor system, the skeletomotor neurons (alpha motor neurons) are activated through the 1a afferent-nerve fibers. The indirect route and the low conduction velocity of the fusimotor fibers (fifteen to twenty-five meters per second) probably preclude a protective reflex of the joint.

Lack of Convincing Evidence of a Ligament-Muscle Reflex in Humans.
Abbott et al., Gardner, and Palmer proposed that motion to the extremes of flexion and extension activates mechanoreceptors of the ligaments, initiating a spinal reflex with contraction of muscles antagonizing the movement (that is, a ligamento muscular reflex). Such contraction was assumed to take place by direct stimulation of the skeletomotor neurons in order to prevent damage to the ligament and cartilage (a joint protective reflex). Such experiments do not allow differentiation between afferent-nerve signals emanating from the ligament, capsule, and muscles.

Overview

It can be presumed that injuries to ligaments have two neurosensory effects: a loss of signaling from the mechanoreceptors in the torn ligament and a gain in signaling from the mechanoreceptors in the periarticular tissues as a result of instability. The fact that the functional outcome of a torn anterior cruciate ligament is not directly associated with the amount of laxity may be related to the variable adaptation of patients to loss or gain of signals. We propose the following.

1. Mechanoreceptors in ligaments are part of a complex of several receptor populations providing input that influences muscle stiffness. The fact that several other (potentially redundant) receptor populations have input into this system can be used to argue that the relatively few receptors in most ligaments are of minor importance in this context and that the loss of receptor input may be compensated for by the remaining receptors. However, the precise role of various receptors may vary from individual to individual, so loss of

mechanoreceptors or failure to adapt by means of redundant sources may be more critical in some patients than in others.

2. Specific considerations may be justified. The ligament and the muscle are mechanical antagonists. Extension of the knee generates strain in the anterior cruciate ligament activating mechanoreceptors in the ligament. Contraction of the quadriceps muscle further increases anterior cruciate-ligament strain in the extended knee. The anterior cruciate ligament is the only structure that specifically antagonizes the anterior tibial translation generated by the quadriceps muscle; thus, its mechanoreceptors may be the only ones that sensitively and effectively signal anterior tibial translation. It therefore seems reasonable to assume that the output of the anterior-cruciate-ligament mechanoreceptors has a specific influence on the function of the quadriceps. The fact that only a few mechanoreceptors are present need not signify that the receptors are unimportant as they may be the only receptors that are involved in this function. On the basis of the quadriceps-force deficit after a tear of the anterior cruciate ligament, it can be hypothesized that this proposed function may facilitate activation of the quadriceps when the anterior-cruciate ligament strain is within certain limits. Assuming that a direct reflex influence is unlikely, it might be proposed that the output of the anterior-cruciate-ligament mechanoreceptors has a modulating effect on motor programs in which the quadriceps muscle plays an important role. Traditional views have been based on the concept of direct reflexes, but it may be more realistic to incorporate the concept of a history of loading instead of a single loading event into any hypothesis regarding the function of such receptors.

3. On the basis of the neuropeptide expression of afferent free nerve-endings, it appears that these fibers may play a role, in conjunction with the efferent fibers, in maintaining homeostasis of the ligament (or a remodeled graft); that is, they may play a role not only in the regulation of blood flow but also in the turnover of collagenous tissues.

Abstract

Ligaments send a myriad of propioceptic information to the brain; this ligament research demonstrates their neurological function during movement and/or joint loading.

This paper is about neuro physiology of the ligaments, and the information provided to the CNS.
I have found only a few, rather limited, papers describing a direct functional link between ligaments and muscles mediating facilitation or inhibition responses.

Introduction

Every fiber of any specific ligament is linked to a specific fiber of a muscle. I propose a series of new rules governing the function of the ligaments. The ligaments of the feet are linked to gait and movement in general. There are ligaments that can work in accordance with the gait if the limbs are not used for other purposes, and there are ligaments not related to gait.

Procedure

I tested more than 200 (two hundred) normal and asymptomatic people investigating the relationship between ligaments and muscles.

I tested the ligaments of many different joints of the body except those found in the feet (included in Neurogait I paper). The test consisted in spreading the ligaments and testing many different muscles to see if they became weak, strong or hypertonic, and then I compressed the ligaments together and tested the same muscles, seeking the same responses.

Method

Ligament responses with tension and compression stress:

1. Spreading apart the ligament and test 40 different muscles and verify if they are inhibited or facilitated.
2. Compressing the ligament together and test the same amount of muscles, seeking the same responses.

The ligaments were tested with three modalities:

a. Tension for a second.

b. Repetitive tension for I second (3 times sequentially).

c. Tension for 3 – 4 seconds.

d. Tension for 10 seconds.

Results

a. Tension for a second facilitates the related muscle.

b. Repetitive tension for I second (3 times sequentially) inhibits the related muscle.

c. Tension for 3 – 4 seconds inhibits the related muscle.

d. Tension for 10 seconds inhibits the related muscle.

e. Compression facilitates the related muscle if last 2 seconds or more.

I found different muscles were linked to the ligaments tested, revealing the following relationships:

Golden Rules Of Ligament Testing:

After stretching the ligaments for 1 – 2 seconds the related muscles are at first facilitated, then, with repeated or sustained stretching the muscles inhibits. The antagonists of these muscles respond inversely.

(Joint ligaments / involved muscles)

Lower Limb

Sacrotuberous ligament	Ipsilateral Biceps Femoris Ipsilateral SemiMembranosus Ipsilateral Semitendinosus Puborectalis Iliococcigeo Levator ani
Sacrospinous ligament	Iliococcigeo Obturator Internus Puborectalis Piriformis
Sacrococcigeal ligament	Pubococcigeo Puborectalis
Pubic Symphysis	Ipsilateral Rectus Abdominis Bilateral Pectineus Bilateral Adductors Pubococcigeo Puborectalis
Inguinal Ligament (Poupart)	Ipsilateral Quadriceps Ipsilateral Rectus Femoris Ipsilateral External Oblique Abdominal Ipsilateral Rectus Abdominis Ipsilateral Transverse Abdominal Ipsilateral Tensor Facia Lata Gluteus Medius / Minimus Ipsilateral Pectineus
Iliofemoral (Y shaped ligament covering the hip capsule)	Ipsilateral Tensor Fascia Lata Ipsilateral Gluteus Medium
IlioLumbar Ligament	Ipsilateral Gluteus Maximus Ipsilateral Gluteus Medius / Minimus Ipsilateral Quadratus Lumborum Ipasilateral Sacrospinalis Ipsilateral Piriformis Ipsilateral Hamstrings Ipsilateral Gastrocnemius

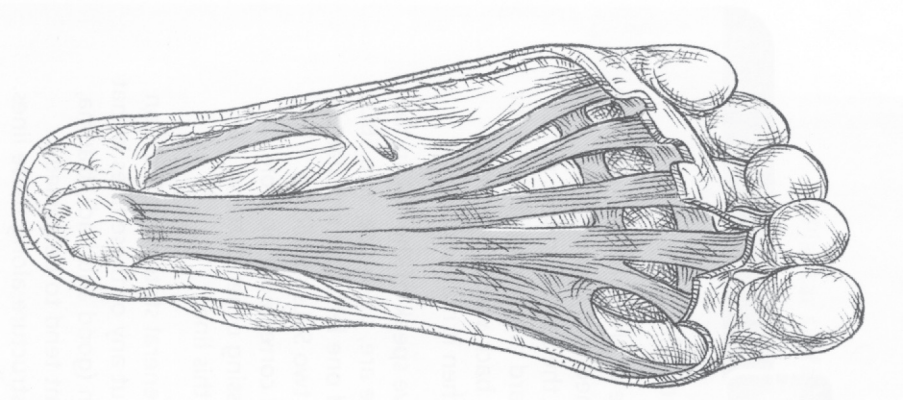
Isquiofemoral (covering the hip capsule)	Ipsilateral Psoas
Orbicularis ligament of the hip	SemiMembranosus Semitendinosus
Iliotibial tract of the knee	(Fused with lateral retinaculum and knee capsule) (Fascia Lata (acts as tendon and as ligament)) Ipsilateral Tensor fascia latae (TFL) Quadriceps (all muscles) Gluteus Maximus Gluteus Medius Gluteus Minimus Ipsilateral Biceps Femoris
Tibial collateral ligament of the knee (medial) (Parallel fibers branch)	Ipsilateral Adductors Magnus Ipsilateral Adductors longus Ipsilateral Adductors Minimus Ipsilateral Adductors Brevis
Tibial collateral ligament of the knee (medial) (Oblique fibers branch)	Ipsilateral Sartorius Ipsilateral Gracilis Ipsilateral Popliteus Ipsilateral SemiMembranosus Ipsilateral Semitendinosus
Fibular collateral ligament of the knee	Ipsilateral Quadriceps Ipsilateral Biceps Femoris
Oblique Popliteal Ligament of the knee	Ipsilateral Popliteus Ipsilateral SemiMembranosus
Tibio Fibular Ligament of the knee	Ipsilateral Peroneus longus and brevis Ipsilateral Biceps Femoris
Anterior Cruciate Ligament of the knee	Ipsilateral Quadriceps Contralateral Hamstrings Ipsilateral Masseter Anterior Temporalis Anterior Cervical flexors Ipsilateral Sternocleidomastoid (SCM) Ipsilateral Subscapularis Ipsilateral rectus Abdominis

Posterior Cruciate Ligament of the knee	Ipsilateral Hamstrings Contralateral Quadriceps Ipsilateral Masseter Posterior Cervical extensors Posterior Temporalis Upper and lower Trapezius Ipsilateral Infraspinatus Ipsilateral SacroSpinalis
Patellar Ligament	Ipsilateral Quadriceps
Lateral retinaculum of the knee (Fused with the knee capsule)	Ipsilateral Tensor fascia latae (TFL) Ipsilateral Vastus medialis (quadriceps) Ipsilateral Quadriceps (all muscles)
Medial retinaculum of the knee (Fused with the knee capsule)	Ipsilateral Vastus medialis (quadriceps) Ipsilateral Quadriceps (all muscles) Ipsilateral Gracilis Ipsilateral Sartorius
Arcuate Popliteal ligament of the knee	Ipsilateral Popliteus
Posterior menisco femoral ligament of the knee	Ipsilateral Popliteus
Interosseous membrane (between tibia and Fibula)	Ipsilateral Tibial posterior Ipsilateral Soleus
Superior and Inferior Peroneal Retinaculum (Ankle)	Ipsilateral Peroneus Brevis and Longus
Flexor Retinaculum (Ankle)	Ipsilateral Posterior Tibialis
Extensor retinaculum (Ankle)	Ipsilateral Anterior Tibialis

Foot ligaments

(Please read NEUROGAIT I paper)

Distal Transverse ligament of the feet	Ipsilateral Flexors Muscles
Proximal Transverse ligament of the feet	All Anti Gravitational Muscles
Lateral Band of Plantar Aponeurosis (Calcaneo metatarsal)	Ipsilateral Abductors muscles of the body Ipsilateral external rotators muscles of the body
Foot Fascia	Ipsilateral Adductors muscles of the body



	Ipsilateral Internal rotators muscles of the body Ipsilateral Gastrocnemious Ipsilateral Soleus Ipsilateral Quadriceps Not involved with Extensors of the neck
Plantar Metatarso phalangeal of the 2nd toe Ligament	Ipsilateral Gluteus Maximus
Anterior Tibio Navicular Deltoid ligament	Ipsilateral Pectoralis Major Clavicular Ipsilateral Rectus Abdominis Sternocleidomastoid (SCM)
Anterior Tibio Talar Deltoid ligament	Ipsilateral Upper Trapezius
Medial Tibio Calcaneal Deltoid ligament	Ipsilateral Quadriceps
Posterior Tibio Talar Deltoid ligament	Ipsilateral Subscapularis
Anterior Talo Fibular ligament	Ipsilateral Neck flexors and SCM
Middle Calcaneo Fibular ligament	Ipsilateral Hamstrings
Posterior Talo Fibular ligament	Ipsilateral Neck extensors

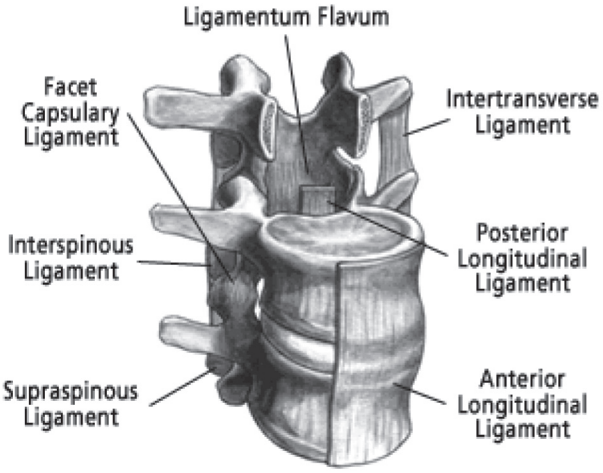
Upper Limb

Costo Xiphoid Ligament	Ipsilateral rectus Abdominis Diaphragm
Sterno Manubrial Joint Ligament	Ipsilateral Rhomboids Thoracic Spinal extensors Ipsilateral rectus Abdominis Ipsilateral Pectoralis Minor
Sterno Clavicular Ligaments	Ipsilateral Pectoralis Major Clavicular

	Ipsilateral SCM Ipsilateral rectus Abdominis Ipsilateral Levator of the scapula
Acromio Clavicular ligaments	Ipsilateral Upper Trapezius Ipsilateral Deltoid Ipsilateral Subclavius
CoracoClavicular ligaments (Trapezoid and Conoid) between 1st rib and clavicle)	Ipsilateral Subclavius
Costosternal ligament (between 3rd, 4th and 5th ribs)	Ipsilateral Subclavius
CoracoAcromial ligament	Ipsilateral Latissimus Dorsii
Transverse Humeral Ligament	Ipsilateral Long head of Biceps Brachii Ipsilateral Pectoralis Major – Clavicular Division Ipsilateral Pectoralis Major – Sternal Division
Interosseous membrane (between Radius and Ulna)	Ipsilateral Pronator Quadratus Ipsilateral Pronator Teres Ipsilateral Flexors of the wrist Ipsilateral Flexor Digitorum Superficialis Ipsilateral Flexor Pollicis Longus
Ulnar Collateral ligament (Elbow)	Ipsilateral Biceps Brachii Ipsilateral Neck Flexors Ipsilateral SMC Contralateral Neck Extensors Ipsilateral Pronator Teres Ipsilateral Wrist Extensors
Annular ligament (Elbow)	Ipsilateral Biceps Brachii
Radial Collateral ligament	Ipsilateral Triceps Brachii Ipsilateral Supinator Ipsilateral Braquialis Ipsilateral Wrist Flexors
Interphalangeal joint of the fingers ligaments	Intrinsic muscles of the hand
Flexor Wrist Retinaculum	Ipsilateral Pronator Quadratus
Ulnar Collateral ligament	Ipsilateral Flexor Carpi Ulnaris

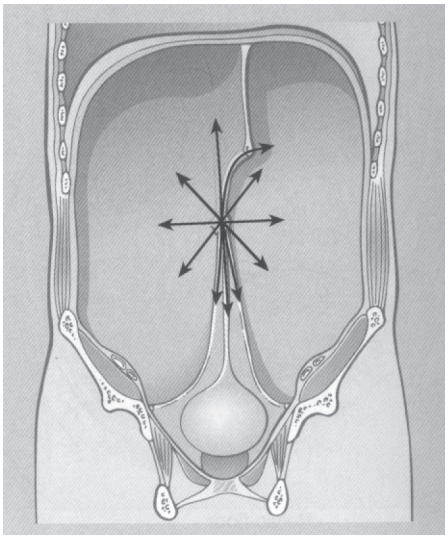
(Wrist)	Ipsilateral Extensor Carpi Ulnaris
Radial Collateral ligament (Wrist)	Ipsilateral Flexor Carpi Radialis Ipsilateral Extensor Carpi Radialis
Transverse ligament of the hand	Ipsilateral Flexors of the forearm Ipsilateral Biceps Brachii Ipsilateral Brachialis

Spine



Anterior Longitudinal Ligaments (ALL)	Segmental Flexors with axial insertions
Posterior Longitudinal Ligaments (PLL)	Supraspinous Ligament and Interspinous Ligament Ipsilateral Flexors of the spinal region Segmental Extensors with axial insertions
Ligamentum Flavum (strongest ligamentum of the spine)	Challenge at the level of the laminae Inhibits the muscles innervated by the segmental myotome
Intertransverse Ligament	Ipsilateral Flexors of the spinal region Segmental Ipsilateral Abductors with axial insertions Segmental Contralateral Adductors with axial insertions

Organ Ligaments



Umbilical Ligament (Stretching away from any organ)	Muscles related to that organ
Organ Suspension Ligaments	Muscles related to that organ

Collating the information from different sources and authors, plus that gained during testing many patients, I suggest many different old and new rules for ligaments, hyaline cartilage and capsules.

