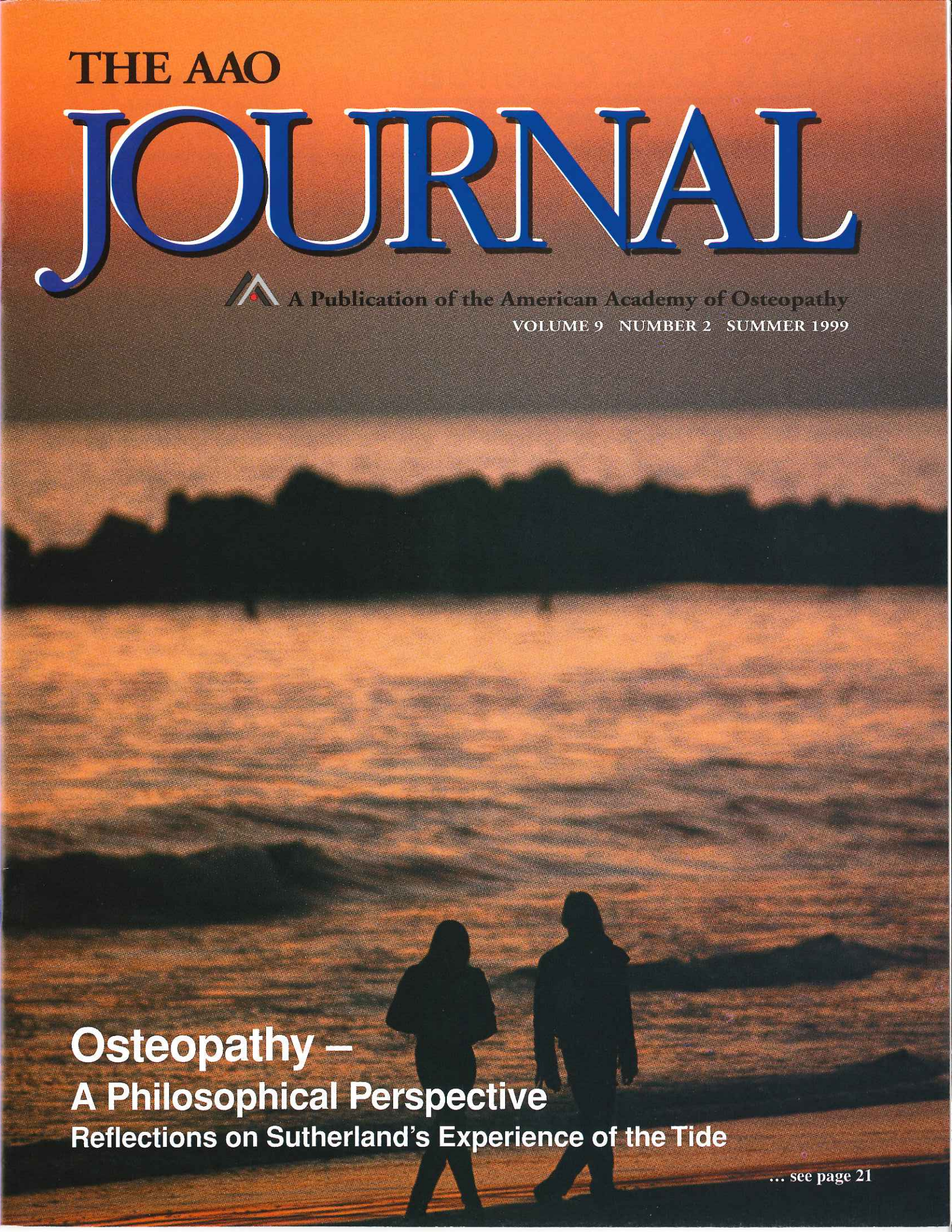
THE AAO
JOURNAL
A Publication of the American Academy of Osteopathy
VOLUME 9 NUMBER 2 SUMMER 1999



Osteopathy –
A Philosophical Perspective
Reflections on Sutherland's Experience of the Tide

... see page 21

AAO's CME Calendar

American Academy of Osteopathy®
3500 DePauw Boulevard, Suite 1080
Indianapolis, IN 46268-1136
Phone: (317) 879-1881 or FAX: (317)879-0563

June

24-27
HVLA Intermediate Refresher
AZCOM
Glendale, AZ
Hours: 20 Category 1A

July

23-25
Systemic Dysfunction
OSUCOM
Tulsa, OK
Hours: 20 Category 1A

August

20-22
Visceral Manip. (Abdominal/GI)
AAO Headquarters
Indianapolis, IN
Hours: 24 Category 1A

September

3-6
Advancing Our Cranial Skills
The Cranial Academy
Tucson, AZ
Contact: The Cranial Academy
(317) 594-0411

22-25 (Wed PM thru Sat AM)
OMT Update
Contemporary Hotel
Orlando, FL
Hours: 23 Category 1A

October

1-3
Stimulated Ligament Reconstruciton (Prolotherapy)
UNECOM
Biddeford, ME
Hours: 20 Category 1A

24-28
AOA/AAO Convention
Moscone Convention Center
San Francisco, CA

November

12-14
Introduction to OMT/Soft tissue/ Articulatory Techniques
COMP
Pomona, CA
Hours: 20 Category 1A

December

10-12
Visceral Manip. (Abdominal/GI)
Holiday Inn Express
Phoenix, AZ
Hours: 24 Category 1A

Year 2000

January
20-23
Introduction to OMT/HVLA
Sanibel Harbour Resort
Florida
Hours: 23 Category 1A

American® Academy of Osteopathy
3500 DePauw Boulevard
Suite 1080
Indianapolis, IN 46268-1136
(317) 879-1881
FAX (317) 879-0563

The AAO Journal is the official quarterly publication of the American Academy of Osteopathy, 3500 DePauw Blvd., Suite 1080, Indianapolis, Indiana, 46268-1136. Phone: 317-879-1881; FAX: (317) 879-0563; e-mail AAOSJN@aol.com; AAO Website: http://www.aao.medguide.net

Third-class postage paid at Carmel, IN. Postmaster: Send address changes to American Academy of Osteopathy 3500 DePauw Blvd., Suite 1080, Indianapolis, IN., 46268-1136

THE AAO JOURNAL
A Publication of the American Academy of Osteopathy

The mission of the American Academy of Osteopathy is to teach, explore, advocate, advance, explore, and research the science and art of osteopathic medicine, emphasizing osteopathic principles, philosophy, palpatory diagnosis and osteopathic manipulative treatment in total health care.

Editoral Section

Peer-Reviewed Section

Instructions to Authors

The American Academy of Osteopathy (AAO) Journal is a peer-reviewed publication for disseminating information on the science and art of osteopathic manipulative medicine. It is directed toward osteopathic physicians, students, interns and residents and particularly toward those physicians with a special interest in osteopathic manipulative treatment.

The AAO Journal welcomes contributions in the following categories:

Original Contributions
Clinical or applied research, or basic science research related to clinical practice.

Case Reports
Unusual clinical presentations, newly recognized situations or rarely reported features.

Clinical Practice
Articles about practical applications for general practitioners or specialists.

Special Communications
Items related to the art of practice, such as poems, essays and stories.

Letters to the Editor
Comments on articles published in *The AAO Journal* or new information on clinical topics. Letters must be signed by the author(s). No letters will be published anonymously, or under pseudonyms or pen names.

Professional News of promotions, awards, appointments and other similar professional activities.

Book Reviews
Reviews of publications related to osteopathic manipulative medicine and to manipulative medicine in general.

Note
Contributions are accepted from members of the AOA, faculty members in osteopathic medical colleges, osteopathic residents and interns and students of osteopathic colleges. Contributions by others are accepted on an individual basis.

Submission
Submit all papers to Raymond J. Hruby, DO, FAAO, Editor-in-Chief, MSU-COM, Dept. of Osteopathic Manipulative Medicine, A-439 E. Fee Hall, East Lansing, MI 48824.