Rules of the ligaments are:

1. Each fiber of a specific ligament is related to a specific muscle fiber.
2. A specific ligament fiber is related to a specific muscle fiber, the stimulus to the ligament facilitates the muscle only in the first one or two seconds of stress, after that it inhibits the muscle (s).
3. Limb rotation during gait is necessary to stimulate ligament fibers in sequential order and, if absent, the muscles will weaken after 3 or more seconds and the limb support will be lost. Volitional control cannot override the proprioceptive inhibition, therefore joint support necessarily is muscular, which discharges the ligament's load, allowing the patient to carry objects.
4. Ligaments can inhibit proximal or distal muscles related to the same joint or proximal muscles not related to the joint, but never to distal muscles not related to the joint.
5. Ligaments can cause pain to proximal or distal muscles related to the same joint or proximal muscles no related to the joint, but never to distal muscles not related to the joint
6. Ligaments can cause pain along the muscle, but not in a patch shape.
7. Ligaments can be damaged with compression or with distraction forces. Distraction forces are more common, and the treatment differs.
8. If stretch of a ligament inhibits all muscles in the body, it is an abnormal response suggesting a metabolic source, possibly from the adrenals.

9. The muscle inhibition or facilitation response to a specific stimulus on the ligaments is a reflex, an abnormal response can be hyper or hypo.

10. One of the receptors found within the joints is the Pacinian corpuscle. It has a very good capacity to respond to vibration and will even respond to vibration above 256 Hz. Often, when a joint structure is lesioned, the Pacinian corpuscles respond. When the Pacinian corpuscles are involved, at tuning fork held on or near the lesion will cause muscles acting on the joint to weaken, just as they would after a specific challenge.

11. Ruffini mechanoreceptors are related with sympathetic response. If they are hyper reflexic, they stimulate the sympathetic tone locally and/or distally to the ligament.

12. Possible treatments for ligaments:
    a. Push ends of the ligaments together if the trauma was a stretch or pulls them apart if the trauma was a compression type (less common) for 30 to 60 seconds. Challenge the ligament and test an indicator muscle to confirm.
    b. Proprioceptive recalibration technique.
    c. IRT, Enhanced Injury Recall Technique (E-IRT)
    d. NSB technique (Nociception Blockade technique)
    e. Brace or tape the joint.

13. Nutrition for ligaments:
    1. Manganese and co factors.
    2. (Type II, low threshold, fast adapting): If hypo reactive receptors:
       After stretching a joint's ligament, the weak muscle(s) associated with that ligament should strengthen.

       If stretching the ligament does not strengthen the muscle, test the stretch response with acetylcholine factors like choline, pantothenic acid, "g" or wheat germ oil.
    3. (Type II, low threshold, fast adapting): If hyper reactive receptors:
       If the associated muscles are hyper facilitated with no traction of the ligament, and becomes normal after pushing the ends of the ligaments together, the receptors are hyper reactive.

       Then test the stretch response with glycine or GABA factors like glycine, folic acid, manganese, B-6, B-2.
    4. (Type III, high threshold, slow adapting): If hypo reactive receptors:
       Traction the joint ligament associated with that muscle for 10 seconds, or stretch the ligament for 1 second for 3 times, and the strong muscle should weaken (lasts an average of 5 seconds).

       If the related muscles do not weaken, the receptors are hypo reactive. Then test the stretch response with acetylcholine factors like choline, pantothenic acid, "g" or wheat germ oil.
    5. (Type III, high threshold, slow adapting): If hyper reactive receptors:
       If the associated muscles are inhibited with no traction of the ligament, and becomes strong after pushing the ends of the ligaments together more than 10 seconds or 1 second for 3 times, the receptors are hyper reactive.

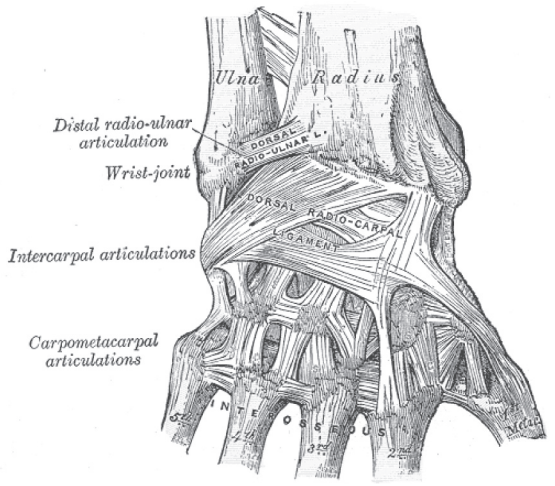
       Then test the stretch response with glycine or GABA factors like glycine, folic acid, manganese, B-6, B-2.

Rules of the Joint Capsule are:

1. Joint capsule inhibits muscles if stretched, but never inhibits with compressive forces.
2. Joint capsule can inhibit proximal or distal muscles related to the same joint or proximal muscles not related to the joint, but never to distal muscles not related to the joint.
3. Joint capsule always inhibits, never facilitates.
4. If a trauma causes a joint capsule to become hyper reflexive, it will inhibit in the same normal way, but with a minimal stress, or vice versa if hypo reflexive.
5. Capsule can cause muscle pain in a patch shape, in one or more adjacent muscles, but not along the muscle length.
6. Different vectors of lesion in a joint capsule cause different inhibition patterns. In a normal patient: (overstretching is when the capsular recess is also stretched)
7. If all fibers of the joint capsule are stretched (like in effusion or longitudinal traction) this should cause ALL MUSCLES acting directly on that joint to weaken.
8. Anterior or posterior capsular stretching of a joint should inhibit the muscles of the same side in the same limb: eg: stretching dorsal capsule of the wrist inhibits triceps ipsilateral, stretching anterior capsule of a finger or matatarsophalangeal joint inhibits the flexors of the same limb, stretching anterior capsule of the tibio tarsal joint inhibits hamstrings.
9. Medial or lateral capsular stretching of the next distal joint inhibits antagonistic muscles of the same side in the same limb: eg. Stretching internal capsule of the subtalar joint inhibits ipsilateral adductors; stretching radial side of the capsule of the wrist inhibits ipsilateral deltoid.
    - Overstretching the capsule of the flexor side, should inhibit a proximal flexor on the same limb.
    - Overstretching the capsule of the extensor side, should inhibit a proximal extensor on the same limb.
10. Overstretching of the palmar aspect of the carpo - metacarpal joint of one thumb in extension (not abduction) facilitates all muscles of the body bilaterally.
11. Overstretching of the dorsal aspect of the carpo - metacarpal joint of one thumb in flexion (not adduction) inhibits all muscles of the body bilaterally.
12. Overstretching of the palmar aspect of the carpo - metacarpal joint of one of the little finger in extension (not abduction) facilitates all muscles of the body ipsilaterally.
13. Overstretching of the dorsal aspect of the carpo - metacarpal joint of one of the little finger in flexion (not adduction) inhibits all muscles of the body ipsilaterally.
14. Overstretching of the plantar aspect of the tarso - metatarsal joint of one of the great toe in abduction inhibits all muscles of the body bilaterally.
15. Overstretching of the dorsal aspect of the tarso - metatarsal joint of the great toe in adduction facilitates all muscles of the body bilaterally.

16. Overstretching of the plantar aspect of the tarso - metatarsal joint of one of the fifth toe in abduction inhibits all muscles of the body ipsilaterally.

17. Overstretching of the dorsal aspect of the tarso - metatarsal joint of the fifth toe in adduction facilitates all muscles of the body ipsilaterally.



Rules of the Muscles are:

1. Flexor and Extensor Stretching Rules:
   - If the patient has an inhibited FLEXOR muscle (weak):
   - Stretching a distal flexor muscle should facilitate an inhibited flexor on the same limb
   - Stretching a distal extensor muscle should NOT facilitate an inhibited flexor on that limb

   - If the patient has an inhibited EXTENSOR muscle (weak):
   - Stretching a distal extensor muscle should facilitate an inhibited extensor on the same limb
   - Stretching a distal flexor muscle should NOT facilitate an inhibited extensor on that limb

Rules of the Joint Hyaline Cartilage are:

1. Joint cartilages have no vascularity (no arteries or veins).

2. Joint cartilages have no nerve endings or propioceptors, and have no specific trauma or neurological response.

3. When the trauma reaches the subchondral bone, then there are responses.

4. When there are cartilage derangements or arthrosis, neurological responses come from surrounding tissues such as capsule, synovial, ligaments.

5. There is no T.L. or challenge response to cartilage.

6. The subchondral bone has T.L. when there is a chronic inflammation and neo vascularity and neo formation of nerve endings.

Rules of the Joint Fibro cartilage are:

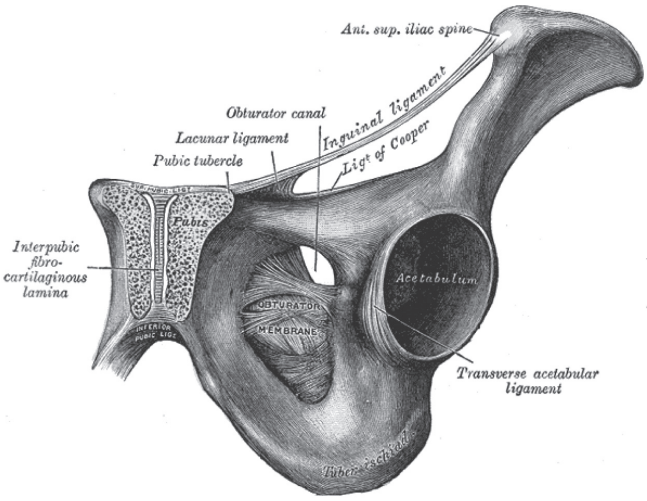
(Meniscus, discs nasal, symphysis pubis, etc)

1. Fibro cartilage has characteristics intermediate between those of hyaline cartilage and dense connective tissue. Its presence indicates the need for resistance to compression and shear forces. It is found in the intervertebral disks, the symphysis pubis, the articular discs of the sternoclavicular and temporo mandibular joints, the menisci of the knee joint and some places where ligaments or tendons attach to bones.

2. Joint cartilages have no vascular supply (no arteries or veins).

3. Joint fibro cartilages have no nerve endings or propioceptors, and have no specific trauma or neurological response.

4. There is no T.L. response to Fibro cartilage, only to insertions because their insertions have nerve endings and vessels.
5. Tractioning the earlobe in any direction inhibits all muscles in the body opposed to that action.
6. Tractioning the nose cartilage in any direction inhibits all muscles in the body opposed to that action.
7. Tractioning the lips in any direction inhibits all muscles in the body opposed to that action.



Rules of the Hyoid are:

1. Hyoid displacement inhibits all muscles in the body opposed to that action
   (The same rule as in the earlobes, nose and lips)

Rules of the Talus are:

1. If the talus is displaced medially all ipsilaterally abductors becomes weak.
2. If the talus is displaced laterally all ipsilaterally adductors becomes weak.
3. If the talus is displaced anteriorly all ipsilaterally flexors becomes weak.
4. If the talus is displaced posteriorly all ipsilaterally extensors becomes weak.
5. If the talus is internally rotated all ipsilaterally internal rotators becomes weak.
6. If the talus is externally rotated all ipsilaterally externally rotators becomes weak.

Rules of the Bones are:

1. There is no T.L. response from bone; they have no nerve endings, only from their periosteum (Interstitial type III & IV.)

Discussion

Each fiber of a specific ligament is related to a specific muscle fiber. Limb rotation during gait is necessary to stimulate ligament fibers in sequential order and, if absent, the muscles will weaken after 3 or more seconds and the limb support will be lost. This new approach to the ligaments helps us to better understand gait and normal movement.

Conclusion

Therefore, a synergistic relationship probably exists between the ligaments and muscles of every joint to ensure preservation of the tissue, prevention of damage, and proper kinematic alignment of the bones when various internal and external disturbing loads are applied.

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Propioceptive DTR Recalibration
Proprioceptive Synchronization

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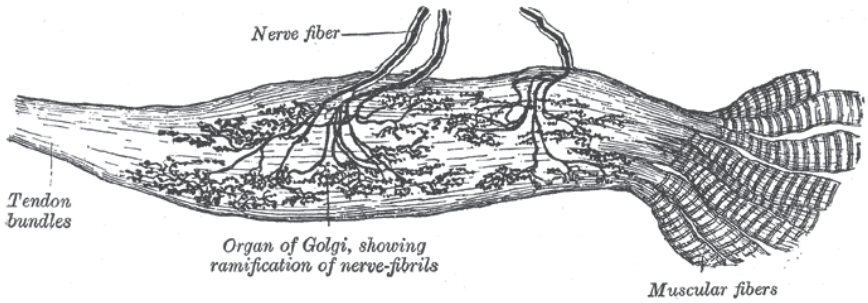
Introduction

Aberrant proprioceptor integration is the cause of much joint pain and dysfunction. Unfortunately, a method to find and fix this aberrant situation was not known.

After correcting all previously known deficiencies some joints continue to perform in a less than optimal fashion with continued pain and inflammation. Patients reported instability and the sensation that the joint would often give way much in the fashion of reactive muscles although this dysfunction could not be demonstrated.



In the search for more therapeutic options the following novel testing methods were developed. Knees are often very resistant to the most exhaustive care. It was in this area that the original findings were achieved.

Background

A **reflex arc** is the neural pathway that mediates a reflex action. In higher animals, most sensory neurons do not pass directly into the brain, but synapse in the spinal cord. This characteristic allows reflex actions to occur relatively quickly by activating spinal motor neurons without the delay of routing signals through the brain, although the brain will receive sensory input while the reflex action occurs.

Monosynaptic vs Polysynaptic

When a reflex arc consists of only two neurons in an animal (one sensory neuron and one motor neuron), it is defined as **monosynaptic**. Monosynaptic refers to the presence of a single chemical synapse. In the case of peripheral muscle reflexes (patellar reflex, Achilles reflex), brief stimulation to the muscle spindle results in contraction of the agonist or effector muscle.

By contrast, in **polysynaptic** reflex pathways, one or more interneurons connect afferent (sensory) and efferent (motor) signals. All but the simplest reflexes are polysynaptic, allowing processing or inhibition of polysynaptic reflexes within the spinal cord.

It should be noted that 'simple' monosynaptic reflexes do also have additional components. As the sensory axon enters into the spinal cord, it sends out a *collateral axon* which synapses onto an *inhibitory interneuron*. When activated, this IA inhibitory interneuron releases glycine which inhibits the motor activity of the antagonist muscle. The result is reinforced activity of the agonist muscle by removing tonic activity.

Classic Example: The Patellar Reflex

Patellar reflex: when the patellar tendon is tapped just below the knee, the patellar reflex is initiated and the lower leg kicks forward (via contraction of the quadriceps). The tap initiates an action potential in a specialized structure known as a muscle spindle located within the quadriceps. This action potential travels to the spinal cord, via a sensory axon which chemically communicates by releasing glutamate (see synapse) onto a motor nerve. The result of this motor nerve activity is contraction of the quadriceps muscle, leading to extension of the lower leg at the knee. The sensory input from the quadriceps also activates local interneurons that release the inhibitory neurotransmitter glycine onto motor neurons, blocking the innervation of the antagonistic (hamstring) muscle. The relaxation of the opposing muscle facilitates extension of the lower leg.

Golgi Tendon Propioceptor Organ

Golgi Tendon Organ Helps Control Muscle Tension. The Golgi tendon organ is an encapsulated sensory receptor through which muscle tendon fibers pass. About 10 to 15 muscle fibers are usually connected to each Golgi tendon organ, and the organ is stimulated when this small bundle of muscle fibers is "tensed" by contracting or stretching the muscle. Thus, the major difference in excitation of the Golgi tendon organ versus the muscle spindle is that *the spindle detects muscle length and changes in muscle length*, whereas *the tendon organ detects muscle tension* as reflected by the tension in itself.

The tendon organ, like the primary receptor of the muscle spindle, has both a *dynamic response* and a *static response*, responding intensely when the muscle tension suddenly increases (the dynamic response) but settling down within a fraction of a second to a lower level of steady-state firing that is almost directly proportional to the muscle tension (the static response). Thus, Golgi tendon organs provide the nervous system with instantaneous information on the degree of tension in each small segment of each muscle.

Transmission of Impulses from the Tendon Organ into the Central Nervous System. Signals from the tendon organ are transmitted through large, rapidly conducting type Ib nerve fibers that average 16 micrometers in diameter, only slightly smaller than those from the primary endings of the muscle spindle. These fibers, like those from the primary spindle endings, transmit signals both into local areas of the cord and, after synapsing in a dorsal horn of the cord, through long fiber pathways such as the spinocerebellar tracts into the cerebellum and through still other tracts to the cerebral cortex. The local cord signal excites a single *inhibitory* interneuron that inhibits the anterior motor neuron. This local circuit directly inhibits the individual muscle without affecting adjacent muscles.

Inhibitory Nature of the Tendon Reflex and Its Importance.
When the Golgi tendon organs of a muscle tendon are stimulated by increased tension in the connecting muscle, signals are transmitted to the spinal cord to cause reflex effects in the respective muscle. This reflex is entirely *inhibitory*. Thus, this reflex provides a *negative feedback* mechanism that prevents the development of too much tension on the muscle.

When tension on the muscle and, therefore, on the tendon becomes extreme, the inhibitory effect from the tendon organ can be so great that it leads to a sudden reaction in the spinal cord that causes instantaneous relaxation of the entire muscle. This effect is called the *lengthening reaction;* it is probably a protective mechanism to prevent tearing of the muscle or avulsion of the tendon from its attachments to the bone. We know, for instance, that direct electrical stimulation of muscles in the laboratory, which cannot be opposed by this negative reflex, can occasionally cause such destructive effects.

Possible Role of the Tendon Reflex to Equalize Contractile Force Among the Muscle Fibers. Another likely function of the Golgi tendon reflex is to equalize contractile forces of the separate muscle fibers. That is, those fibers that exert excess tension become inhibited by the reflex, whereas those that exert too little tension become more excited because of absence of reflex inhibition. This spreads the muscle load over all the fibers and prevents damage in isolated areas of a muscle where small numbers of fibers might be overloaded.

Proceedure

Method

I studied 400 random patients, 45% of which were males and 55% were females. These patients sought consultation for various structural problems, all had inhibited or weak muscles.

55% of the patients were treated with classical AK methods. After treatment, even though we were unable to find any weak muscles or any other AK structural problem, the patients still complained of some pain, or residual dysfunction.

45% of all patients with structural problems were not treated with the classical AK approach, instead were treated only with the following described proprioceptor DTR recalibration technique.

Description of the Technique

It has been found that previously strong muscles which do not weaken with Therapy Localization to the Golgi structures found in the tendons close to the ends of the muscle, may, if two Golgi areas of a given muscle are simultaneously therapy localized, now test weak. For example, the Rectus Femoris is strong and does not weaken with any previously known testing modality. This same muscle was often found to test weak if the proximal and distal Golgi areas were therapy localized at the same time. Similarly, a strong quadriceps group would often weaken with simultaneous TL to the distal vastus medialis and vastus lateralis Golgi areas. TL to individual Golgi areas was negative. Similarly, weak muscles may also strengthen with two-hand TL to two areas when single handed TL causes no change.

This concept has universal applications and is **always** present in problematic areas. Multiple head muscles such as the deltoids, gastrocnemious, hamstrings and the previously mentioned quadriceps, often demonstrate the two-hand contact mentioned in the vastus example above. The search for other manifestations of this problem has been extended to bi-lateral muscles as well. Bilateral adductors will sometimes test weak together if the proximal or distal Golgi areas are simultaneously TLed. Bilateral Piriformis origins or insertions may test weak with simultaneous TL.

When this situation was found, stimulation of a Deep Tendon Reflex would negate the TL in the case of strong muscles that weakened to two-handed TL, and weak muscles that strengthened to two-handed TL would now remain strong.

The Golgi structures found in ligaments respond in the same fashion. Two-hand therapy localization to related ligaments in combination with a DTR (Deep Tendon Reflex) is often adequate to strengthen muscles. An example of this might be strengthening of rectus abdominals with two-hand TL to the pubic symphysis in combination with a DTR.

Body modules can also be aligned much in the fashion of PRYT by searching for the connective tissue (e.g. ligamentous) areas of both modules which when TLed at the same time weaken a strong indicator. Application of a DTR often results in an instant realignment.

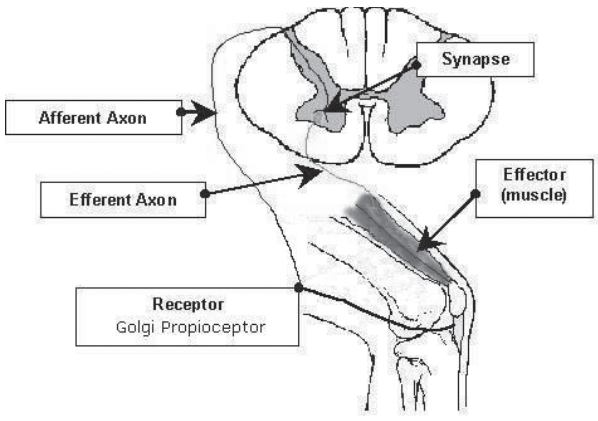
Intraosseous or Holographic subluxations will also respond in the same manner. Two-hand TL, if found to be positive, resolves with a DTR. Since bone does not possess nerve endings, this suggests that the condition is due to underlying Proprioceptive miscalibrations in the ligaments, tendinous insertions, or the periosteum. It has been found that other, if not all, of the different types of mechanoreceptors and proprioceptors respond to this intervention.

A.K. uses many two-hand TL procedures. Cloacal synchronization, sacral distortion, Category I, Category II sp, Category III, Spondylogenic reflexes, Ligament interlink, Kinematic chains, K 27, Fixations, Reactive muscles (TL reactor and reactive muscles at the same time), PRYT, RMAPI, etc., etc., etc.

IRT evaluation or challenges were unsuccessful to find or treat any problem in the ligament propioceptors; only the two-hand TL was useful to discover this problem.

Treatment

The weakness found with two-hand TL is very simply resolved by eliciting a Deep Tendon Reflex in or close to the positive area. Distant DTR´s are also often effective. One correctly performed DTR tap is sufficient. In hyporeflexive areas correction is seen to occur even if the sought for jerk is not seen. Many situations demand using a related muscle in order to find a positive TL. For example: two-hand TL to the upper cervical may be negative but will show positive when testing the Gluteus Max. The concept that gives good results is to use some or other muscle that depends upon the area being tested for its stability. But the stability should be derived from connective tissue and **not** from bones. Thus, neck extensors can be recalibrated in relation to the supporting connective tissue that runs from the cranium to the heels by TLing to bilateral connective proprioceptive areas until a positive indication is found.



DTR (Deep tendon Reflex)

Weak related muscles will strengthen and strong indicator muscles can weaken as in other AK procedures.

Thumb TL is ineffective and finger polarity can also affect TL results, therefore we suggest using multiple contiguous fingers to avoid these complications.

Results

95% of all patients treated with classical AK, followed by proprioceptive recalibration respond positively to the treatment, and showed long lasting results.

92% of all patients treated by proprioceptive recalibration responded positively to the treatment, and showed long lasting results, but the treatment required 25 to 30 % less time to complete.

Discussion

This novel testing procedure finds and corrects a not previously described dysfunction. The real proof of the pudding is the increase in stability, ease, and range of motion reported by our patients. We have found that subluxations, origin/insertion, muscle weakness, IRT, ligaments, body module misalignments, connective tissue tracts and many other situations may all respond to this novel technique. Since a DTR will correct when IRT will not, it suggests that some other mechanism is being elicited.

This method is fast, safe, and seems to affect the patient in a more profound and long lasting way. Results are quite surprising and we feel that we are only scratching the surface at this point.

Since all of the aforementioned can be effectively treated with a DTR, which sends an afferent barrage though the CNS, this suggests that Proprioceptive miscalibrations are at the root of most of the physical syndromes we are treating daily. Does this mean that anyone with a reflex hammer is now an ace therapist? Well, frankly no. A thorough knowledge of A.K. is necessary to properly direct the necessary examination and treatment of these problems.

Our investigation has also found that a simple tap to the involved proprioceptor areas is sufficient to find the same indications as two-handed TL. One tap at each end of, say, the inguinal ligament may weaken an indicator muscle or TL to one proprioceptor and a tap in the other will also weaken but only if the two taps or tap and TL are simultaneously applied. Plus, they are interchangeable.

Kinematic chains may be evaluated in the same way, but it is necessary to find the sections that will give the positive indication. Just tapping or TLing each end of the chain as a means of evaluating the whole chain is not enough. A chain is only as strong as its weakest link.

AK treatment procedures are best explained from a neurologic standpoint, simply because we are scientists, and magic or mythic explanations must be avoided.

In Dr. Richard Belli´s discussion of DTR examination found in the Synopsis by Dr. David S. Walther, it is manifest the far reaching and general effects that a DTR has throughout the CNS.

Using our double TL in combination with a DTR seems to give a neurologic focus to the DTR stimulation providing the therapeutic results found in our study. The DTR in combination with two-hand Therapy Localization seems to be analogous to taking a neurologic “snap shot” that the brain then uses to integrate and reset the system to the new normal.

Conclusion

Our main focus has been muscles, for the simple reason that we do our evaluation based on muscle testing. Spindle cell techniques have served us well, as has bone manipulation, but this investigation has come to the conclusion that connective tissue propioceptors are the most important source of afferent input.

Recently we have found that propioceptive disassociation will also cause normal muscles to weaken and DTR has potential to restore proper proprioceptor integration. Vibration, thermal, nociception and fine touch, all, when stimulated simultaneously in a discordant fashion plus a DTR, can be used therapeutically. Sometimes a specific type of proprioceptor can fix different propioceptors disassociations.

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What IRT Makes Obsolete

Walter H. Schmitt, Jr., D.C., DIBAK, D.A.B.C.N.

Abstract

Injury Recall Technique (IRT) corrections appear to restrore disrupted muscle spindle control mechanisms and postural adaptations. As a result, a number of widely used and taught applied kinesiology (AK) techniques become unnecessary in patients who receive IRT treatment. These include: reactive muscles, strain-counterstrain, foot acupuncture point related gait patterens, cloacal synchronization technique, BID (body into distortion), positive supporting effect, and PRYT. Still other historically used and taught AK techniques are found far less frequently. These include: the traditional AK multi-step approach to the iliolumbar ligament, Category 1, Category 3, fascial release technique, EID (eyes into distortion), dural torque - filum terminale technique, cranial techniques and TMJ techniques. By superceding these other techniuqes, IRT saves a great deal of the clinician's time and corrects patient's problems at a more fundamental neurological level allowing for a more robust clinical response.

Introduction

Injury recall technique (IRT)[1] is widely used in the USA and abroad for the treatment of the patients' injuries as well as for resetting of various other neurological circuits. IRT is compatible with AK techniques and with cutting edge concepts of chiropractic neurology. A previous paper discussed the neurological basis for IRT.[2]

IRT is rarely duplicated by any other technique. On the contrary, IRT supercedes many long-standing AK techniques and makes them obsolete. These older techniques are not wrong, they are just inefficient, less effective, and hence, obsolete.

When we challenge the traditional position of our structural concepts and look at AK from the awareness of modern neurology, we see that neurology is the basis for the control mechanisms that govern structural changes. This point of view promotes AK as an open system that allows for our future to be compatible with whatever arises rather than restrict us to being "just another chiropractic structural approach" which is how we are sometimes pervceived. I believe that this is one of the reasons that AK is not growing as rapidly as it should be. AK is viewed by many as: 1) not on the cutting edge, 2) too complicated because it is a whole bunch of unrelated techniques which are difficult and time consuming to learn and apply, or 3) some type of energy technique.

A neurological overview of what we do helps to synchronize and synthesize our AK techniques. IRT in particular plays a huge roll in the application of the neurological understanding of what we do. In addition, the organization of the Quintessential Applications clinical protocol [3,4] allows for the most efficient and effective application of all techniques, AK and otherwise.

Discussion

The following questions and answers elaborate on the neurological basis for IRT and the clinical importance of IRT.

Question Number 1:

What are the 3 most important neurological areas for maintenance of posture?

Answer Number 1:

1) The visual feedback
2) The inner ear (vestibular) feedback
3) Proprioception from the ankles

Most people include the upper cervical area instead of the ankles. The cervical spine mechanoreceptors (MR) are important for equilibrium, but this is different from maintaining posture for which the ankle proprioception is more critical.

Question Number 2:

What areas of the nervous system are directly affected in an injury?

Answer Number 2:

Nociception activates the flexor reflex afferent (FRA) system which was formerly called the flexor withdrawal reflex and the crossed extensor reflex. It also sends direct messages to the brainstem (reticular formation and tectum), hypothalamus (for autonomic and endocrine responses), and cerebral cortex. The local spinal cord autonomic reflexes are also activated from nociceptors (among other reasons to cause vasoconstriction to avoid bleeding to death). The cerebellum gets involved secondarily due to coordinating the feedback created by muscle responses. The entire spine gets involved in major nociception inputs as part of the withdrawal reflexes. (These spinal patterns are related to the three "Centering the Spine" positions: flexion-extension, lateral flexion, gait/torque.[5]) We can say that virtually every region of nervous system control is activated during nociception.

Question Number 3:

What bone in the body has no muscles attached to it?

Answer Number 3:

The talus. All proprioceptive feedback from the talar articulations is through its ligaments. It is only influenced indirectly by the muscles which cross its joints or shift postural weight-bearing through its articulations.