Editorial Review
Papers submitted to *The AAO Journal* may be submitted for review by the Editorial Board. Notification of acceptance or rejection usually is given within three months after receipt of the paper; publication follows as soon as possible thereafter, depending upon the backlog of papers. Some papers may be rejected because of duplication of subject matter or the need to establish priorities on the use of limited space.

Requirements for manuscript submission:

Manuscript
1. Type all text, references and tabular material using upper and lower case, double-spaced with one-inch margins. Number all pages consecutively.

2. Submit original plus three copies. Retain one copy for your files.

3. Check that all references, tables and figures are cited in the text and in numerical order.

4. Include a cover letter that gives the author's full name and address, telephone number, institution from which work initiated and academic title or position.

5. Manuscripts must be published with the correct name(s) of the author(s). No manuscripts will be published anonymously, or under pseudonyms or pen names.

6. For human or animal experimental investigations, include proof that the project was approved by an appropriate institutional review board, or when no such board is in place, that the manner in which informed consent was obtained from human subjects.

7. Describe the basic study design; define all statistical methods used; list measurement instruments, methods, and tools used for independent and dependent variables.

8. In the "Materials and Methods" section, identify all interventions that are used which do not comply with approved or standard usage.

Computer Disks
We encourage and welcome computer disks containing the material submitted in hard copy form. Though we prefer Macintosh 3-1/2" disks, MS-DOS formats using either 3-1/2" or 5-1/4" discs are equally acceptable.

Abstract
Provide a 150-word abstract that summarizes the main points of the paper and it's conclusions.

Illustrations
1. Be sure that illustrations submitted are clearly labeled.

2. Photos should be submitted as 5" x 7" glossy black and white prints with high contrast. On the back of each, clearly indicate the top of the photo. Use a photocopy to indicate the placement of arrows and other markers on the photos. If color is necessary, submit clearly labeled 35 mm slides with the tops marked on the frames. All illustrations will be returned to the authors of published manuscripts.

3. Include a caption for each figure.

Permissions
Obtain written permission from the publisher and author to use previously published illustrations and submit these letters with the manuscript. You also must obtain written permission from patients to use their photos if there is a possibility that they might be identified. In the case of children, permission must be obtained from a parent or guardian.

References
1. References are required for all material derived from the work of others. Cite all references in numerical order in the text. If there are references used as general source material, but from which no specific information was taken, list them in alphabetical order following the numbered journals.

2. For journals, include the names of all authors, complete title of the article, name of the journal, volume number, date and inclusive page numbers. For books, include the name(s) of the editor(s), name and location of publisher and year of publication. Give page numbers for exact quotations.

Editorial Processing
All accepted articles are subject to copy editing. Authors are responsible for all statements, including changes made by the manuscript editor. No material may be reprinted from *The AAO Journal* without the written permission of the editor and the author(s).

From the Editor

by Raymond J. Hruby, DO, FAAO

Teaching Osteopathic Principles and Practice

I received this letter some time ago from one of our readers. He poses an interesting question regarding the teaching of some of our more subtle and complex techniques. The more I thought about it, the more difficult I found it to come up with a suitable answer. I will give a few of my thoughts here, but I thought it might be interesting to use this as a topic for this editorial, and invite responses from other readers. The letter is as follows:

Dear Ray,

I would like to ask your opinion about this item of interest. There is a method of manipulation of the cervical spine which does not involve touching the cervical spine area. It is performed in the following manner.

The patient is supine and the examiner is seated at the head of the table.

The examiner then puts his hands on the patient's shoulders and leans forward and back until the point of mutual resonance between the physician and the patient is achieved. This portion of the maneuver is described in detail in Dr. Becker's book *Life and Motion*. The position of resonance is recognized by the occurrence of the cranial rhythmic impulse as recognized by the treating physician. The treating physician then turns his hands toward the cervical area and passes the ''tide" through the area of somatic dysfunction. It has been our experience that the area of somatic dysfunction undergoes resolution and becomes normal to motion testing. I demonstrated this to Dr. Sara Sutton and Dr. Kappler. Dr. Sutton agreed that the method worked. Dr. Kappler asked me how I would teach it.

I did not have an answer to that question. Do you have any thoughts regarding this method?

Best regards,
Charles J. Crosby, DO ,
Winter Park, FL.

I was very interested in Dr. Crosby's question, because for a number of years now I have used the cranial rhythmic impulse (CRI), also called the "tide," as a kind of indicator to measure the success, if you will, of my treatments. No matter what types of manipulative techniques I might use with a given patient, I always assess the attributes of the CRI (rate, rhythm, and vitality) at the beginning of the treatment and again at the end. I have learned that being able to restore the CRI to a body region where it is initially diminished or absent is one of the most potent indicators of treatment success.

So back to Dr. Crosby's question: how would one teach such a technique as described above? To those who are skilled in osteopathy in the cranial field this would perhaps present little or no difficulty. These practitioners are skilled in palpating the CRI and using the "tide" as well as the other components of the Primary Respiratory Mechanism to accomplish what they need to do for the patient. But what about those not skilled in this area, or those who would like a more "concrete" explanation?

If one were not familiar with osteopathy in the cranial field, one would have to learn to at least palpate the CRI. My experience in teaching CME courses in this area, and my experience with first and second year osteopathic medical students leads me to believe that this is not difficult. While some students struggle at first, very few are not able to eventually palpate the CRI, or its absence. Having accomplished this task, they can easily learn to position a patient in such a way so as to allow the CRI to "enter" this body region and restore physiologic motion.

Another method for teaching this type of technique might be to use a myofascial release model. I have met many practitioners who utilize this type of technique and in essence place the patient in a position so as to relieve myofascial tension, and hold this position until they feel a rhythmic tissue motility which they describe as "inherent tissue motion." I think that perhaps the inherent motion of tissue is actually the presence of the CRI. This does not seem much different than the cranial model described above, but some students seem to understand this description better and grasp the technique more easily.

These are just a couple of my thoughts as I ponder Dr. Crosby's question. I would invite all readers of the AAO Journal to contribute their thoughts as well. We can all learn from each other.❐

Message from the President

by Mark S. Cantieri, DO, FAAO

1999 AAO Inauguration Speech

I want to let you know how far I have come, so I will tell you a brief story. I restarted medical school in 1978 at the College of Osteopathic Medicine and Surgery in Des Moines Iowa. One of our first lecturers was Bernard Te Poorten, DO, FAAO. Those here that know Bud understand when I say he was a particularly colorful figure, one of the best diagnosticians and manipulative DOs I ever had the pleasure to train with. But Bud was a bit prone to expressing opinions bordering on the outrageous at times. At this first lecture, Dr. T. was expressing the benefits of osteopathic diagnosis and treatment. Really, it sounded pretty rational until he went off on this wild tangent called cranial manipulation. I am thinking to myself, "What have I just gotten myself into?" I turned to a classmate of mine and said, "It will be a cold day in hell before I ever buy into that." Ironic isn't it, that I now stand before my peers tonight as the president of the Academy, the institution that is devoted to preserving, teaching, practicing and researching osteopathic principles like no other. For this opportunity I am humbled.

That day I promised myself that I was going to approach osteopathic manipulative medicine skeptically, but not cynically. I would look critically at what I was taught, learn it as well as I possibly could and determine on my own if it warranted being included in my care of patients. And do you know what I discovered – osteopathy has not failed me. I have fallen short, as have my professors, mentors, and clinical teachers but osteopathy has not. Its fundamental truths have never failed my patients or me.

I began an evolution that day. With my training, I first learned some anatomy. Why I say some anatomy, is because I refer back to my anatomy books almost daily to learn more. With regard to OMM, I first learned a very mechanical model revolving around muscle energy and high velocity, low amplitude techniques. I began to understand simple mechanics. Doctor Zink helped me to understand health better than anyone I have ever worked with. His emphasis of the respiratory-circulatory model and fluid dynamics continues to influence my analysis of patients every working day.

After the first two years of medical school, Dr. Viola Frymann came to our school, thanks to the UAAO, and put a head on my patient. Her cranial course gave me fundamental skills for the successful treatment of some of my most personally satisfying cases.

Next, I was coerced by Dr. Boyd Buser to join him in the OMM fellowship. Many of my classmates thought I was nuts. I was in the last three-year program–why would I want to take a fourth year? It was the best decision I ever made. I learned many teaching skills, was able to greatly improve my existing techniques and diagnostic skills and, I met my wife, Becky.

In my pre-graduate clinical year and then internship, the absence of good OMM role models was as obvious then, as it is now for current graduates and undergraduates. But, I learned that if I would take the initiative to treat patients with OMT and rely on the sound osteopathic principles I had learned, I could surprisingly get results and help people that others had not been able to help. I took the initiative just as the graduates and undergraduates in this audience must do, rather than worrying about what others might think or copping-out because there was not someone there to hold their hand. The best lessons I learned were, when I had to think on my feet, not just mimic someone else.

After my internship, I did general practice for three years. This greatly improved my differential diagnostic skills. I next went to Phoenix and joined Dr. Brad Klock as the assistant director of the OMM department at Phoenix General Hospital. At this juncture, I was treating a large number of inpatients. I learned counterstrain from Larry Jones and Bob Wendorf and really began to appreciate the neuromuscular system. I began to understand muscle pain problems better. When muscles cause pain, they become tight and cause referred pain. Another light came on. I studied Travel's work and realized with counterstrain, stretching, and strengthening I could do a lot with pain problems that were muscular in origin. My evolution continued.

I have to thank my son, Marcus, and Dr. Robert Fulford for the next lesson. Marcus was ten pounds and eight ounces when he was born. This resulted in a child with terrible sleeping patterns and recurrent right-sided otitis media. My cranial examination revealed a restricted right temporal bone, which I would correct, but would always reoccur. Marcus had antibiotics and tubes placed in his ears. His sleep patterns were horrible. He rarely napped as an infant and would get up at the most inhumane hours of the morning. When I heard about Dr. Fulford, I took Marcus to see him. I explained his history and my findings to the doctor. After examining him, he kindly spoke to me and said, "the problem is not in his head, stupid, but is a long

continued on page 11

Message from the Executive Director

by Stephen J. Noone, CAE

Members Must Help AAO Reach Goals

At their March 1999 meeting, the Board of Governors approved a new Strategic Plan to guide the Academy's leadership over the next three to five years. The plan expands upon the original long range plan adopted in 1992 to provide a roadmap to the new century. The five primary goals are (specific objectives and action plans were published in the May 1999 issue of *The AAO Newsletter*):

1) To maintain, advance and advocate the AAO as a resource of educational excellence on osteopathy.

2) To evaluate and advance policies which will assure the financial growth and viability of the AAO.

3) To evaluate and implement policies responsive to the membership which foster growth of at least 3 percent annually.

4) To evaluate and create policies ensuring optimal structure and function of the AAO's boards and committees.

5) To develop, implement and evaluate programs promoting ongoing research to explore indications, outcomes, efficacy and applications of OPP/OMT.

Is this Strategic Plan attainable? Certainly it is in the judgment of the Academy's leadership! However, these ambitious goals will not be accomplished without the support of each and every member of the Academy.

How can you help? First of all, you can volunteer to share your time and talent on any of the Academy's 15 committees (see the annual membership directory for a list of committees.) President Mark Cantieri would be most interested in learning your particular interest and how you would like to participate this year. President-elect John Jones will spend the next six months preparing his committee appointments for approval by the Board of Trustees. Now is the time to speak up!

You also can recruit your colleagues to AAO membership, to join you in support of one of the most open organizations within the osteopathic medical profession. Regardless of their specialty, all osteopathic physicians can reap the benefits of AAO membership through increased knowledge of osteopathic principles and practices and osteopathic manipulative treatment by way of our publications and continuing medical education programs.

Furthermore, you can encourage colleagues to enroll in AAO's CME programs — there will 14 opportunities available in these next 12 months. Tuition revenues represent nearly 50 percent of the Academy's annual operational income, with less than 25 percent coming from membership dues.

Finally, you can support the Academy in your annual charitable giving. The Golden Ram Society is the AAO's annual fund which generally supports the Academy's educational endeavors. You have an opportunity to include a voluntary contribution to this annual fund along with your membership dues. The Finance Committee also promotes TRUST 2000: A Legacy for the Osteopathic Profession, encouraging members to include the Academy in their planned giving strategies. The Committee includes information on planned giving in each issue of both *The AAO Journal* and *The AAO Newsletter*.

I look forward to your support of this energetic and viable organization!

Academy Publishes Electronic Journal

The UAAO Council consulted with the officers of UAAO chapters regarding the conversion from delivery of hard copy editions of *The AAO Journal* to an electronic format available on the Academy's Web site. The UAAO Council supported the conversion to this method of delivery of the journal to UAAO members. In the past, many students have not received their copies of the journal, especially when they were away from the college on rotations. The Academy would also benefit from decreased production and mailing expenses.

Editor Raymond Hruby supported the conversion as well. Beginning with this issue of the journal, students will have unlimited access to the journal if they are UAAO members, using, last name, college of osteopathic medicine and year of graduation as their password, e.g.

<smithccom2001> In the future, this same format may also enable the Academy to consider providing access to all AAO members and subscribers via a similar password entry. Overseas AAO members would benefit most since postal delivery is inconsistent in many foreign countries.

AAO Recruits UAAO Graduates

Acting on a recommendation from the Membership Committee, the Board of Trustees have determined that UAAO members who graduate in the Spring will "automatically" become AAO Intern members upon payment of their dues, eliminating the need to complete a new membership application. The Board also approved another Committee recommendation to permit UAAO graduates to make one, lump-sum payment for multiple years of postdoctoral training, e.g. $20 for one year, $40 for two, $60 for three. The AAO staff will issue dues invoices to all UAAO graduates in the Summer at the same time as they mail statements to AAO members.

Chairperson Kenneth Johnson reported that the Committee's rationale stems from the growing assumption on the part of UAAO members that they continued to be AAO members upon graduation. The Committee believes that implementation of these recommendations will better enable the Academy to maintain contact with these new physicians who exhibited such enthusiasm for OMM during their student years. With the availability of the AOA's new "electronic physician master file," the Academy will be able not only to identify relocation addresses of Intern members but also document professional data which would have been part of a separate AAO membership application, e.g. college/year of graduation, postdoctoral training, licensing, etc.❐

What You Can't Give Us

You can give money to the American Academy of Osteopathy. You can give stock and real estate. You can give personal property like artwork, antiques, coins and cars. You can give promissory notes and royalty rights. You can give life insurance and pension funds.

You can give your time. You can donate your special expertise and your leadership skills. You can volunteer to help with various events. You can give a hundred different ways.

But there's one thing you cannot give the American Academy of Osteopathy: a gift that will jeopardize your financial security. We won't let you. At least, we will try our best to prevent it.

That's because we value you and your ongoing partnership with us. We want your giving to be right for you in every way.

Making a major gift to the American Academy of Osteopathy requires great care. The gift plan needs to fit you like a glove. It should make sense and contribute to your satisfaction and enjoyment. It should be one of the high points of your life.

Mr. Steve Noone is the executive director of the American Academy of Osteopathy. He is able to explain various giving opportunities and help you and your advisor(s) tailor the ideal gift plan for you. Whether it is a bequest designation in your will or a life-income gift you establish now, he can help you.

Have you considered creating an endowment fund? Mr. Noone can help you. Would you like to know how to give a life insurance policy you no longer need? Mr. Noone can help you. Do you want to explore a possible gift of closely held stock, a vacation home you no longer use, or a piece of undeveloped land? Mr. Noone can address all of these things, and more.