Question Number 4:

Have you ever done something painful to a supine patient (eg., rub a Chapman's reflex, correct a cranial fault, make a hard adjustment) and watched their feet and ankles? What do the feet and ankles do?

Answer Number 4:

In a painful situation on the treatment table, the patient dorsiflexes the feet and ankles.

The same ankle dorsiflexion appears to occur when there is an injury and the patient is weight-bearing or in any other position. This represents the postural adaptation which must take place at the ankle to adapt to the muscle response to the injury. This, I believe, is the basis for IRT, and why correction is most effectively directed at traction of the mortis joint of the talus in the direction of plantar flexion.[2]

Question Number 5:
What AK techniques become nearly obsolete (i.e., rarely ever found) after IRT corrections are made?

Answer Number 5:
Reactive muscles (These patterns appear to be subsets of the FRA reflexes pattern.)

Strain-counterstrain (These patterns also appear to be part of the FRA reflexes pattern or are negated by IRT to the muscle's triggerpoint and origin-insertion.)

Gait patterns technique using acupoints on feet (Most gait patterns are better seen as reactions to "Centering the Spine" problems.[6] Many CTS patterns are part of the systemic withdrawal reflex patterns. This explains some strain-counterstrain relationships in relationship to CTS positions of flexion and extension.) These gait points are still useful in some patients aftrer IRT, but with much less frequency.

BID – Body Into Distortion (These BID patterns are better seen as reactions to "Centering the Spine" problems which are part of the systemic withdrawal reflex patterns.)

Cloacal synchronization technique (What throws the body's modules out of synch in the first place? Usually responses to multiple masters, that is, multiple injuries—each body module withdrawing out of synch with another body module.)

Positive supporting effect technique (Postural reflexes must alter if the talus is adapting the posture to various injuries.)

PRYT and Occipital-atlanto flexion-extension techniques (These are obviously superseded by IRT for the head and neck.)

Correcting these traditional AK patterns is often like painting over rust. If the IRT pattern is not addressed, these problems will either recur, or the body will adapt with another muscular pattern. The patient's symptoms may improve, but the problem has only been pushed around to some other area which better tolerates the imbalance. This is not getting to the underlying cause which is a fundamental concept for chiropractic practice.

Question Number 6:
What AK techniques are found far less frequently after IRT corrections are made?

Answer Number 6:
Traditional AK multi-step approach to the iliolumbar ligament (The IL ligament pattern often exists as an adaptation to the L-5 area responding to multiple confusing inputs, at least one of which is injury pattern.) IRT to the IL ligament, however, is one of the most common findings we see.

Category 1 (Usually negated by IRT to the iliolumbar ligament, and occasionally negated by IRT to the sacrotuberous and sacrospinous ligaments like a Logan basic challenge with IRT.)

Category 3 (Often negated by IRT to the disc injury area, the sacrotuberous and sacrospinous ligaments like a Logan basic challenge with IRT, and occasionally negated by IRT to the iliolumbar ilgament.)

Fascial release technique (These patterns are many times related to FRA reactions pattern. Although we tend to be wedded to the idea that the fascia is actually shortened, this is frequently not the case.)

EID Eyes Into Distortion (The eye reactions in response to injury are well known. This is likely due to approximately 10% of nociception going directly via the spinotectal tracts to the tectum.)

Dural torque—filum terminale technique (IRT to the coccyx is quite common and corrects this problem more effectively. IRT to the coccyx may recur more than other IRT corrections, due to other systemic imbalances—usually in the endocrine system or re-injury to the area.)

Cranial techniques and TMJ techniques (Most cranial problems may be just as effectively corrected by IRT to the bone involved. Most recurrent TMJ problems can also be traced to neurological patterns driving the TMJ muscles out of balance. Although it has been demonstrated that the majority of cranial faults and TMJ problems are secondary to immune dysregulation,[4] temporary correction of cranial faults and TMJ faults may be made by IRT to the involved area(s) and this is just as effective as the traditional AK corrections in about eighty percent of these problems.)

In fairness to some of the techniques discussed in Answers 5 and 6, it is possible to make certain corrections by methods other than IRT and negate the IRT finding. When cross checking one technique against another, you may find that correcting either one negates the findings of the other. For example, strain-counterstrain measures will negate IRT challenge findings of muscle injuries many times and vice versa. However, it is much quicker and far easier on both doctor and patient to employ the IRT approach in almost every case. In the few cases that IRT appears to equal these techniques in effect, it certainly supersedes them in clinical ease of use.

Other techniques have also been superseded by IRT. Set point technique[7] for organs using Chapman's reflexes was superseded by therapy localization cross crawl which has been superseded by IRT to Chapman's Reflexes (especially when there is an offending substance stressing the organ.) This does not mean that any of these techniques is wrong. It is just that there is a better way with more wide ranging neurological effects and longer lasting clinical effects as well as less chance for recurrence when employing IRT.

Conclusions

All of this paper makes neurological sense and the proposed neurological pathways which explain the above are discussed in a paper I wrote entitled "A Neurological Rationale for Injury Recall Technique."[4] The neurological model which is employed comprehensively encompasses all of the patterns discussed. The proposed neurological explanations are not certain to prove out. But they are based on well known neurological pathways. And they do create a unified, comprehensive explanation for how what we do works. It gives us the ability to tie all of our techniques together in a systematic manner.

AK is a system which is based on the nervous system. This neurological approach is on the cutting edge. This allows the open-ended method which we must have to advance our overall approach which is far more important than the preservation of any individual techniques. It also grounds us to a system (the nervous system) which can be learned and applied in a unified and effective manner. This is the direction we should be heading in our AK education.

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Brain Stem Switching: A New Concept

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Abstract

A new thought about switching and neurological disorganization and the brain structures that are responsible for the K-27 and the CV-24/GV-27 forms of switching. This paper will try to differentiate the brain region responsible for each type of neurological disorganization by the neurotransmitter and receptors found in specific brain regions. It will also attempt to show why the idea of brain stem switching is so important in the cause and cure of diseases that we are all susceptible to.

Introduction

Switching has been a clinical entity in the practice of AK since 1970. When we would first examine a patient in the supine position we would usually start by rubbing (K-27) near sternoclavicular articulation near the manubrium of the sternum and umbilicus (CV-8) for 20 seconds. In the Applied Kinesiology Workshop Manual of 1975 on page 28, Dr. Goodheart said use K-27 and umbilical contact routinely on all patients. His description was to use vigorous manipulation of the K-27 points at the junction of the first rib and sternum and clavicle along with umbilicus CV-8.[1]

Dr. David S. Walther in his book Applied Kinesiology-Synopsis 1st Edition, 1988, in Chapter five, Neurological Disorganization, pages 145 to 158, has many subdivision of this pattern. One section tilted Organization he states the following: K-27-umbilbius stimulation is indicated when there is a positive therapy localization at K-27 and lack of predictable results with manual muscle testing.[2] One must remember that therapy localization tells that something is dysfunctioning at the area being therapy localized, but it does not tell **what.** In the general area of K-27 there could also be a positive neurolymphatic reflex for the intrinsic spinal muscles, subluxation or strain of the sternoclavicular articulation, or 1st rib subluxation. A way that I found to rule out these other variables at K-27 point is to use inspiration which usually negate the weakness if it is due to structural problems mentioned by Dr. Walther.

One of the things Dr. Walther points out in Synopsis is not to routinely treat switching until the causative factors have been found because the problem will just keep reoccurring. There may be many factors that cause the production of the phenomena of switching that could be from a structural, chemical, or psychological aspect. The one that most often seems to be the precipitating factor I believe is found in the modular distortion pattern that is referred in Applied Kinesiology as PRY-T Technique. That pattern is the Yaw #2, which is a counter torque distortion of the shoulder girdle to the pelvic girdle.[3]

Discussion

The two forms of switching or neurological disorganization have different brain regions in which this occurs. This can be challenged while therapy localization is done to the sites of K-27 and GV-27/CV-24, when positive, it will cause a strong indicator muscle to weaken. Nutritional challenge that negates the muscle weakness can determine the possible neurotransmitter and the brain region involved. Current research has shown that the area of the corpus callosum functional receptor to Glutamate, Acetylcholine, Gamma aminobutyric acid (GABA), Glycine, Aspartic acid Histamine, and some Serotonin.[4]

The area of the brain stem use neurotransmitters of Dopamine (DA), Serotonin (5-HT), and Norepinephrine (NA) these are classified as monoamines.

My supposition is that the K-27 switch is involved with the corpus callosum and the Governing vessel and Conception vessel switching of GV-27/CV-24 are associated to the region of the brain stem.

The K-27 switching while troublesome, can provide us with misinformation during manual muscle testing because the pathways connect the right and left cerebral hemispheres by way of the corpus callosum. The GV-27/CV-24 switching connection to the brain stem which is a complex extension of the spinal cord. It contains circuits to control respiration, cardiovascular function, gastrointestinal function, eye movement, equilibrium, support of the body against gravity, and many special stereotyped movements of the body[5]. It is reasonable to believe if failure to communicate is represented by GV-27/CV-24 switching it can have dire consequences.

This should mean that the form of switching is present in any patient with a serious illness such as cancer, diabetes, multiple sclerosis, and congestive heart failure, etc. This form of switching is the old proverbial quoted "the straw that broke the camel's back".

This GV-27/CV-24 form of switching is not as prevalent as K-27 switch and appears to be present in about 25% of patients examined. The K-27 form of switching seems to be almost universal being found in about 99% of patients examined.[6]

Method

Patients being examined in the supine position are first tested to establish that normal indicator muscles are strong since the hands are being used to therapy localize both K-27 and the GV-27/CV-24 points. The most suitable test muscles in the position are the gluteus medius or the tensor fasciae latae but other muscles such as the quadriceps can be used.

1. First the patient is asked to therapy localized K-27 points, with right hand on the right K-27 and the left hand placed on the left K-27. If positive a strong indicator muscle will weaken.

2. The neurotransmitter amino acid components or the actual neurotransmitter (if available), are used to lingual challenge to verify what negates the muscle weakness.

3. For the (K-27) corpus callosum relationship the following were used: Acetylcholine, Gamma aminobutyric acid or GABA, Glycine, Glutamine, Aspartic acid, and Histidine.

4. Patient is asked to therapy localize the upper lip just below the nose (GV-27) then the indicator muscle is tested. It should be negative. Then the patient (TL) just below the lower lip (CV-24), this too should be negative. Finally both points (GV27/CV-24) are therapy localized simultaneously and the indicator muscle weakens.

5. For the (GV-27/CV-24) brain stem relationship the following were used: Tyrosine, Phenylalanine, and Tryptophan. Since tyrosine is converted to dopamine and L-dopa, Norepinephrine and epinephrine and it also forms T_3 and T_4. Tryptophan is converted to Serotonin or 5HT is readily available for testing.

Findings

This study has been on going for the past ten or more years starting with the investigation of the Figure "8" energy flow and the pattern of K-27 switching and its association to neurological disorganization. It has lead to many different research papers and observation that were not obvious when I started this investigation.[7]

Over 1519 patients have taken part in this study of brain stem switching over the course of the year of 2006. What I found that was a consistent finding is that the positive therapy localization to K-27 could be neutralized with the amino acids and neurotransmitters Acetylcholine, Gamma aminobutyric acid (GABA), Glycine, Glutamine, Aspartic acid and Histidine. But it was not effected with Tyrosine, Phenylalanine, and Tryptophan.[8,]

The GV-27/CV-24 Brain Stem Switching was neutralized by Tyrosine, Phenylalanine, and Tryptophan, but it was not effected by Acetylcholine, Gamma aminobutyric acid, Glycine, Glutamine, Aspartic acid and Histidine. This I believe confirms my theory that the GV-27/CV-24 represent the brain stem.[9]

The Brain Stem Switching (BSS) is present any time you find cross therapy localization at K-27 it will coexist even when you find K-27 in the clear. By this I mean if you start with K-27 right hand on right side and left hand on left side and then check with a cross pattern right hand on left K-27 and left hand on right K-27 will both be present simultaneously.

Other areas of cross therapy localization that indicate the BSS is at the TMJ, with the right hand on the left TMJ and the left hand on the right TMJ. Also at the Ileocecal valve when you therapy localize with the standard pattern with right and left hands next to each other at McBurney's point and it is negative, but it is found positive when one hand is placed on top of the other. This pattern will only show in one way meaning right hand on top of the left or left hand on top of the right. The bottom hand will represent the brain side that registered the problem. This can also be shown by cross therapy localization to McBurney's point rather then the hands placed side by side.[10]

Conclusion

This brain stem switching pattern is connected to the Governing and Conception vessels by way of GV-27/CV-24, and indirectly the original K-27 switching neurological disorganization by way of dorsal column pathways. The pathways are described as entering the dorsal columns passing all the way up to the medulla, where they synapse in the dorsal column nuclei (the cuneate and gracile nuclei). At this point the decussate immediately to the opposite and pass upward to the thalamus through the bilateral pathways called the medial lemnisci. The final destination will be in the areas of the postcentral gyrus of the cerebral hemisphere.[11,12]

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Revaluation of the Significance of Ocular Lock Phenomenon

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Abstract

To prove that ocular lock is not associated to the general K27 therapy localization switching, but rather to the pattern of crossed therapy localization to K27 and a specific cranial fault.

Introduction

The phenomenon of ocular lock has been a longstanding observation in the practice of Applied Kinesiology. However, the true meaning of this condition has not been correctly evaluated even thought it has been part of general Applied Kinesiology information since the early 1970's.[1]

Early this year (2007) I was teaching a basic AK class when a women Chiropractor asked me to correct ocular lock that she believed she had. I had checked for switching earlier in class so I said that she should not have ocular lock, but I checked anyway. The general therapy localization of neurological disorganization was done and proved negative. I than had her do cross TL to K27 and I got a positive response, so I then asked her to read the first paragraph of the Gettysburg Address and she weakened and she was strong when I asked her to read it backwards which meant she did have ocular lock.

Discussion

Dr. Goodheart has alluded to it in his 1974 Workshop Manual page 39 that the eyes would compensate for head tilt with a gimbaling on the low side up and down on the high side. This condition seems to always be connected to neurological disorganization because of the treatment called for stimulation of umbilicus (CV8) and K27 by vigorously rubbing these points. Dr. Goodheart on page 40 "a simple contact of the umbilicus and K26 would rapidly neutralize the tendency toward ocular lock, and this was especially common in patients with pronounced distortions. The muscle testing was done by having the patient hold the head steady and roll the eyes left and test a strong indicator, then roll the eyes right". This muscle testing was done with the rolling of the eye both open and closed.[2]

In Dr. David Walther's 1976, Applied Kinesiology-The Advanced Approach in Chiropractic he presents the same mention of the gimbaling of the eye down on the high side and up on the low side. He states this pattern would become programmed into the patients structural because of habitual postural patterns this could become chronic.[3] These patterns account for the use of the eye in uncovering hidden problems referred to as eyes into distortion or EID. Dr. Walther describes the testing for ocular lock as the following. Testing is done by having the patient's head centered, and asking them to moved their eyes laterally, as far as possible will cause a strong muscle to weaken. This occurs only when the motion is from left to the right, but not right to left.