You can contact Mr. Noone by dialing (317) 879-1881 or by mailing the coupon below. You will find him personable, knowledgeable and trustworthy. He will guard your confidences and honor your privacy. No arm-twisting. His services are complimentary and you are under no obligation to proceed with a gift.

One more thing: Mr. Noone will not try to take the place of your own legal, tax or financial advisors. Instead, he will urge you to obtain independent counsel to make sure that any major gift you make to the American Academy of Osteopathy is appropriate in light of your overall estate plan.

Let Mr. Noone tell you about the planned gifts others have made and what opportunities exist for you. Call him or mail in the coupon today.

(Please complete and return this reply form.)

Dear Friends at the American Academy of Osteopathy:

___ Please send me free literature about planned giving.

___ Please contact me about a personal visit or other assistance.

___I have provided for American Academy of Osteopathy in my will or other estate-planning document.

___Please send me information about the American Academy of Osteopathy.

Name:_____

Address:_____

City:_____

State:_____Zip:_____

Phone:_____

Mail this form to: American Academy of Osteopathy, 3500 DePauw Blvd., Suite 1080, Indianapolis, IN 46268-1136)

Affiliated organization's 1999 CME calendar...

June 12-15
Biodynamics - Phase V
Franconia, NH
Contact: James Jealous, DO
(207) 778-9847

June 18-21
Intro to a Biodynamic Model of Osteopathy in the Cranial Field
Franconia, NH
Contact: Jeffrey Greenfield, DO
(603) 641-2070

June 27-30
Biodynamics - Phase VI
Franconia, NH
Contact: James Jealous, DO
(207) 778-9847

June 17-20
100th Annual Convention
Texas Osteopathic Medical Association
Dallas, TX
Contact: TOMA
(512) 708-TOMA

June 19-23
Basic Course
The Cranial Academy
San Antonio, TX
Contact: The Cranial Academy
(317) 594-0411

June 23-26
1999 OOA Annual Meeting
Ohio Osteopathic Association
Columbus, OH
Contact: Jon Wills
(614) 299-2107

June 24
Competency Testing
The Cranial Academy
San Antonio, TX
Contact: The Cranial Academy
(317) 594-0411

June 25-28
The Cranial Academy Conference
San Antonio, TX
Contact: The Cranial Academy
(317) 594-0411

June 23-26
1999 OOA Annual Meeting
Ohio Osteopathic Association
Columbus, OH
Contact: Jon Wills
(614) 299-2107

July 30-August 1
1999 Annual Meeting
Colorado Society
of Osteopathic Medicine
Vail, CO
Hours: 18 Category 1A
Contact: Patricia Ellis
(303) 322-1752

August 20-22
Psycho-Immuno-Neuro-Toxicology Training
Indiana Academy of Osteopathy
Indianapolis, IN
Hours: 20 Category 1A
Conbtact: I.A.O.
(317) 926-3009

September 3-6
Advancing Our Cranial Skills
The Cranial Academy
Tucson, AZ
Contact: The Cranial Academy
(317) 594-0411

September 24-26
10th Annual Fall Conference
Osteopathic Phys. & Surgeons of Calif.
Monterey, CA
Hours: 20-22 Category 1A
Contact: OPSC
(916) 447-2004

October 16-19
Biodynamics Phase VII
Franconia, NH
Contact: James Jealous, DO
(207) 778-9847

Research resources to advance osteopathic theory and practice

by Albert F. Kelso, PhD and Deborah M. Heath, DO

The fundamental concept in osteopathic philosophy is that the human body reacts to external and internal environmental changes as a unified organism. The dilemma faced by basic and clinical researchers is "How is a basic research hypothesis related to somatic function and total body health?" or "How is clinical or research investigation on disease or other response to manual interventions related to the osteopathic concept?"

Recent clinical advances have identified the integration of several systems to account for effects of environmental stimuli on total body response with an emphasis on a somatic component of the stimulus or response[1] and the interactions in the neuroendocrine-immune system.[2]

Physiologists have contributed significant information on the integration of somatic system functions with total body health. *Exercise: Regulation and Integration of Multiple Systems* is a 1996 American Physiologic Society publication.[3] The editors, Rowell and Shepherd, integrate the disciplines biochemistry, pharmacology, cellular and molecular biology and medicine. Three sections, neural control of movement, control of respiratory and cardiovascular systems, and control of energy metabolism, are used to organize the multiple systems integration. While the emphasis is on exercise and movement, motor control of somatic motor function of posture and movement are presented in depth.

Comprehensive Human Physiology provides a model for integrating reductionist information with physiologic functions.[4] The editors, Gregor and Windhorst, integrate the quantitative details from basic science disciplines into new concepts and classifications for the presentation of human physiology. Their selection of authors and objectives for specific chapters led to a few basic themes that lead to a better understanding of the massive accumulation of biologic knowledge in each discipline. Functions at the molecular, biochemical, cell, tissue, organ and organism levels provide insight into the mechanisms at each level and their contribution to a systemic or total human performance.

The editors of American Academy of Osteopathy yearbooks and special publications[5] have provided a nearly complete researcher's bookshelf on osteopathic basic and clinical research. This is a valuable resource that modern communication on the world wide web (www) can not duplicate at the present moment. In addition to the Fellows' published clinical theses, the collected papers of Beal, Burns, Cole, Denslow, Johnston, Frymann and Korr supplement the osteopathic profession's textbook, *Foundations for Osteopathic Medicine*[6] by providing documented evidence from research conducted in different eras of the osteopathic profession's growth and development.

An increased emphasis on the health care needs, health care provided and the health outcomes provides the clinical researcher with an opportunity to include this "integrated" information as part of any clinical research. The change in a patient's activities of daily living (ADL) or quality of life (QOL) are accepted measures of change in total body performance.

Research data and the relationship of isolated facts at any level to its place in the chain of molecular, cellular, tissue, organ and organism function is gaining favor in the basic science arena and will help support the fundamentals of osteopathy. These references are valuable resources for the investigator of osteopathy.

References

1. 1989 International Symposium: *The Central Connection: Somatovisceral/Viscerosomatic Interaction*, 1992, Indianapolis, IN, American Academy of Osteopathy, affiliated with the American Osteopathic Association
2. 1991 International Symposium: *Nociception and the Neuroendocrine-Immune Connection,* edited by FH Willard and MM Patterson, 1994, Indianapolis, IN, American Academy of Osteopathy, affiliated with the American Osteopathic Association
3. *Handbook of Physiology Section 12. Exercise: Regulation and Integration of Multiple Systems*, edited by LB Rowell, JT Shepherd, 1996, New York, Oxford University Press, Published for the American Physiologic Society
4. *Comprehensive Human Physiology: From Cellular Mechanisms to Integration*, 1996, New York, Springer
5. American Academy of Osteopathy, Indianapolis, IN
6. *Foundations for Osteopathic Medicine*, edited by RC Ward, 1997, Williams and Wilkins❐

myofascial strain pattern by coming from his right foot and ankle area. It is due to his prior intrauterine position and failure to get a complete first breath." I was dumbfounded. Dr. Fulford treated Marcus. Marcus slept all the way home and slept from 7 p.m. that night until 7 a.m. the next day. He never had another ear infection. I promptly took two courses from Dr. Fulford and began to appreciate, as never before, long myofascial strain patterns and energy restrictions and their resultant impact on health.

In 1995, I moved to South Bend, Indiana and my practice evolved into primarily a chronic pain practice. In 1995, Brad Sandler joined me and turned me onto the world of Vladimir Janda and Phil Greenman. I now began to appreciate movement patterns and how alterations of normal movement patterns caused ongoing pain problems. Bringing all the influences together, over my years of practice, greatly improved my treatment success rate. But, there was still a group of patients that did not tolerate appropriate rehabilitation. When we had a joint or muscle loaded with weight to strengthen it, the patient would initially progress but then reach a weight where the progress would stop because of pain.