Correction is done by contact to umbilicus (CV8) and K27 with firm irritating pressure for about 30 seconds. Continue to contact umbilicus and contact other K27 for the same period of time. In this description Dr. Walther mentions that K27 is an alternator which a allows the flow of energy from one side of the body to the other, especially in flexion or extension of lumbar spine. Dr. Walther states that K27 is classified in acupuncture as the "home of associated points".[4]

Dr. Walther's following topic on the same page is the Conception Vessel and Governing Vessel, which are the reservoirs of used energy. Energy can be backed up in the reservoirs and be unable to escape for the body. If this condition is present, switching will be present.[5] Dr. Walther also mentions that tracing the meridian from beginning to end will strengthen a muscle associated with the traced meridian and will weaken when traced from end (high number) to beginning (low number). This may be used to lock or unlock cranial faults with the tracing of the conception vessel and in the case of CV it is from high to low. This would indicate that cranial faults have something to do with the governing and conception vessels and that a cranial fault is associated with the phenomena of ocular lock. However no reference to which fault is associated to ocular lock is mentioned.

Dr. Walther describes ocular lock as a failure of the eyes to work together effectively. His description states that eye motion and position are intricately involved with vestibular proprioceptors, which includes the following, head on neck reflexes and pitch and yaw #1 patterns, labyrinthine, and visual righting reflexes.[6] In the 1988 Synopsis book there were a number of specifics that Dr. Walther mentions:

1. When the eyes are turned in a specific direction will cause a strong muscle to weaken.
2. Frequently if ocular lock is present a positive TL to K27 is present.
3. Circular motion following the examiner finger will cause weakness. Usually in one direction.
4. Correction by stimulation of K27 and CV8 (umbilicus) will temporarily eliminate findings.
5. Usually a cranial fault will be the cause of ocular lock.

All these statements are correct but they do not specify the direction of eye motion that produce weakness or what cranial fault was responsible for ocular lock. Further on in the 2000 edition of Synopsis page 432 Dr. Walther describes a reading problem associated with neurological disorganization that Dr. Goodheart termed "B'nai B'rith" Syndrome. It is here that the direction of eye motion is clarified, which is from the left to the right. This would be the normal reading of all languages with the exception of Hebrew but it should also include Arabic and Japanese, which also read from the direction of right to the left.[7]

This would also go along with this topic that appeared in the ICAK Collected Papers by Dr. Sprieser titled, Attention Deficit Hyperactivity Disorder and Learning Disabilities. This would also account for Dr. John Diamond description of ocular lock as a form of switching and a cerebral hemisphere imbalance that is a form of asymmetry between the right and left cerebral hemispheres produces a bizarre type of dyslexia.[8] This can be found in this book Behavior Kinesiology on page 40. Dr. Walther includes ocular lock in Synopsis in the section titled Mental and Emotional Conditions under the heading of neurologic disorganization. He states that it may lead to frank dyslexia, but one must remember that many reading disorders are grouped under this term. Mirror writing or other commonly associated reversals, such as crossing a"t" at the bottom and reversing "d's" and "b's" are often exhibited in a person with a reading disorder such as dyslexia.[9]

Later in this chapter (10) he talks of Homolateral Gait and Crawl Pattern. Dr. Walther states cross-pattern training has been successfully used in applied kinesiology in treating individuals who have failed to develop properly through the neurologic stages that culminate in bilateral organization and, finally, unilateral dominance.[10]

Dr. Goodheart observed that there was a correlation that schizophrenia would show a weakness to cross-craw patterning activity and a strengthening to homolateral crawl patterning. He observed that these individuals would show a cross-handed TL to K27 meaning index finger of right hand touch left K27 and visa versa making sure that the hands do not touch one and other.[11]

Cross-K27 therapy localization will be present in all schizophrenics, but it does not necessarily mean all who exhibit a positive cross-K27 have schizophrenia.[12]

The final statement on ocular lock comes form Neural Organization Technique commonly referred as (N.O.T.). Drs. Ferreri and Wainwright, stated that mechanical malfunction of two cranial bones the sphenoid and temporal was the cause of ocular lock. The cause was due to the extrinsic muscles that move the eye are contracted (shorten and tight) which will greatly reduce its function.[13]

This study began by the observation while teaching the basic AK class that the correction of the learning disability cranial fault would correct ocular lock without stimulation of the K27 and umbilicus CV8. It also was present even though the general switching K27 had been corrected, which should have meant that neurological disorganization was not present. However cross K27 switching was present and this meant that this might be the cause of ocular lock and that would mean that it was connected to another brain structure other then the corpus callosum and that structure is the brain stem.

Looking at the amount of information denoted to ocular lock I did not think it was that common nor that important a problem. However, the more I examined patients for this condition the more important I believed it to be. If I go by the amount of space this topic is given in Dr. Walther's book, Synopsis, which is a little over two paragraphs I would assume that it is an interesting, but not very important phenomena.

What I have discovered has shown me that ocular lock has much more significance then I originally thought and has led to this study.

Method

The study consisted of a total of 264 individuals with 106 female and 158 males with ages from 15 to 90 years of age. Each individual would be checked at the start of each visit for standard form of neurological disorganization (switching) by therapy localization to K27 points right hand on the right K27 and left hand on the left K27.

The patient then cross therapy localize K27 points, meaning index finger of the right hand was placed on left side K27 and the index finger of left hand was placed on right side K27 making sure that the hands did not touch. If positive it was noted on patient's records. What I discovered was it would be present about 25% of the time and that both patterns could coexist in the same patient at the same time.

If the cross therapy localization were positive, I would ask the patient to TL GV27 and CV24 individually which should be negative, and simultaneously TL to the two points would be positive. I would follow this up by asking the patient to read either out loud or to themselves the first paragraph of the Gettysburg Address. When patient with the positive cross K27 pattern read the text in the normal fashion which is left to right they would show a marked weakness to indicator muscle. When the text was read backwards the indicator muscle would remain strong.

To show the patient it was the eye motion from left to the right as English is always read. I would ask the patient to move their eyes slowly from left to right as they would do when reading. This would cause a strong indicator muscle to weaken, but not when the eyes were moved slowly for the right the left. A weakness would also occur when the eyes were rolled from the left to right but not from right to the left.

I would have the Gettysburg Address printed on a piece of paper in both fashions so it could be easily demonstrated to the patient. It was written in a large enough text size to be read with or without glasses.

> *Four score and seven years ago our fathers brought forth on this continent,*
> *a new nation, conceived in Liberty, and dedicated to the proposition that*
> *all men are created equal"*

> *.equal created are men all that proposition the to dedicated and, Liberty,*
> *in conceived, nation new a, continent, this on forth brought fathers*
> *our ago years seven and score Four*

Most of times, a patient would comment, that they were distracting when they read the text and that is what caused the weakness. But this thought would be changed when they read the paragraph backwards which would be far more distracting then reading it forward. To show them it was the direction of the eye movement I had the paragraph printed backwards and if they read it from left to the right they would weaken. I would follow this up by having them read it backwards which is the original way it was written and it would not weaken them. This confirms that it is the direction of eye motion that caused the weakness and not that fact that they were reading.

The next task was to prove that the Learning Disability Cranial Fault (LDCF) was the causative agent and not any other cranial faults. I would check each patient in the study for any cranial faults that might be present. When other cranial faults were present I would correct each one and then have the patient read the text to make sure the ocular lock was still present. When the LDCF was corrected the reading of the text forward or back no longer weakened the indicator muscle. This proved conclusively that this fault was connected and causative to ocular lock phenomena.

Next the patient was asked to therapy localize the palate with the index fingers over the cruciate suture. This would cause a strong indicator muscle to weaken. If one finger is removed there would be no indicator muscle weakness. Inspiration or expiration would not cause any change in the weakness to the indicator muscle but inspiration is required to make the correction.[14]

This correction is made, by placing the doctor's index finger over the center of the cruciate suture, and the palm of the doctor's other hand over the vertex-(bregma) of the skull, which is over the saggital suture. Pressure is then applied with inspiration. The hand on top of the skull press down and the index finger pushes up compressing the skull together with about five pound of pressure this is repeated about five times. The correction LDCF is confirmed by having the patient TL with the index fingers to the palate it should now be negative and the ocular lock should be gone.[15]

The correction of this fault had been presented most recently in the ICAK Collected Papers in 2005–2006 in my paper titled Adult Attention Deficit Disorder and Learning Disabilities.[16]

Findings

All patients with ocular lock always have the LDCF present and when this fault is corrected, ocular lock is corrected without any stimulation to K27 and umbilicus CV8. One symptom of ocular lock's presence is the patient usually complains of getting sleepy when they read.

Other positive findings that ocular lock is present is cross therapy localization to K27, cross therapy localization to the TMJ and double therapy localization over McBurney's Point when checking for the ICV syndrome.

The double therapy localization to McBurney's Point will not be positive if the hands are placed side by side. It will only show a positive finding in one manner such as right hand on the bottom and left hand on the top. This pattern would show to right brain activity, humming. If the left hand is on the bottom and right hand is on the top it would show to left brain activity of counting. What is actually being done with double therapy localization is actually cross TL over McBurney's Point.[17]

Conclusion

Ocular lock is not a bizarre form of dyslexia as Dr. John Diamond stated in his book, Behavioral Kinesiology. This is because it causes an indicator muscle weakness with the eye motion and reading was causing the eye to move from left to the right. This meant that this form of neurological disorganization was being caused by the LDCF and that was due to the horizontal saccades of the eye motion when the patient tries to read the text.

Eye movement that is required when reading is being done is initiated by a region in the frontal cortex, known as the frontal eye initiates reading field (Broadmann's area 8). However, the eye movement is cause by three cranial nerves Oculomotor III nerve, Trochlear IV nerve, and Abducens VI nerve.[18]

So the main movers of the eye in the reading of text from the left side of page to the right would be the left eyes medial rectus controlled Oculomotor nerve and the right eye lateral rectus controlled by the Abducens nerve. This places the eye action in to the region of the brain stem.[19]

This would explain how both forms of neurological disorganization could be present simultaneously, because they represent two different regions of the brain. The original switching TL to K27 on right with right hand K27 on left with left hand represents the corpus callosum. The cross TL to K27 with right index finger on the left K27 and left index finger on the right K27 represents switching at the brain stem.

Since the brain stem controls most of the survival mechanism of our body such as respiration, heart rate, body temperature, digestion and glandular secretions, neurological disorganization at this level could have dire consequences if not corrected.

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Switching and Its Ramifications

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Abstract

To prove there are two distinct types of neurological organization or switching and that each represent two different brain regions. The importance of checking for switching on every visit and correcting if it is present.

Introduction

The importance of checking and correction of the fundamental neurological dysfunction seem to a lost its importance since it original discovery and introduction by Dr. Goodheart in 1970.[1] This has been evident to me during the attendance of the general ICAK meetings, and also during the running of many seminars for Dr. Goodheart.

During the attendance of these seminars I never see any of the presenters checking for switching or neurological disorganization or even speaking about it. It's importance in has not changed and its presence is almost universal in every patient we treat. So why has its diagnosis and treatment fallen into disuse?

Either I am seeing a different sampling of patients in my practice than the rest of the chiropractors who use Applied Kinesiology in their practice or my observations are correct. And that is all patients that we see in our daily practice are switched not only on the initial visit but frequent on all subsequent visits if any length of time as transpired for there last treatment. That length time would be two-week or more.

I want to ask you this simple question. Do you check for switching on every follow up visit or only the first few visits? I know I check on every visit because this is my first point of evaluation when the patient lies down supine on the table once I do a TS line evaluation I check for switching. I have been doing this on every visit with out fail for the past thirty-five years and what I find is that with rare exceptions almost all patient are switched again.

I know why they are switched again and this is because Yaw #2 patterns of the PRY-T Technique seem to reoccur with regular frequency. If you are observant after the initial evaluation when you check your patient standing on the plum line you can easily see the counter torque pattern when the patient is supine. This is easily done, by sighting up on the patient's pelvis, at the area of anterior superior spine of the ilium (ASIS) and it will invariably higher on the right when compared from the tabletop to the ASIS. This is what is referred to as a Yaw #2 to on the left and this almost universally pattern I see with very few exceptions regardless of the handedness of the patient.

I make these strong statements because PRY-T Technique as been a part of regular applied kinesiology examination since it introduction in 1980 by Dr. Goodheart.[2] It has been considered as a main causative factor in Dr. Walther's, Synopsis 1st Edition.[3] The reason for the persistence of this pattern to return is

probably due to what Dr. Goodheart stated about Dr. Fulford's observation that patient seem to torque because of the pull of the fascial tissue patterns that become inset as a patient ages.[4]

My interest in the Yaw #2 pattern as a main causative factor for switching I have observed on every visit for the past twenty-eight years, which is no less 50,000 times and it is what it is. This reminds me of Dr. Goodheart quote that he a tributes to Albert Szent-Györgyi, M.D., Ph.D., the Hungarian research and Nobel laureate 1937, for discovering of vitamin C. He said that research is "To see what everyone else has seen, but to think what no one else has ever thought". He also said "Think boldly, don't be afraid of making mistakes, don't miss small details, keep your eye open, and be modest in everything except your aims."[5]

So the true importance of neurological disorganization or switching is not just an interesting phenomena, but an important issue in the cause and cure of disease.

Discussion

Switching has been a clinical entity in the practice of Applied Kinesiology since 1970. When we would first examine a patient in the supine position we would usually start by rubbing K-27 and umbilicus CV-8 for 20 seconds. In the Applied Kinesiology Workshop Manual of 1975 on page 28, Dr. Goodheart said use K-27 and umbilical contact routinely on all patients. His description was to use vigorous manipulation of the K-27 points at the junction of the first rib and sternum and clavicle along with umbilicus CV-8.[6]

Dr. David Walther in his book Applied Kinesiology-Synopsis 1st Edition, 1988, in chapter five, Neurological Disorganization, pages 145 to 158, has many subdivision of the pattern. One section titled Organization he states the following: K-27-umbilicus stimulation is indicated when there is a positive therapy localization at K-27 and lack of predictable results with manual muscle testing.[7] One must remember that therapy localization tells that something is dysfunctioning at the area being therapy localized, but it does not tell what. In the general area of K-27 there could also be a positive neurolymphatic reflex for the intrinsic spinal muscles, subluxation or strain of the sternoclavicular articulation, or 1st rib subluxation. A way that I found to rule out these other variables at the K-27 point is to use inspiration which usually negate the weakness if it due to structural problems mentioned by Dr. Walther.[8]

The K-27-umbilicus method of treating neurologic disorganization is to first vigorously stimulate one K-27 point together with the umbilicus for about twenty seconds, then vigorously stimulate the other K-27 point with the umbilicus for twenty seconds. This should result in negative therapy localization at K-27 and predictable results on manual muscle testing. If ocular lock was present prior to K-27-umbilicus stimulation, re-evaluate by having the patient put his eyes in the position that previously caused an indicator muscle to weaken. In most cases the muscle will no longer weaken with the eye position, indicating a positive effect from the stimulation.[9]

Therapy localization patterns not mentioned by Dr. Walther will be to K-27 with one hand and the other to CV-8 umbilicus this should be positive done on either side. The next method would be to take the right hand to the left K-27 or the left hand cross to the right K-27 will be positive. This same pattern can be done using the K-11 and CV-8 Umbilicus as well as one hand crossing midline to opposite side will also cause a weakness to a strong indicator muscle. A greater description can be found 2003–2004 Collected Papers of ICAK-U.S.A., page 243–248. I authored two papers titled "The Relationship of Switching to the Yaw #2 of the PRY-T Technique, and A New Slant on Switching and the PRY-T Technique, from The Collected Papers 2002-2003, page 197–203.[10,11]

Ocular lock is a form of neurological disorganization in which there is a failure of the eyes to work together effectively. All patient with ocular lock are switched but not all patients that are neurological disorganized have ocular lock. A common complaint of this problem is getting sleepy when reading. This condition had been coined the B'nai B'rith Syndrome this is because if a patient is asked to read in the normal fashion from left to the right there will be a profound weakness in any indicator muscle. However, if the patient read the same text in reverse, meaning from the right to the left, which is much harder to do the indicator muscle will be strong.[12]

Nasal tap can be employed if there is a positive ocular lock and the K-27 and the umbilicus have been treated, one can test further by having the patient maintain the positive they eye position and quickly take two deep nasal sniffs. If the indicator muscle weakens, rapidly tap the bridge of the patient's nose on both sides for sixty seconds. This should eliminate the nasal sniff challenge.[13]

One of the things Dr. Walther point out in Synopsis is not to routinely treat switching until the causative factors have been found because the problem will just keep reoccurring. There may be many cause of that produce the phenomena of switching that could be from a structural, chemical, or psychological aspect. The one that most often seem to be the precipitating factor I believe is found in the modular distortion pattern that is referred in Applied Kinesiology as PRY-T Technique. The P-stands for Pitch, R-for Roll, and the Y-for Yaw, and these are modular distortion of one body section not aligning with another. I will return to this factor later in this discussion. As far a switching is concerned there are three types the first we have already described as K-27 type. The next is GV-27 and CV-24 switching which I will discuss in greater detail later, and finally there is ionic switching which is relatively rear phenomena which I will now describe.

Ionic switching is a type of neurological disorganization caused by an imbalance in the nasal airflow through the right and left nasal sinuses. This could be do to structural distortion such as deviated septum or a broken nose. Other factors could be sinus congestion due to infection or allergies that interfered with airflow in the sinuses causing greater positive or negative overload that will depend on the side that has the greater volume flow. There is a natural nasal cycle that changes the volume of flow through each nostril every 20 minutes this keep the percentage negative and positive ions equal. If this become out of balance it creates the ionic switching.

The sign of ionic switching will cause therapy localization to occur on the dorsal side of the hand rather then the normal palm side. It will also show when one nostril is occluded and the patient breaths in on the side of the overload. You will have to differentiate this phenomenon for the nasal challenge of the Universal cranial fault. It is conceivable that both could exist simultaneously. The correction can be done by stimulating GV-1, which is located tip of the coccyx and the umbilicus CV-8 stimulated with a rubbing action for twenty second. The other method is by nasal inspiration on the nostril that does not weaken a strong indicator muscle and expiring the air on the side that did weaken a strong muscle this is continued for about 30 seconds.[14]

Dr. Walther also describes an auxiliary K-27, he states if after stimulating K-27-umbilicus the muscle function fails to organize you should try the points adjacent to the transverse processes of the T11 vertebra bilaterally this is BL-19 this is the gall bladder associated point.

Dr. Walther also talks about hidden switching in his book Synopsis on page 151. Here he states that many problem patients fail to respond because they are not examined in the way in which they live. This may required you to not only test K-27 in a supine position but also prone or in standing or gait position while

therapy localizing K-27 points. I also mention here that you may also have to use therapy localization while doing eyes into distortion (EID) or breath cessation or breath holding (B & H Technique).[15]

I personally believe that switching should be our first point of examination when the patient is supine on the table because it will help us avoid misinformation about patient condition. Some of the signs of stitching are 1.) Failure to correlate findings and example of a high right shoulder and finding the latissimus dorsi weak on the left, 2.) Patient mixing directions up-you tell the patient to turn to the right and they turn to the left, 3.) Mixing up phone numbers when listening to a phone message example the phone number is 267 and instead you write 627, 4.) Falling asleep when reading this is the ocular lock pattern, 5.) Patient that doesn't maintain their corrections, the problem patient, and 6.) Patient unable to push beyond current level of performance this is an observation of Dr. Robert Blaich.[16]

Other interesting observation of switching have been made by Dr. John Diamond in his book titled Behavioral Kinesiology the book is currently published under the title Your Body Doesn't Lie. Dr. Diamond is a psychiatrist who practice Applied Kinesiology. In his book he use the term centering which I believe he means switching or neurological disorganization. In his book on page 91 he says "Test yourself for the clockwise and counterclockwise swastikas. One or the other will make you weak, depending on which cerebral hemisphere is dominant. Of course, if you and centered, neither one will weaken a strong indicator muscle. He also show other symbols to cause weakness that of the Roman cross as compared to Greek cross. The pitchfork will also cause weakness as view in the Grant Wood's painting "American Gothic." If you look at the picture you will weaken but if you cover the pitchfork you don't weaken.[17]

I have experimented with these phenomena since his book was published in 1979 and I found the Dr. Diamond's observation were correct and that they did cause a weakness of an indicator muscle when viewing certain pictures and symbols. On June 7, 2005 a psychotherapist said to me that she test her patients for polarity by placing the palm of the hand just above the vertex of the skull and they would weaken either palm up or palm down. She said that this was polarity north or south. I said to her that this was actually another way of finding neurological disorganization. I also said that Dr. Diamond had used the phrase centering and he showed the palm over the vertex and also the palm to the side of the head will weaken on the brain dominant side. She also said to me that she told her patients not to put their glasses on the top of their head because it effected their polarity.

I started testing every patient from that day till today and what I discovered that placing not only glasses. But their hand or any object over the vertex or bregma GV-21 and contacting, BL-6 which is just parallel to the bregma would immediately cause the return of the Yaw #2 distortion and switching. I have test this currently 1004 times and it reproduces the distortion every time except once. I felt that the exception proved the rule and I asked this patient what she was doing. She told me that she would tap her skull over the Bregma or crown chakra and between the eyebrows GV-24.5. This end up being a way to correct the effect of contact to BL-6 points, but was not the reason why she was distorted by touch these point. What it turned out to be is that she was not in the Yaw #2 pattern and therefore it would not have any effect on her. So contacting BL-6 point simultaneously does not cause switching or a Yaw #2, but will re-established if it already exists in the patient.[18] An additional observation I made in January 2007 after thinking what else might be causative agent for the Yaw #2 pattern is the simultaneous contact to the meridian point of B-50. This point is located at the bottom of the buttocks where the gluteus maximus meets hamstring. These contact points can be stimulated by, touching or even sitting, which will re-establishes the torque pattern.

I mentioned earlier that I want to come back to GV-27 and CV-24 switching pattern, and I stated that it could exist separately or simultaneously. If you get a positive pulse point localization that Dr. Goodheart

had discovered on the thenar eminence at the base of the thumb you will find a positive localization if both GV-27 and CV-24 are contacted at the same time. I believe this switching is different then the K-27 and that it does not give the same misinformation. You will always know to check for this pattern because it is always present when you find cross therapy localization at the K-27 points. If you have to do a cross TL to the TMJ and finally if you do a cross TL to ICV it will always be present. This cross therapy localization pattern can be immediately reversed by stimulating CV-22 at the Jugular notch of the manubrium and CV-2 at the top of the pubic synthesis using a piezoelectric meridian stimulator.[19]

Then there will be a cranial fault that I originally found that I called the learning Disability cranial fault, which will localize with the both index fingers in the mid-palate region near the cruciate suture. This fault will require correction with mid-palatine pressure up to the bregma and downward pressure on the vertex of the skull with inspiration.

Switching had first been discussed as I mentioned in the 1970 Workshop Manual first under the topic of cross crawl. Dr. Goodheart states the overwhelming average of right-handed individuals as opposed to left-handed individuals. Evidence of this in all civilized area even among aborigines. Hemisphere dominance is shown in handedness, ear, eye, and foot is between 85% to 89% favors the right side (meaning left brain) of the general population.

One of the reasons for switching Dr. Goodheart discussed on page 20; here he uses a pilot and co pilot analogy. "The dominant hemisphere when faced by a problem infection, injury, accident, trauma, Fight or Flight Stress, etc. will attempt to deal with the problem as it presents itself. It gives the housekeeping tasks of the body such as posture, digestion, respiration, elimination, and oxidation to the less dominant hemisphere for temporary control." If the controls are not return to the dominant hemisphere conflict ensues and we see the results as switching or neurological disorganization.[20]

The most prominent reason for switching seem to the Yaw #2 pattern and this represents the cause in 99% present of patient examined with the remaining 1% divided between Pitch (.75%), and Yaw #1 (.25%). I make this statement because if you check for switching with the K-27 bilateral localization and correct the Yaw #2 pattern switching will be gone. I have examined this on every patient and on every visit for more then ten years so the total number is over 25,000 times.

My observation lead me to believe that 99% of any given group of people examined will show a Yaw #2 pattern on the left meaning that the pelvic girdle is forward on the right in the horizontal or transverse plan this can be observed. The pattern that exist in almost the same proportion is Pitch usually in flexion, meaning the head is carried forward of the normal center gravity. If you make these observations of your patient it will be the rare exception that does not have this pattern.

I believe the Yaw #2 forward on the right is caused by the fact people take a longer step with the right leg this is due to fact of right handedness and usually right leg would be dominant. Other factor that contribute to this observation is that the liver is located on the right and therefore all people weigh more on the right. Dr. Goodheart stated that a right hand individual usually weight 7 to 15 pounds more on right and a left handed individual would weight 5 to 7 pounds more on the right. The final reason for this pattern is seen in the observation of PLUS Technique with the pattern of muscle inhibition during flexion or extension of the spine with the piriformis and, sternocleidomastoid on right and the upper trapezius and latissimus dorsi on the left.

I think the significance of switching is much more then just not getting accurate information from muscle testing, especially the GV27/CV24. Since I found the correlation of this switch to Learning Disability Cranial Fault that I did not original see when I wrote my research paper 1984.[21]

What I believed at that point is the (LDCF), was related to the corpus callosum. What current research on neurotransmitters for the corpus callosum show, that this structure has receptors for acetylcholine, glutamate, serotonin, and (N-methyl-D-aspartate NMDA and α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid AMPA) and probably relates to K27 switching.[22]

Method

Through nutritional challenge I found that the (LD Fault), and GV27/CV24 or Cross K27 where related to three amino acid, phenylalanine, tyrosine, tryptophan. Tyrosine is formed from phenylalanine by the reaction catalyzed by phenylalanine hydroxylase besides what can occur naturally in the diet. Tyrosine is the precursor of dopamine and norepinephrine. The region of the brain where these, neurotransmitter are the most prominent is at the crossing of the tracts in the brain stem. This leads me to believe that the GV27/CV24 switch is related a brain stem. An more importantly the function of the brain stem that controls basic unconscious body function, breathing, circulatory system, hunger, digestion and some reflex actions.[23]

The positive therapy localization to the palate with the two index finger for the (LDCF), to Cross TL to K27 and also GV27/CV24 was neutralized by having the patient insalivate the amino acids of tyrosine, tryptophan and 5-Hydroxy-Tryptophan (serotonin). Using the amino acids of glutamate, histidine, glycine, aspartic acid, and GABA did not neutralize the positive therapy localization.

To prove that the standard switching or neurological disorganization identified by K27 with right hand on the right and left hand on left K27, is related to the brain structure of the corpus callosum, I used the nutritional challenge again. Research on the corpus callosum has shown the neurotransmitter sites to be effected by acetylcholine from phosphatidylcholine, glutamate, histamine, aspartate, GABA, glycine, and serotonin.[23]

The positive therapy localization to K27 with right hand on right and left hand on left K27 representing corpus callosum, was neutralized with the amino acids of histidine glycine, aspartic acid, and GABA. Even though serotonin was an over lapping neurotransmitter for both areas it seem not to be effective at this area for the standard switching pattern.

Conclusion

The brain stem would work in concert with the sympathetic and parasympathetic in providing what we in chiropractic call “innate intelligence”, the ability of the brain to direct the healing process of the body. If this is interfered with it is probably the dividing factor of whether we get a serious illness or are able to overcome a life threatening disease such as cancer. Since the K27 neurological disorganization is almost universal at about 99% of the population. I don’t believe that this has a great effect on the ability of the body to mend itself. The GV27/CV24 or cross K27 neurological disorganization pattern occur only about 25% of the time in the general population and can be stand along or occur with the K27 pattern.

Since the Cross K27 seem to be specifically related to the brain stem region this would have greater consequences because of its control of heart rate, respiration, glandular secretions, body temperature and digestive system control. What would seem to be the most ideal would be to have no neurological disorganization present at all and keep this corrected for as long as possible.

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Proper Assessment Terminology through Applied Kinesiology Functional Neurological Muscle Testing

John K Wittle, D.C., DACBN

Abstract

Current papers and research within the ICAK use vocabulary foreign to outside professions including muscle testing. This leads to miscommunications and misunderstanding outside our community. Moreover, some terminology is inaccurate in relation to actual neurologic processes. This paper offers newer more accurate terminology for use within the ICAK with the additional benefit of potential cross translation of scientifically accepted muscle neurologic function scales.

Discussion

Obviously when discussing AK muscle testing with students and fellow doctors it is not necessary to always use elongated specific terminology. Stating that a muscle is "weak" or "strong" more often than not explains the correct principal sufficiently for use in applied practice. However, in a paper or case study, the terminology used is more critical so that other professions can understand both the findings and importance of the results.

> For years the primary muscle testing terminology has been "Weak," "Strong" and "51%er." Within the ICAK, the understanding of these terms evolved to mean:
>
> Weak – Inhibited – Neurologic Inhibition
>
> Strong – Facilitated – Neurologic Facilitation
>
> 51% – a muscle that is strong "in the clear" however goes weak when therapy localized to the corresponding Chapman reflex point. Indicating that the muscle is not actually normal, but is functioning in some parameters.
>
> "Over-facilitated" – a muscle that is overly "turned-on"

In 2007, Michael Allen, D.C., DIBAK, DACBN presented a neurological semantic correction in his paper presentation explaining that there is no such condition as over facilitated. A muscle has channels that either creates facilitation (on) or inhibition (off). A muscle cannot be more ON, than ON. Thereby the meaning of the wording is not accurate; a more correct reality of a muscle that does not "turn" would be a lack of inhibition.

Over-Facilitation

In this instance a more appropriate classification would be a lack of inhibition instead of the current concept. To take it one step further, neurons have multiple synapses affecting them. Therefore, a muscle that is "normal" is really a muscle that facilitates (turns on and contracts) when it is supposed to and, conversely, inhibits (turns off and goes weak) when it is supposed to. Muscles do not just react one way or the other. As long as a muscle has enough facilitating synapses, it will fire and respond normally. This can also happen in reverse. Therefore, in reality there are 2 distinct neurologic phenomenons within this same inaccurate term. One is a muscle with no inhibition ability at all, while the other is a muscle that does not have enough inhibition to actually go "weak" when it should and does not respond to conventional challenges (i.e. muscle spindle cell, gait reflexes, etc…)

A more accurate terminology would be:

Non-Inhibitory or **Non inhibition** – a synapse that has absolutely no inhibition at all

This condition would typically only present itself for a brief duration in a motor neuron lesion or severe neurologic injury that is most likely temporarily, until the muscle could not continue firing.

AND

Biased Facilitation – meaning the tendency for facilitation is so much greater than the inhibitory signals that the muscle cannot break and inhibit when it should.

This condition is much more likely the foundation for the inappropriate over-facilitation classification. The proposed new terminology is less likely to confuse students and others about the true problem causing the neurologic finding.

51%er's

In this situation, a muscle is functioning within normal limits in most parameters, but not entirely normal. It has partial functional neurological adaptations.

Obviously a terminology of 51% is not accurate. However, the subtlety of this adaptation also keeps it from being a distinct level according to accepted scales. Therefore to be more accurate this finding is most likely a very subtle difference primary to AK and similar methods, but not of a significant level categorization. A more appropriate term would be a **partially adapted muscle**.