At this point, we realized that underlying ligament or tendon instability was the problem so we started doing prolotherapy. Again we saw our success rate climb, but saw people who did not respond to the prolotherapy even though the underlying problem was a ligamentous and/or tendonous. In analyzing these people many, because of their chronic pain, were hormonally suppressed. Frank Willard would have been proud that we figured this out. Hormonal evaluation and treatment allowed these people to progress through rehabilitation where they never could have before. What will be next in my evolution? I have a few ideas.

Certainly we, as a group, need to all continue to grow personally as osteopathic physicians. There is no place for stagnation if we want to provide the best possible care for our patients and remain competitive in the evolving health care market. We must support research in osteopathic medicine in the United States and throughout the world where it is being birthed and also evolving. Our international brothers and sisters are looking to us for direction and support.

A.T. Still probably gave us all the best advice we can still live and practice by: "Keep it pure boys, keep it pure." Maybe that is what we can use for the AOA unity campaign. Probably won't fly, will it?

So, I encourage all of you to grow and evolve in a way that keeps you excited about going to the office and meeting new challenges everyday. Not saying to patients: "Well, we have ruled out all this bad stuff, I guess you will just have to live with it." But, rather keep digging until you find the answer. And, bring those answers to your colleagues here at the Academy so we can all grow together loving and helping our patients, our brothers, and sisters. Thank you.❐

Case Study:
OMT and urinary incontinence

by James E. Farley, DO

Patient Identification

G.L. is a 62 year old Caucasian male, status post radical prostatectomy.

Chief Complaint

Urinary incontinence

History of Chief Complaint

Patient underwent radical prostatectomy for benign prostatic hypertrophy seven weeks prior to this first visit. Patient denied urinary incontinence prior to radical prostatectomy. Patient stated that urinary incontinence occurred only when he coughed or played the bagpipes. He had played the bagpipes for over 40 years and it was a significant part of his life. Review of surgical report revealed a routine radical prostatectomy without complications during surgery or during recovery.

Past Medical History

Hypertension for 20 years.

Past Surgical History

Hemorrhoidectomy 1980

Social History

Denies tobacco, alcohol or caffeine use. Widowed 12 years ago, remarried 6 years ago - happy marriage. Retired school teacher - now raises 30 sheep per year as a hobby - plays bagpipes professionally.

Allergies

Denies MEDICATIONS: Zestril 10 mg QD

Physical Examination

Height5'6". Weight 170pounds. Blood Pressure 138/86. Pulse 72. Respirations 20. Oral Temp. 99.0.

Head, ears, eyes, nose and throat were normal. Lungs were clear to auscultation. Heart exhibited regular rate and rhythm without murmurs. Abdomen was soft and non-tender with bowel sounds present in four quadrants. No masses were palpated. Skin was warm and dry. Pulses were +2/4 upper and lower extremities bilaterally. Deep tendon reflexes +2/4 upper and lower extremities bilaterally. Cranial Nerves 1-12 intact.

Structural Examination was performed in the standing position. Anteriorly the chin deviated slightly to the left. Left shoulder was posterior and superior versus the right. Left sternocleidomastoid muscle and scalenes were tense versus the right. Umbilicus was deviated 2 cm to the right of the midline. The right superior anterior iliac spine was posterior and superior versus the left.

Structural examination was then performed in the seated position. Passively the pelvis rotated more easily to the right. Actively the pelvis rotated with greater excursion to the right.

Structural examination was then performed in the supine position. Sacroiliac articulations were found to be tense with restriction of sacral motion. Pelvic diaphragm was restricted in inspiration bilaterally. L5 N SR RL. Thoracic ribs 12 were restricted in inspiration bilaterally. Respiratory excursion was observed to descend to umbilicus. Psoas muscles were tense bilaterally, right greater than left. Thoracic ribs 11 through 7 on right were restricted in inspiration. T1 N SR RL. C 2,3 E RR SR. Occipital condyles were anterior on C1 bilaterally. Cranium exhibited a sidebending rotation with convexity to the left . Primary respiratory mechanism exhibited only fair amplitude and rate.

Initial Assessment

1. Status post Radical Prostatectomy
2. Ligamentous Articular Strain of pelvic diaphragm, respiratory diaphragm and psoas muscles.
3. Ligamentous articular strain of lumbar, thoracic and cervical vertebra.
4. Cranium with sidebending rotation with convexity to the left.

Treatment Plan

On the first visit, after examination, the patient was told that a series of five to seven treatments would be required to bring some resolution to his chief complaint. A brief, but illustrative description of the anatomy involved in his problem was presented. After the patient seemed to understand the problem and how it would be approached osteopathically, the treatment was initiated.

The patient was treated 5 times using the principles of Balanced Membranous /Balanced Ligamentous Tension and direct and indirect myofascial release. The first goal of treatment focused on resolution of restriction in the pelvic diaphragm and respiratory diaphragm. The somatic dysfunctions in

the cervical and thoracic vertebrae and ribs were then addressed. The cranium was then treated last with osteopathy in the cranial field.

Course of Treatment

The patient noted significant improvement after the first visit. He no longer became incontinent after coughing. He still, however, became incontinent of urine when attempting to blow the bagpipes.

On the third visit the patient stated his neck and upper thoracic area felt much looser and he could turn his neck much easier but continued to be incontinent of urine when blowing the bagpipes.

The fourth visit brought in a much happier man. He stated he could blow the bagpipes without any urine incontinence.

He returned for the fifth visit without complaint. The original chief complaint and any other questions the patient had were addressed. The patient was treated and discharged. The next time I saw G.L. was eight months later, dressed in a kilt, playing his bagpipes in our local St. Patrick's Day parade.

Discussion

The urinary stress incontinence was in part due to restrictions in the pelvic and respiratory diaphragms. The pelvic diaphragm serves as a sling or hammock on which the pelvic organs are supported. Furthermore, the pelvic diaphragm must have the ability to descend on inhalation and ascend on exhalation in concert with the respiratory diaphragm. If the pelvic diaphragm does not respond as a diaphragm in response to respiratory inhalation, the abdominal contents will be forced down on the unyielding pelvic contents causing pressure on the bladder, contributing to urinary stress incontinence. The respiratory diaphragm, ribs (especially the twelfth) and psoas muscles can limit the excursion of the respiratory diaphragm. The ligament of Treitz, originating from the crura of the diaphragm, serves as a suspensory muscle of the duodenum. So relieving the diaphragm restriction enhances the suspensory function of the ligament of Treitz. This in turn reduces some of the pressure from the abdominal contents on the bladder. The ribs and vertebrae are attached to the anterior longitudinal spinal ligament. Their somatic dysfunctions put a strain on the anterior longitudinal spinal ligament which also attaches to the crura of the diaphragm. Relieving the somatic dysfunctions in the above-mentioned areas ease the fascial and ligamentous drag on the entire system which is designed to support and nourish the internal organs.❐

Letter to A.T. Still

Dear Doctor Still,

One of your students, Percy H, Woodall, MD, DO, wrote a book, *Osteopathy, The Science of Healing by Adjustment*. Perhaps because he was an MD before he became a DO he has some interesting ways of describing the principles and practice of osteopathic medicine. For example, he notes that human beings have always used adjustment as a method of healing. This is particularly true of fractures, and dislocations of large joints. He notes that eventually "manipulative surgery" was born, and "Its function is to deal with the adjustment of the gross derangements of the large joints, neglecting the minor and minute irregularities of these large joints and practically all derangements of the small joints." He goes on to describe the well-known story of how you came to understand the importance of these "minor" irregularities in structure, and how you subsequently developed the principles and methods of osteopathic medicine. He states unequivocally that "...the peculiar, the distinctive, the essential feature of osteopathy is adjustment, adjustment of the structures of the human body."