Once treatment begins, it is common that the partially adapted muscle then becomes either normal or inhibited. A muscle that is marginally inhibited or facilitated would not be able to diagnose from manual muscle testing in any solid reproducible manner.

Scientific Models

The scientific community accepts 3 primary accepted classification systems for neurological muscle assessment. They are the Median Research Paralysis Scale (MRC), the Kendall numbering system and the Lovett wording system. These scales are intended to rate all ranges of muscle function. Although they include many things we never see in normal practice, they are not fully comprehensive. This is because the scales do not recognize that lack of inhibition is another significant neurological possibility.

Muscle strength is rated by the Medical Research Council (MRC Scale) on a scale of 0/5 to 5/5 as follows:

0/5: no contraction

1/5: muscle flicker or trace contraction

2/5: movement possible, but not against gravity

3/5: movement possible against gravity, but not against resistance by the examiner

4/5: movement possible against some resistance by the examiner (sometimes this category is subdivided further into 4^{-}/5, 4/5, and 4^{+}/5)

5/5: normal strength

The Kendal Analog Scale of 0 to 100% with 100% being normal and the Lovett scale of Zero to Normal use similar delineations.

A more complete discussion of the deficiencies of these scales will be addressed in a future, more comprehensive, paper; however for this paper simplicity will suffice. Some PT sources break other basic numbers down into additional +/- ratings which add no real importance for this discussion due to their abject subjectivity.

It should be noted, that "The M.R.C. grade is more accurate for this type of clinical assessment in weak muscles, those graded 0–3 on the M.R.C. scale or 0-62% on the analogue scale. The analogue scale is more accurate for the assessment of stronger muscles or those with grades 4 and 5 on the M.R.C. scale or 62–100% on the analogue scale. Therefore, analogue scales could be usefully adopted when testing bulky muscles operating at 50% or more of their normal power."

Because of the missing neurological possibilities, and the confusion elicited by the current terminology, we propose the following new AK terminology:

Old Terminology	**Proposed new AK Terminology**	
	Non-Responsive	
Inhibited – (Weak)	***Inhibited***	
51% Facilitated – (Strong) Over-facilitated	Partially adapted Normal Muscle Biased Facilitation Non-Inhibitory	(this would be left out of accepted scales)

As 0-3 muscle levels rarely present, so would non-inhibitory. However, muscles demonstrating varying levels of biased facilitation are likely to be rather common.

Figure 2.1 shows a comprehensive chart between the various methods.

Old Terminology	Proposed Terminology	MRC Scale	Analogue Scale	Standard Explaination
	Non-Responsive	0/5:	0	no contraction
		1/5:	10	muscle flicker or trace contraction
		2/5:	30	movement possible, but not against gravity
Inhibited - Weak	Inhibited	3/5:	50	movement possible against gravity, but not against resistance by the examiner
	Biased Inhibition	-4/5:	70	Same as 4 but muscle holds the joint only against minimal resistance
		4/5:	80	movement possible against some resistance by the examiner
	Marginal Inhibition	+4/5:	90	Same as grade 4, but muscle holds the joint against moderate to maximal resistance
Facilitated - Strong	Normal Muscle	5/5:	100	Normal Muscle
Over-facilitated	Biased Facilitation	Not recognized	Not recognized	Muscle strength without inhibition when it should
	Non-Inhibitory	Not recognized	Not recognized	Complete lack of neuron synapse inhibition
		Recommend 5+/5	100+ and 100++	
		and 6/5		

Figure 2.1
Notice also that a 51% would be left out due to its subjectivity and profession specific usage. However the Presentation of a partially adapted muscle (51%) would still exist as an accepted phenomenon

Conclusion

Within the ICAK we need to speak in a language more clearly understandable to outside professions; we must adapt to the current language of science. The terminology presented here updates our terminology to more accurate terms and offers a method of comparison to recognized models. Additionally, as a future paper shall discuss, the standards currently used in the scientific community are not completely comprehensive and should be updated to match the errors which present through the use of Applied Kinesiology.

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Division III

Constructive Review

Vascular Insufficiency Revisited, A Nutritional Approach

Jim Bartley, D.C.

Abstract

In order to fully follow up on patients who responded to therapy such as putting a blood pressure cuff on the other extremity on the same side of the body, I started testing different supplements that would reverse the decline and weakness caused by the decreased vascular flow to an extremity. While many supplements would cause a strengthening of the extremity while the patient tasted the supplement, there would be no improvement in the patient's overall performance of such said extremity. I was able to use a fairly recent product from Biotics Research called VasculoSirt and finally saw dramatic improvement in my patients.

Indications

Weak or painful extremities that do not respond to any other therapy. Also, any indication of cardiovascular symptoms.

Procedure

Find a weak muscle such as opponens pollicis, opponens digiti minimi, or flexor hallucis brevis that has a blood supply as distal as possible in a particular extremity. Occasionally the subscapularis may be weak and be used as a test muscle. Have the patient therapy localize to a heart reflex and see if it strengthens the weak muscles. If it does, put a blood preassure cuff on the other extremity on the same side of the body and see if this strengthens the weak muscle. (This is good for patient education to show the patient that increasing blood flow to the arm or leg makes the muscle test strong.) If it does strengthen the muscle, test nutrients on the tongue to see what strengthens the muscle. Temporal tap several times to be sure that this is a good supplement that will actually help the patient. While I have tried several supplements that "tested" well, the only supplement that I have found that actually worked in patients is VasculoSirt from Biotics Research. Also, it is the only supplement that also tested well after ten or more temporal taps. I have seen dramatic improvement after only two weeks of supplementation.

Cranial Movement During Gait

Jim Bartley, D.C.

Abstract

Certain chain of muscles can enhance or inhibit cranial movement while someone walks. By using Applied Kinesiology muscle testing, these muscles can be discovered and treated appropriately so that the cranium does not lock up during gait.

Like everyone who has gone through the birth process, we all have cranial induced gait problem. The problem with most cranial manipulation is that it ignores the gait aspect of cranial movement and never corrects this chronic problem. Without correcting this aspect, as soon as anyone starts to walk, the cranial dysfunction that was just treated begins to come back. Fortunately, this cranial dysfunction can be treated safely and permanently

Indications

Any patient that has chronic cranial faults, pelvic or spinal subluxations should be checked for this. Anyone who has weak bilateral Extensor Hallucis Brevis muscles that strengthen to therapy localization of the cruciate suture.

Procedure

Test the Extensor Hallucis Brevis bilaterally for weakness. If it strengthens when the patient therapy localizes the cruciate suture on the hard palate of the upper mouth, they should have this treatment.

Next, test both the middle deltoid muscles to see which side weakens when the patient flexes his/her toes. If the right deltoid weakens, then use a vibracussor to gently tap the following muscles:

1. Right Upper Trap
2. Right Deltoid
3. Right latissimus dorsi
4. Left gluteus maximus
5. Left hamstrings
6. Left calf muscle
7. Left plantar foot muscles
8. Riqht Extensor Hallicus Longus
9. Right Tensor Fascia Lata & ITB

10. Right Internal Abdominal Oblique
11. Left External Abdominal Oblique
12. Left Serratus Anterior, Inferior Fibers
13. Left Sternocleidomastoid

If the left deltoid weakens then tap the opposite muscles with the vibracussor.

Retest the Extensor Hallucis Brevis muscles to see which one weakens. Have the patient therapy localize to find which hyoid muscles strengthens it. Treat this muscle by turning down its spindle cells.

After treatment, have the patient walk for a while and recheck for subluxations that will have been corrected.

Psychological Reversal and Umbilicus Test

Jim Bartley, D.C.

Abstract

By using John Diamond's Umbilicus Test as Therapy Localization, I have been able to negate the weakening of a strong muscle when a patient makes a positive belief statement such as "Life is good" or "God is good". I have found a certain series of chiropractic adjustments that enable the patient to be able to say the same belief statement without a strong muscle weakening. I, also, have found that the patient will again weaken to the same positive belief statement when certain acupuncture pulse points are therapy localized. They, also, can be treated by a series of chiropractic adjustments.

Indications

A patient that is chronically switched and other causes have been eliminated and a patient's strong muscle weakens to a positive belief statement such as "life is good" or "God is good".

Procedure

After finding a strong muscle, preferably a lower extremity muscle, patient says a positive belief statement such as "life is good" or "God is good". If the patient weakens to such a statement, the doctor therapy localizes his palm face up to the patient's umbilicus while the patient places his hand palm down onto the doctor's hand. If this strengthens the same muscle while the patient makes the positive belief statement, then adjust appropriately the following subluxations under the label "first time". Afterwards, the statements are no longer necessary to start the treatment procedure. On the second time, the patient therapy localizes his/her CV/GL pulse point. The doctor tests a strong muscle to see if it weakens when the patien either flexes or extends his/her torso. Upon finding the weakening the second set of subluxations are adjusted appropriately. After the 1st two procedures, the patient needs to do a two finger therapy localization, touching both a CV/GV pulse point and another pulse point. Depending where the meridian travels, the appropriate arms, legs or body needs to be flexed or extended to activate a muscle weakening to start the procedure.

First time
C1 T4 T8 L2

CV-GV Body flexed or extended (second time)
C0 C1 C7 L5 Talus

LU Arms flexed forward
C0 C3 T1 T9 Talus

LI Arms extended backwards
C1 C5 T3 L1 L4 S2 Talus

ST Legs flexed forward
C2 C6 T7 S2 Talus

SP legs extened backwards
C0 C4 T4 T11 S2 Talus

HT arms flexed forwards
T1 T10 L5 Talus

SI arms extended backwards
C2 C5 T7 S2 Talus

BL body & legs extended backwards
C0 T3 T11 L5 Talus

KI legs flexed forward
C1 T9 L2 S2 Talus Navicular

CX arms flexed forwards
C0 C4 C7 L1 L5 Talus

TH arms extended backwards
C1 T1 L5 Talus

GB body & legs flexed forwards
C3 C7 T8 S2 Talus

LV legs extended backwards
C0 T4 S2 Talus

Correlation of Retained Primitive Reflexes (RPRs) with Acupuncture Meridian Beginning and Ending (B&E) Points and Neurotransmitter Ascriptions

James P. Blumenthal, D.C., DACBN, CCN

Abstract

For the past two decades, Retained Primitive Reflexes (RPRs) have been the subject of study and treatment in the UK and Australasia. With the introduction to ICAK-U.S.A. in 2006, there has been growing interest in bringing the methods of identification and treatment of RPR therapies into compliance with the ICAK-U.S.A. Status Statement. This paper presents on-the-body reflex points correlated with each of the RPRs which can be used in compliance with traditional AK testing.

Key Indexing Terms

Retained Primitive Reflex, RPR, Body Reflex Points, Acupuncture B&E Points, On-The-Body-Testing, Neurotransmitters, Keith Keen, Christopher Astill-Smith, VMP, INPP, ICAK Status Statement Compliance, Fear Paralysis, Moro, Palmar, Plantar, TLR, ATNR, Rooting, Juvenile Suck, Spinal Galant

The story of Retained Primitive Reflexes began in England in 1989 when educational therapists Sally Goddard and Peter Blythe of INPP recognized that brainstem level (primitive) reflexes were instinctual and phylogenetically protective for infant humans prior to their development of bipedal postural reflexes and cortically-based cognitive functions. At about the same time, behavioral optometrist Dr. Susan Larter of Sydney, Australia noticed that some of her patients' optical prescriptions had changed for the better after receiving cranial adjustments. As she investigated the phenomenon, she referred her patients for cranial adjustments and assessed their effect on visual parameters. The result was her Behavioral Optometry Fellowship thesis "Optometric Referral for Applied Kinesiology: Principles, Indications and Benefits" (1993)

At about the same time, Ken and Marianne Johnson, who ran Crownhurst Special School, went to England to study with INPP. They were impressed with the INPP analysis of RPRs but wanted access to better therapeutic tools. On their return to Australia, they contacted Keith Keen, D.O., D.C. and asked him to create the clinical tools they needed for working with children with special needs. He used his considerable background in AK, homeopathy, osteopathy, chiropractic, and acupuncture to develop effective cranial and nutritional therapies for RPRs and to build a strong multidisciplinary research group (jocularly named the Variably Maladjusted Primitives) to keep developing the RPR knowledge base. For the past decade and a half, Dr. Keen has championed and taught the treatment of retained primitive reflexes throughout Asia, Australia, and New Zealand.

In 2005, Dr. Keen presented a paper on RPRs at the ICAK International Conference in Toronto. This was the first time that the topic had been discussed in the AK community in North America and it was received with enthusiasm and interest by the doctors present. In February 2006, thanks largely to the efforts of Dr. Jerry Morantz, Dr. Keen taught the first RPR seminar in Chicago. A bit over a year later, I hosted him for a second North American RPR seminar in Los Angeles following the 2007 ICAK-U.S.A. meeting. Considerable discussion ensued in the AK community. Most of it was enthusiastic, some was curious, and a few doctors were concerned that on-the-body testing with vials of homeopathically rendered neurotransmitters was out of compliance with the ICAK Status Statement.

Partially in response to the need to bring RPRs into compliance with the ICAK Status Statement to make it more palatable within our community, and partially as a result of ongoing research which was already under way, I was inspired to identify body reflexes which could be used in association with or in lieu of the homeopathic neurotransmitter vials traditionally used to identify RPRs.

Excellent work by Dr. Christopher Astill-Smith had already correlated neurotransmitter excesses and deficits with acupuncture meridian beginning and ending (B&E) points several years ago. As a student of Dr. Astill-Smith's work, I wondered whether the neurotransmitter excesses and deficits that Dr. Keen had associated with particular RPRs would correlate with the ascriptions which Dr. Astill-Smith had recognized.

Beginning with what was known in June 2007, I matched RPRs up by neurotransmitter imbalance in the usual order of their clinical integration. What follows is the reflex, followed by the neurotransmitter relationship as we knew them at that time, followed by the B&E points ascribed to those neurotransmitter excesses or deficiencies and additional visceral functions ascribed to those points by Dr. Astill-Smith,

Fear Paralysis Reflex: high acetylcholine: LV 14, toxicity

Moro Reflex: high norepinephrine: Ht 1, over-sympathetic

Lateral Tonic Labrynthine Relex: low acetylcholine: GB 1, fat metabolism

Sagital Tonic Labrynthine Reflex: low Serotonin: BL1, Depression

Asymetric Tonic Neck Reflex: low norepinephrine: SI 19, allergy

At that time, we were uncertain of the neurotransmitter correlations for Palmar, Plantar, Juvenile Suck, Rooting, and Spinal Galant reflexes. In fact, most of what we now know about Plantar, Rooting, and Spinal Galant reflexes was still a mystery. By laying out what we knew about the reflexes from a Law of 5 Elements perspective, we got a different picture.