Doctor Woodall also notes that "The purpose of an osteopathic examination is to find the maladjustment that is interfering with a free play of Nature's forces. The object of an osteopathic treatment is to readjust the deranged parts or conditions so that the natural state of health may be regained." I always admire his ability to so eloquently describe the essence of osteopathic medicine.

He cautions that it is the ability to properly diagnose structural problems that is the most important part of osteopathy. He states" Yet, while manipulations are a necessary part of osteopathy they are relatively of minor importance. The matter of prime importance is the ability to locate the maladjusted part and to interpret its effects. To do this requires the most comprehensive knowledge of all parts of the body and their respective uses, and of the evidences of their derangement. Without this knowledge of structure, function, and disorder, no degree of manipulative skill can make one and osteopathic physician. Merely to be able to manipulate no more makes an osteopath than the ability to cut makes a surgeon."

Wise words from a wise physician. May we always remember them.

Your ongoing student,
Raymond J. Hruby, DO, FAAO❐

Letters to the Editor

Dear Editor:

The article by Kenneth E. Nelson, DO, FAAO"...short leg syndrome..." (*AAO Journal* Spring 99) is very well written, covers most aspects of the subject, and should serve as instructional material for our students.

The statistics about the number of students with the "problem" is not unexpected in that Wallace Pearson did an analysis of many high school students in Kirksville in the 1940s, and had similar findings. In my practice, I found incidence of 9% +/- of significant leg length inequality.

Dr. Nelson did indicate that this article "was limited to the typical patterns." However, I would like to make a few other points. Many DOs philosophically feel that inequality symptoms can be managed by manipulation without lifts (*Medical Tribune* April 12, 1978). Many check medial malleoli on the table before and after manipulation and consider that they have solved the problem. I believe that, as osteopathic physicians, we should be more thorough in considering that an actual short leg prevents the pelvis from being level.

Dr. Nelson indicated that most patients are middle aged. It is my plea to recognize the problem in childhood or teenage years so symptoms do not develop. He also indicated that it may be "organic." I would like to plead for a complete evaluation by all physicians in order to properly address the problem.

Many growing children are brought to the doctor because of a change in "posture" in a "scoliosis screening" during school indicating curvature, or the fact that a girl's skirt does not hang straight, etc. A complete physical is essential. Examples:

A 12-year-old boy was seen for a 1 1/2" difference in leg lengths. The problem was from the ankle down, as a result of surgery for a "bone cyst" in distal calcaneus at 4 years of age. The solution was to correct the ankle and foot.

An 8-year-old girl was seen for a "limp." Dr. Donald Siehl found a significant curvature of the spine and leg length discrepancy due to an arteriovenous fistula in the *long leg*. The long leg was larger than the other. The solution was to correct the A-V fistula, then use a lift in the short leg, adjusting the lift every six months as the child grew.

A 13-year-old girl was seen for a curvature and pain in her kneecap. We carefully examined the patient and found cafe au lait spots over the pelvis and spine. An x-ray indicated several punctate "cysts" in the distal femur. This was not neurofibromatosis but was a rare hemangioendothelioma. Simple lift therapy would have delayed radiation and chemotherapy which was required. The patient indicated that no previous doctor had undressed her and looked at her skin.

I had many other patients with "organic" changes resulting in sacral-pelvic imbalance and curvature. There are best identified by a complete evaluation of the patient.

Minimal Cerebral Palsy may be unrecognized, but may be responsible for curvatures with or without leg length discrepancies. These may be improved by cranial therapy and rehabilitation exercises.

In older patients, these problems may be the result of small strokes, simulating a short leg syndrome.

At any age, the apparent or actual short leg may become symptomatic because of inversion or eversion of ankles, variation in arch, unrecognized injuries and degeneration of the knee, tibial torsion, or other errors in locomotion.

My plea is to do a complete visual and palpatory examination of both extremities, as well as the spine, particiularly in the child with scoliosis and/or "short leg." (Visual inspection of the skin requires that clothing be removed.) Examine an old pair of shoes and watch the patient walk down a corridor with and without shoes.

If the physical is negative for these rare problems, then you can begin the therapy for the "short leg" with lifts, OMT, exercises, etc., as described in the other articles. Remember that, in the growing child, it will be necessary to re-evaluate at intervals.

Historical note:

In the 1920s-1940s, Dr. George Laughlin in Kirksville developed a reputation for correction of scoliosis. Patients came from long distances. He treated these patients by putting them on a device which exerted traction on the spine and pressure to straighten the curves, and then by applying a plaster body cast from pelvis to armpits, changing it at intervals. I do not know if he analyzed results. I never heard him say anything about leg lengths.

Dr. George thought that young female teenagers developed scoliosis from carrying their heavy school books on their flexed left arm. (Boys carried theirs in a "school bag" held in hand. However, this was considered to be "too unfeminine" for the girls.)

Martyn E. Richardson, DO, FACOP
Scarborough, ME

To: Editor
Re: The Osteopathic Research Agenda: 100,000 cases of influenza

I have read with interest the series of articles on osteopathic research authored by Drs. Heath and Kelso in the last three issues of the *AAO Jour-*

nal. I was pleased to know more about the efforts of the Louisa Burns Clinical Research Committee and viable avenues for garnering funds for osteopathic outcomes research, but the epidemiologist in me walked away confused.

In the last article, the osteopathic success story of the influenza epidemic of 1919 was recapped. We see that because one physician was able to mobilize a reporting system from 2,445 osteopathic physicians, he was able to look at information on the osteopathic treatment of 100,000 cases of influenza. While the authors point out that the data was statistically flawed, they go on to call this valuable "outcome data." On this last point I would have to disagree.

As I see it, this is nothing more than descriptive data that calls for a more controlled study to produce valuable outcome data. The question that begs to be answered is: "Compared to what?" I have no sense of whether the osteopathic data collected was comparable to data collected on patients receiving allopathic care. I do not know if the populations were comparable in terms of their demographics, comorbidity, and other potential effect modifiers and confounders. Could it be that osteopathic physicians were located in more rural areas, whereas the allopaths were practicing in the more urban areas where the toll from the epidemic was the greatest? Was any death not treated by an osteopath considered a death attributable to an allopath?

The point of my comments is not to discredit the value of osteopathic care in treating influenza, but rather to heighten the awareness of the questions that must be addressed before the plausibility of an association can be elucidated. In the absence of further information, we can not draw conclusions (i.e., the risk of death was 40 times higher in patients receiving allopathic care and that difference was due to osteopathic treatment). It is the same difference that exists between a case series and a clinical trial. The first tells you a story and the second compares it to a control group to give a point of reference for comparison.

The point is worth making because I believe the current effort to establish a nationwide database vis-a-vis a Standardized Outpatient Osteopathic SOAP note may bring up many of the same issues. There are many challenges to standardizing the completion of this form. For example, many DOs record somatic dysfunction differently. Some note a restriction of the 5th lumbar by noting L5, whereas others might note whether the lesion is flexed or extended along with its sidebending and rotation components. Additionally, we have a number of studies that suggest the inter-rater reliability between practitioners is poor. As for the outcomes, providers may use different ICD-9 codes to capture the same diagnosis (i.e., lumbosacral sprain/strain, lumbar strain, low back pain, somatic dysfunction, etc). How do you take this into account when you have a database that draws information from hundreds or thousands of providers?

The next question is the same question: "Compared to what?" In a database that only records osteopathic findings, who becomes the control group? Also, how are potential confounders and effect modifiers captured? While the form does ask for age and gender, it does not capture ethnicity or a measure of socioeconomic status (just to note two items that are usually adjusted for, analytically).

To cut to the chase, the creation of this national database may serve best for descriptive analyses, hypothesis generating analyses, and surveillance. These are very important first steps in developing solid randomized clinical outcome research, but are not the endpoint in-and-of themself. I suggest other projects be considered simultaneously. For example, the Osteopath Center for Children in La Jolla might be well suited to a longitudinal study of pediatric development in children with a certain condition. The osteopathic colleges may be better equipped to study the impact of osteopathic medicine on clinical outcomes in adult populations (i.e., healing, postoperative pain, pneumonia, whiplash, carpal tunnel, etc). In addition to the grant money available from the Agency for Healthcare Policy and Research (AHCPR) noted in the journal previously, funds can also be found currently through the National Center for Complimentary and Alternative Medicine (NCCAM) and other offices of the NIH including the National Institute for Occupational Safety and Health (NIOSH).

Your truly,
Paula D. Scariati, DO, MPH

Dear Editor:
Re: A letter to the Editor: Comments on an article by Martyn E. Richardson

We read with great enthusiasm the article by Dr. Martyn E. Richardson entitled "Role of the DOs in the "Spanish flu" pandemic of 1918-20" which appeared in the Summer 1998 issue of the AAO Journal. We could not help but feel a tremendous amount of pride in the amount of healing that osteopathic physicians were able to

achieve using manipulative treatments. We wish to comment, however, on a statement in the article which claims that "lymphatic pump" was not mentioned as part of the manipulative treatments given to the flu patients.

In that article, Dr. Richardson described one of the procedures employed by the DOs: "The patient extended the arms over the head and took one or two deep breaths to aid in respiration." We believe that this maneuver will have the same effect on thoracic volume as pectoral traction, a lymphatic pump technique described in R.C. Ward's Foundations for Osteopathic Medicine. The raising of the arms over the head will bring about an augmentation of the range of motion of the first eight or nine ribs during inhalation due to the combined actions of the pectoralis major, pectoralis minor and serratus anterior muscles. The concomitant increase in the volume of the thorax will cause a drop in intrathoracic pressure, consistent with Boyle's law (at a constant temperature, there is an inverse relationship between volume and pressure). The pressure gradient between intrathoracic and extrathoracic pressure will facilitate the flow of lymph. In conclusion, we wish to state that although it was not mentioned as such, lymphatic pump technique was utilized as one of the osteopath manipulative treatments during the 1918 flu epidemic.

Julian Mesina, DVM, PhD
Associate Professor of Physiology
Donald Hampton, DO
Professor of OMM
Walter Buck, PhD
Associate Professor of Anatomy
Lake Erie College of Osteopathic Medicine

Dear Dr. Hruby,

This is an open letter to Dr. DiGiovanna in her article "The Tree in the Wind."

Dear Dr. DiGiovanna;

"The Tree in the Wind" is a wonderful metaphor for what has been and what is going on in osteopathy.

We do have a beautiful tree standing on a hilltop. The wind is a constant threat to any lone tree on a hill, and diseases that can inflict trees from within are always a potential risk.

The tree on the hill is a creation of God, that was discovered by Dr. A. T. Still. He nurtured, studied and cared for it. The tree, like all that God creates, has his hand mark on it. It is capable of developing the full potential that is within it.

As the tree develops, it can often use to its advantage those things that at first glance appear to be there only to destroy the tree.

The vision that I see is that the tree has grown and developed to a new stage of maturity. The wind has grown more jealous and has tried harder to remove the tree and make it like the rest of the hill. The disease seems to be developing within the tree and may weaken it. But the tree has had experience with disease before. Its internal self healing powers have been awakened to heal it and recover its full health before in the past and it will recover again.

This is when the miracle of creation shows itself; all around not just on the hill, but near and far. All over the country are seen new trees. They have the same shape and form as the tree on the hill and are seen growing tall and proud. They grow not just as a single tree, but as local groves of trees that will support each other.

Now as the wind blows even harder we find that the seeds of the first tree have been blown around the world. They are taking root and growing on their own hilltops in deep fertile soil.

So when the first tree's time has come, as it does with all things, it has fulfilled the plan. Where a single tree was, there is now a forest tended by the brethren throughout the world.

Yours truly,

Brian Knight, DO
Eastmoreland Hospital, OMM Department
2900 SE Steele St , Portland, OR 97202
(503) 230-2501

From "An Adventure in Excellence"

by George W. Northup, DO, FAAO, AAO Yearbook 1967

If this profession and its members would achieve greatness, they must reach it through excellence. The tapestry of medical history reveals the golden thread of greatness running through the lives of many such men as Still. Great men of medicine—in fact, the great men of history—have been those who sought excellence. They were not diverted from this pursuit by a concern over the status which others ascribed to them. Although often sensitive to the attitudes of others, they did not allow this to obliterate their convictions. Show me greatness that was not opposed. Show me a new idea that was not met with scorn by the "accepted orthodoxy of its day."

Men of greatness rarely appointed committees and urged the expenditure of thousands of dollars in an effort to get their enemies to stop calling them names. Greatness never sought to change it name to mask its ideals. Nor did the greatness of the outstanding figures of history save their souls or their ideals by yielding to their oppressors. Greatness has the courage of belief. And greatness is the application of excellence.

Individually, we must commit ourselves to those strengths of character which were exemplified by the man whom we honor today. Andrew Taylor Still was not preoccupied with status but occupied with service. He concerned himself more with the development of his own convictions that with being disturbed by the opinions and ridicule of others. He placed his ideals ahead of ideas. He sought excellence. He was discontented, and he converted his discontent into creating a better medical world.

Above all this, however, Andrew Taylor Still was motivated by a faith in something greater than self-achievement. Although, severely criticized both in this time and ours, he believed that man should be an instrument of divine guidance. It is unfortunate indeed that modern science nails to the cross of ridicule those who seek and claim divine inspiration. History may prove that those scientists who have worshipped at the limited intellect of man have followed false gods. Perhaps Still's reaffirmation of the fact that knowledge comes to man rather than being born of man was one of his greatest contributions. Dubos may have thought of this when he wrote:

"Many scientists spend their most pleasant professional hours, and often their most creative, in dreamlands unencumbered with realities and beyond the reach of verifiability. Indeed, it seems to me that the activities of even the most objective and practical of experimenters are conditioned not only by tools, techniques and logical concepts, but also, and perhaps even more, by conceptual views which transcend factual knowledge."

As we belong to an affluent society, perhaps we, too, have become an affluent profession. It may well be that the problems that infest the world today are also reflected in the problems of medicine in general and in osteopathic medicine in particular. And perhaps those intellectual, moral, and spiritual attributes which are necessary for the survival of mankind are also necessary for the survival and development of osteopathic medicine.

An adventure in excellence brings forth the highest attributes of the moral and spiritual life of man. "What shall it profit a man, if he shall gain the whole world and lose his own soul?" And what does it profit a profession if it gains the world of recognition and renounces the soul of excellence? The very heart of a profession and of a people is at stake.

The life of Andrew Taylor Still provided the inspiration for osteopathic medicine. We, today, can do no less than develop it in excellence. The challenge is before us—the adventure has begun; it beckons us onward.❐

ERRATA:

The Spring 1999 issue (Vol. 9, No. 1), of the *AAO Journal* ran an article by Dr. William H. Stager, DO, CSPOMM, of West Palm Beach, Florida entitled, *"Thoughts on healing: Remembering Dr. Fulford and a deeper osteopathy."* The author's by-line was inadvertently left off the final copy that went to print. We have received numerous inquiries as to who authored the article and wanted to take this opportunity to apologize to Dr. Stager as well as share the author's name with the *AAO Journal* readers. For those of you who have not read the article, it can be found on page 10 of the aforementioned issue. One of the comments received is as follows:

As I continue "digging on," and indeed discovering the most wondrous finds, I often feel that I am surrounded by a desert of dry intellect, and a rather muddled one at that. Finding your article was a very welcome oasis. Thanks. I hope to meet you some day.