LV 14: Fear Paralysis Reflex, high acetylcholine, toxicity
GB 1: Lateral Tonic Labrynthine Relex: low acetylcholine, fat metabolism

Ht 1: Moro Reflex: high norepinephrine, over-sympathetic
SI 19: ATNR, low norepinephrine, allergy

BL1 Sagital Tonic Labrynthine Reflex, low Serotonin; Depression

By using this progression as a starting point, and considering the Yang and Yin relationships, I was able to fill in the following:

LI 20: Palmar Reflex, low GABA, parasites

Ki 27: Plantar Reflex, high serotonin, toxic metals

Sp 21: Juvenile Suck Reflex, high histamine, over immune

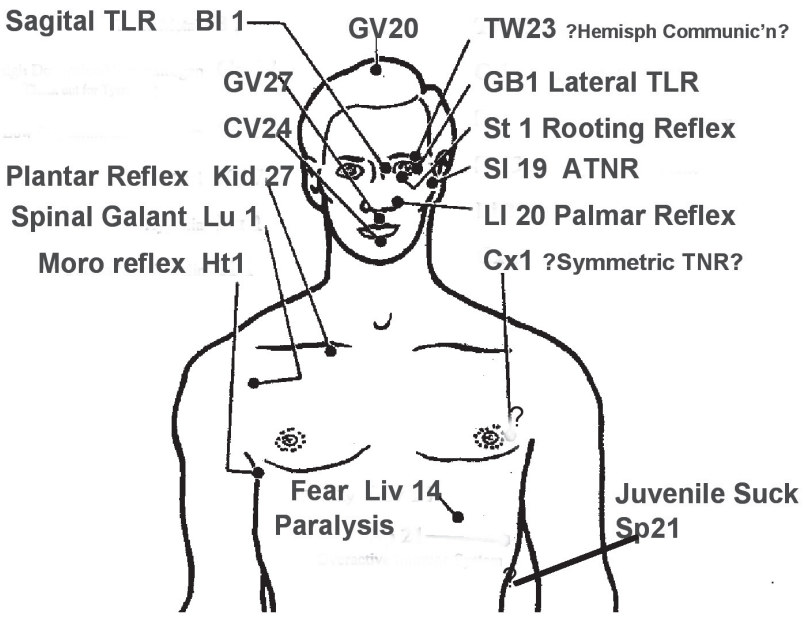
It is interesting to note that, although Juvenile Suck Reflex appears to be out of position, if we follow the normal order of clearing (FPR ⇨ Moro ⇨ Palmar, etc.) and then couple that with its elemental pair, the emergent pattern is consistent with the traditional 5 Element Sheng cycle.
As the remaining correlations filled in, we found

Rooting Reflex: (St1) low histamine, hypochlorhydria
Spinal Galant Reflex: (Lu1) high GABA, hypoxia

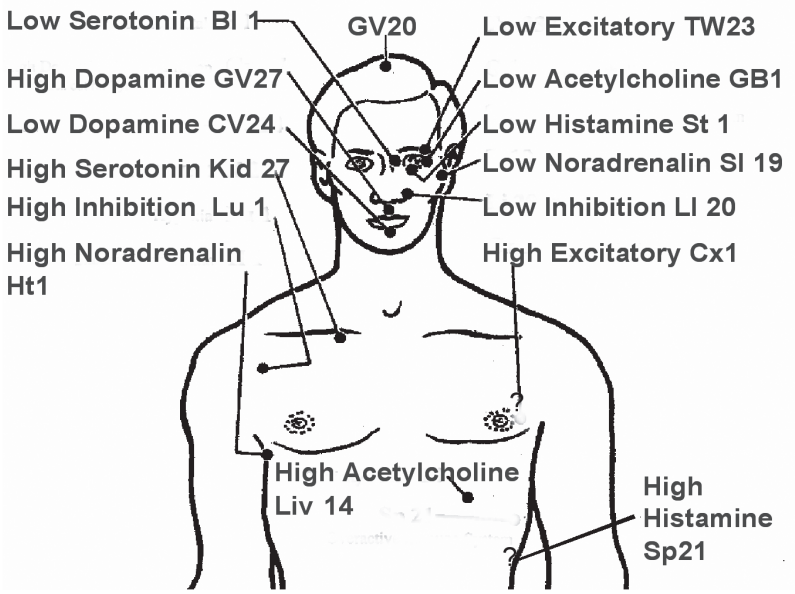
The astute reader will notice that we are still missing two principle meridians, namely

TW23 : low glutamate, low thyroid: may relate to inter-hemispheric brain communication as in *The Man Who Tasted Shapes* , per Dr. Keen

CX1: high glutamate, hyperactivity, cross-crawl prone: may be Symmetrical TLR per Dr. Susan Walker
These are both open to further research at this time.



Retained Primitive Reflexes Correlated with B&E Ascriptions per Dr. Jim Blumenthal



Neurotransmitter B&E Ascriptions per Dr. Chris Astill-Smith

Conclusion

Now that we are able to use on-the-body reflexes to muscle test for the individual RPRs, we believe that the process of learning, treating, and teaching Retained Primitive Reflexes has been brought into compliance with the ICAK-USA Status Statement. It is my deep hope that this will allow RPRs to become a mainstream part of any Professional Applied Kinesiologist's practice and considerations for their patients' health and healing.

I am available for any questions regarding retained primitive reflexes, the use of these points, and seminars across North America regarding their identification and treatment. My telephone number is (310) 445-3350 and my email address is drblu427@aol.com.

Thank you,
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The Occipito-Parietal Torque: A New Cranial Lesion

William M. Maykel, D.C., DIBAK

Abstract

The author discusses the discovery of a new cranial lesion utilizing the challenge technique of PAK,™ which is the occipito-parietal torque or perhaps better understood as the "reverse fruit jar" or the upper component of the lateral occiput. This lesion I believe represents the rear counterpart to the frontal-maxillary rotation, probably better known as the "fruit jar" based on its corrective description.

Discussion

One day last summer, a female patient presented with left-sided head, neck and shoulder pain. Visually postural analysis revealed an elevated left occiput by one inch. Further examination revealed multiple cranial structural dysrelationships as follows: jammed midline sutures (cruciate and sagittal), right parietal descent, left temporoparietal bulge, bilateral sphenobasilar flexion, frontal left – maxilla right (fruit jar), left lateral occiput, vertical and left lateral sphenobasilar strains with bilateral internal frontals and external zygomas. Both lambdoidal sutures were also jammed.

The rest of her musculoskeletal system revealed a similar degree of stress. Both tarsal tunnels were strained, bilateral lateral tali and externally rotated tibias. She also had a bilateral sacroiliac strain with a right posterior, left anterior sacroiliac joint complex. This was corrected with the patient supine along with multiple cervical spinal dysarthrias (C5,6,7 showed vertebral body rotation left, right, left and C1,2,3 were rotated right, left, right). The left clavicle was superolateral. Both the left subclavius and sternocleido-mastoid were strengthened.

Next I corrected a holographic TMJ lesion. I have found that the mandible will bend along the syphysis menti causing a posterior inferior bend on the side of occipital laterality, in this case a left lateral occiput. This will therapy localize over the TMJ with closure and mild clenching. It is corrected with a double palmar contact on the mandible with respiratory correction to unbend the mandible upon itself. The patient is seated facing the doctor. The mandible is surrounded with a bilateral open hand contact with the doctor's palms together and open fingers of each hand firmly contacting each ramus of the mandible. The doctor's right hand is on the patient's left TMJ and vice versa with their left hand on the right TMJ. The correction is a firm pulling forward and up with the right hand and a simultaneous pushing backward and downward with the left while the patient breaths in. Imagine the axis of this rotation to be mid mandible at the symphysis menti. Two or three respirations with force on inspiration is all it takes. This is <u>always</u> present with a lateral occiput and gives great relief for TMJ and headache complaints.

The patient's entire spine was next corrected prone. This included the following listings:

Category I right

L3,4,5 – right, left, right

T10,11,12 – right, left, right

T1-5 left rotated with associated left ribs lateral

I next had the patient stand up fully expecting a level occiput. To my surprise it appeared the same – still one inch high on the left. Out of utter frustration, I thought about everything I had just done and suddenly thought that much like the front of her head with the frontals left – maxilla right that perhaps the opposite broad based torque was occurring at the back of her head as a continuum of the rotational strain pattern. So I had her lie prone and challenged en mass the occiput left and parietals right founding a positive weakness. I corrected it with respiration and was amazed to find a level head! Since then I have found this lesion to be quite common. The challenge is not rotational like the interosseus/universal cranial but a straight left/right shear of the occiput versus the parietals. Let me know your findings.

The Structural Diathesis of Gerd

Safe Cost Effective Therapy Using PAK

William M. Maykel, D.C., DIBAK

Abstract

The author discusses his clinical observations for both the diagnosis and correction of gastroesophageal reflux disease (GERD). The musculoskeletal strain/sprain injury, which propagates the symptoms of reflux is readily identifiable and correctable with the tenets of PAK.™ Hypertonicity of one or both psoas muscles, secondary to a bilateral sacroiliac sprain causes the simultaneous downward pull of the diaphragm and upward sliding of the cardiac end of the stomach up through the esophageal hiatus, resulting in the lower esophageal sphincter being superiorly displaced. The lack of contractile backup by the flush diaphragm on this sphincter is the structural correlate of this diagnosis, which needs to be found and fixed.

Currently the treatment of gastroesophageal reflux is now called a disease since uncontrolled reflux may result in the propagation of esophageal or throat cancer. The primary medical treatments include antacids and/or acid blocker drugs. These are now a $10,000,000,000 business. Unfortunately, recent studies have shown that prolonged use of these medications may lead to a 150% increase in hip fractures if used over two years. This paper discusses only the underlying structural causes and corrections to successfully treat the condition quickly and cost effectively with the use of PAK.™ For clarity and focus, the use of nutrient therapy is purposely omitted.

As we all know, our bodies function as one closed kinematic chain. I was fortunate enough to study with Dr. Allen Beardall, when I was a student at Western States Chiropractic College in Portland, Oregon. He taught me how the body responded to stress from the feet up and how there were specific compensatory patterns. How right he was!

Basically when one's feet get misaligned, the most common patterns of compensation are as follows. Tarsal tunnels get strained in one or two common patterns. The first is that the calcaneus will migrate posteriorly with a lateral shift of the talus and external tibial rotation. (In severe cases you may also find a posterior, inferior fibula, which will create a lack of strength to the peroneus longus and tertius. This of course is a person who tends to get inversion ankle strains.)

The second, less frequent pattern is a posterior calcaneus with a medial talus and internally rotated tibia.[1] In this condition you will mostly likely find a weak posterior tibialis and a posterior medial meniscus. The patient may have medial knee pain as a chief complaint. I normally correct the foot with the patient supine and block their hips for a bilateral SI sprain (category II) as indicated. This is usually done after their cranials, cervical spine and clavicles have been fixed.

The protocol is then to have the patient lie face down, flex their knees to 90°, then massage the hamstrings to loosen them. Quick unrotation of the tibia is then accomplished with a straight arm stabilization of the opposite arm with palm firmly braced against their ischial tuberosity for a fixated counter strain.

I now address the sacrum. Let's say for this example the patient is a category II right – so they have a right posterior, left anterior sacroiliac sprain which we have already blocked supine as indicated. (Right block in above their right iliac crest at 90° to the spine and left under the left acetabulum 45° to the left hip.) At this point they are face down so I will check their sacral base, which will be inferior on the right – the side of the PI ilium.

I grab a hold of their sacrum with my open right hand and their occiput with my open left hand. With inspiration I move both caudally in the sagittal plane (towards their feet). With expiration I move them cephaled – my left hand superior, my right hand vector is 45° (on the sacrum) towards their right shoulder. I do this three or four times with firm force.[2] At this point you must determine whether there is also a grade II ligamentous sprain of either (or both – rarely) sacroiliac joints. It has been a consistent finding that an externally rotated sacroiliac joint will exhibit a positive SI compression test. Coincident with this will be an anteriorly displaced femoral head in the acetabulum. This will inhibit the straight head of the rectus femoris on that side and will create a very tight quadratus lumborum that usually (in conjunction with a very tight psoas muscle) will pull the thoracics 9-12 anterior and their corresponding ribs lateral. The grade II stretch/tear injury to the SI ligaments will create a sclerotogenous referral to the anterolateral thigh mimicking a grade II sciatic neuralgia that is somewhat laterally displaced.[3] Next a category III is checked for and fixed in the usual manner.

If you are dealing with this condition, knowing how to fix it will create enormous success in your practice. A few crucial points are worth mentioning here. The patient must use moist cold over the affected SI joint 20 minutes daily for 3–4 days and avoid sleeping on that side for at least that length of time, as just the weight of their body will be enough to re-tear the ligaments.[4] They must also be fitted with one of the excellent non-stretch sacroiliac joint belts available today and I show how to put them on correctly.[5] I have them wear the belt during the day religiously for 2–3 weeks, taking it off at night. From then forward, I teach them to use the belt when they engage in activities that can potentially re-injure the area. For example, when doing yard work, traveling with large luggage, schlepping groceries, moving furniture and stacking wood are all times this would be a good idea for support. Correct body mechanics, keeping the shoulders, hips and knees parallel is always taught as well.

Now comes the spinal compensatory package and the clearing of L3,4,5 with vertebral body rotation right, left, right. Then up to T10,11,12 correcting right, left, right rotation. Of course you have already found and fixed C1,2,3 with right, left, right rotation. Once you have unrotated the lumbars and thoracics (which I do with the patient prone) and balanced the major muscles previously mentioned, I have the patient sit facing the end of the table.[6] In this position the patient extends their thoracic spine while I challenge the lower thoracics for anteriority. Once the anterior segments are identified, I use coordinated breathing to painlessly and effectively accomplish the correction. The patients give themselves a high cross-deltoid self hug and then round into a position of flexion (grasping their hands on their shoulders stretches the mid and lower traps). For first timers I let patients know step by step what to do and what is going to happen. This extra time spent is worthwhile because it does three things simultaneously: 1-it allows the best correction possible, 2-it allows the patient to relax thoroughly by informing them of what to expect, 3-not only do they know what to expect and why, but they can completely relax in your trusted hands in this most vulnerable position because you have reinforced a great degree of trust. The three steps I use to make this correction are as follows. The patient is instructed to take a deep breath in and flex their chin to their chest. Second they are told to lie back and exhale, to "melt like a pad of butter on a hot fry pan" or like they are "falling back on their bed exhausted after a long day." The patient is told that when their breath is completely out that they audibly need to say the word "aaahhh". This frees the diaphragm and allows smooth correction of the anterior thoracics.

Following this, both psoas muscles need to be checked for hypertonicity. This is performed traditionally by reversing the kidney meridian to inhibit the muscle. My shortcut is to pinch the abdominals along the line of the psoas 1–2 inches into the abdomen while you test a strong muscle. The psoas spasm must be carefully spindled down. Next, rectus and oblique abdominals must be checked and fixed with techniques including origin/insertion, muscle spindles, skin receptors and percussion. The cranial stress receptor for the diaphragm must also be addressed.

Finally, with the patient standing, get behind them then traction and pull down the stomach towards their right ASIS on full exhalation three times. Stabilize with the opposite hand at the thoracolumbar junction. This actually separates the stomach from the diaphragm and reduces the hiatal hernia.

We advise the patient to avoid separation of the xiphoid from symphysis pubis (extension motion). Patient homework also includes rubbing the neurolymphatic points for the small intestine and the diaphragm.

The biochemical aspects of this condition will be addressed in a subsequent paper. These structural protocols will help to produce lasting results from the structural aspect of the Web of Wellness.

References

1. In both patterns of tarsal tunnel syndrome it has been my experience you will find at least the following: an inferior navicular, a lateral cuboid and dropped third and fourth metatarsals.
2. I will check and fix holographic sacral split: challenge S1-5 and any coccygeal orientation. I call this "plane butt" or "driver's butt" due to causation.
3. In this case you will always have the last three lumbar facets imbricated.
4. Moist cold means using a frozen flexible gel pack wrapped with a highloft (thick) towel that has been wet under cold water and wrung out. My favorites are from PSI (800-258-3423).
5. OPTP (763-553-0452) and/or Serola (815-636-2780) are my favorites
6. Other muscles that must be tested and fixed include the gluteus maximus and piriformis. In a grade II SI ligament strain you will always have a positive cranial stress receptor for the ipsilateral gluteus maximus!