Harold J. Kornylak, DO
Virginia Beach, VA

OMM beyond the classroom – The future is now

What does the AOA mandated Osteopathic Postgraduate Training Institution (OPTI) mean to us?

by Michelle Veneziano, MS-III, Western University of Health Sciences/COMP

If you are a medical student out on rotations, you may have noticed, as I have, that there is really very little osteopathic medicine being practiced in the typical hospital setting. For many of us this may be good news. We are responsible for mastering so much information; why would we be interested in adding to the challenges we face on the wards by simultaneously attempting to master osteopathic examination and treatment? And then, there is the fact that many of us are being trained by MDs who have unpredictable levels of interest and tolerance for manual medicine. At best they are curious and supportive, but they are certainly not able to help us improve our osteopath skills. And it is strange, but true, that the circumstances are rarely different when our teachers are DOs; rarely do DO attendings apply OMM to hospitalized patients. Role models are scarce.

OMM enthusiasts especially may find the lack of time, receptivity and appropriate preceptors in postgraduate settings discouraging. Some students justify a lack of interest in OMM by claiming there is a paucity of supportive literature. But ask yourself this question: even if there were sufficient evidence (and many would argue there is), would you choose to practice manipulative given the obstacles that exist? Either way, the only sensible course is for each of us to consider carefully what we may miss by choosing the well-worn path of least resistance, that of emulating the allopathic model, despite the letters D and O that will ultimately grace our names.

I have observed several DOs with highly developed osteopathic skills correctly diagnose organ dysfunction and even endocrine disorders through observation and palpation alone. For them, the frequently routine, expensive, time-consuming practice of ordering a battery of studies in an effort to narrow the differential is rare. It takes years to develop their level of perceptive skill, just as it takes years to interpret the subtleties of heart sounds or to become a vascular surgeon, but what skills worth having come easily? Students experience frustration attempting to discern even relatively obvious anatomical information during a physical exam; palpatory skills develop very slowly. I am in the middle of my third year, and I still cannot see the light at the end of the tunnel, but I am finally convinced it is there.

It seems consistently true that patients of skilled osteopathic physicians rarely need multiple repeat visits or become seriously ill. Naturally some patients are hospitalized, but a recent double-blind study conducted by DOs Radjieski, Lumley and Cantieri demonstrates that OMT reduces the length of stay by an average of 3.5 days, while at the same time improving patient satisfaction ratings.[1] I have not yet met a doctor practicing OMM who has been sued, and I do ask. It seems reasonable to suggest, therefore, that in the long run, use of OMT may well save time and money. Perhaps, the investment of additional study and office time required to master and practice OMM can reap multiple rewards. Now, when the HMOs realize that skilled osteopathic physicians are cost-effective...

But okay, we are not there yet. We are still students, and HMOs are still...HMOs. And, the pre and postgraduate hospital training programs that are available to us are still not particularly DO-friendly, even when they are AOA-approved. So, what are the options for those of us who really would like to explore those areas of osteopathic medicine that set us apart from other doctors? We need a plan, and we need a body of students prepared to support that plan.

The AOA has mandated that as of July 1, 1999, all hospitals offering osteopathic postgraduate training must become part of an Osteopathic Postgraduate Training Institution (OPTI), and AOA-regulated entity aimed at standardizing osteopathic postgraduate training. Over the next few years, the goal is for each of these facilities to develop integrative OMM preceptorship programs in both hospital and ambulatory settings.

WesternU's AOA-approved affiliates comprise OPTI-West, one of the first five OPTIs to be approved by the

AOA. Block rotations have been created at each of these facilities in order to provide more opportunities for OMM faculty to teach in these settings. WesternU also plans to create a communication and resource forum on the Internet that will help keep us informed, and give us a platform for exchanging ideas. Additionally, OPTIs will help to ensure the kind of consistent and accurate documentation that will facilitate quality outcomes research. It is, after all, only through reliable studies that we can communicate the benefits of OMM.

In professional practice and in the classroom, the degree to which each of us embraces OMM is a personal choice; OPTI will not change that. Even if we doubt that we will ultimately choose to practice OMM, at the very least we can consciously choose not to chuckle at morning report when the osteopathic exam in mentioned. In the attempt to become well-rounded physicians, we can study OMM as rigorously as we study any area of medicine, whether or not we feel it pertains directly to our ultimate professional goals. Having received quality training in OMM, we will be able better to recognize when OMT is indicated, and be more qualified to determine the appropriate referral. Whether we trust our palpatory skills or not, we can do a great service to our patients by thinking osteopathically; with adequate exposure to osteopathic principles and practice, we will be less likely to forget that osteopathic physicians respect and support the inherent self-correcting capabilities of the human body.

We are fortunate to be training at a time when the greater medical community is gaining enthusiasm for a more preventive approach to health care. Osteopathic physicians are uniquely and strategically situated to serve as leaders of this trend. OPTI is perhaps the single most promising vehicle in decades for the advancement of osteopathic education. Ultimately, however, it is the enthusiastic support and participation of students that will ensure the success and viability for our profession, and of comprehensive preventive care for communities fortunate enough to be served by osteopathic physicians.

References

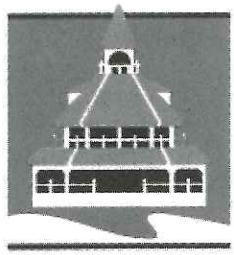
1. Effect of osteopathic manipulative treatment on length of stay for pancreatitis: a randomized pilot study, Radjieski JM; Lumley MA; Cantieri MS, JAOA, May 1998, 98(5) pp. 264-72 ❐

"An Introduction to OMT"

(Basic HVLA)

January 20 - 23, 2000

CME Hours:
23 Category 1A



Sanibel Harbour Resort & Spa

MGC Gold Key Award

Four Diamond Award

INTER-CONTINENTAL Global Partner Hotels & Resorts

Resort Amenities:
1/2 mile jogging/nature trail
Boardwalk through mangrove forest
Babysitting services
Kids' Klub (ages 5-12)
Free shuttle to Sanibel
Free shuttle to outlet maill
1,000 ft. sandy beach

Sanibel Harbour is nestled on 80 acres of a private peninsula in Fort Myers, Florida, overlooking Sanibel and Captiva islands, approximately 25 minutes from the Southwest Florida International Airport. It boasts of 320 hotel rooms, suites, and condominiums.

Water Sports:

Waverunners	Kayaks
Sail boats	Power boat rentals
Eco-history cruises	Backwater fishing cruises
Shelling cruises	Dolphin/wildlife cruises
Beach & lunch tour cruises	Pool floats and inner-tubes
Fishing pier	

Golf:

	# of holes	distance from hotel
Dunes Country Club	18	7 minutes
Lexington Country Club	18	8 minutes
Gulf Harbour Country Club	18	10 minutes
Gateway Golf and Country Club	18	30 minutes
Pelican's Nest Golf Club	36	35 minutes

Spa and Fitness Center:

Aromatherapy	Full Service beauty salon
Massages	Weight training equipment
Facials	Aerobics
Steambaths	Indoor lap pool
Saunas	Racquetball courts

Program

Thursday, January 20, 2000

5:00 pm	Registration Opens (includes evening meal)
5:30 pm	Introduction to Course
5:45 pm	History/Philosophy of Osteopathy
7:30 pm	Introduction to OMT
8:00 pm	Osteopathic Terminology, Palpatory Diagnostic Parameters, Barrier Concept
8:45 pm	Principles of HVLA Technique
9:15 pm	SUMMARY
9:30 pm	Adjourn

Friday, January 21, 2000

7:00 am	Spinal Biomechanics
8:00 am	Pelvis Diagnosis and Treatment
10:45 am	Small Group Discussion
11:00 am	Lumbar Spine Dx/Tx
1:30 pm	Adjourn

Saturday, January 22, 2000

7:00 am	Pathophysiologic Models
8:00 am	Thorax Dx/Tx
10:30 am	Small Group Discussion
10:45 am	Cervical Spine Dx/Tx
1:30 pm	Adjourn

Sunday, January 23, 2000

7:00 am	Coding for Dx/Reimbursement
8:00 am	Extremities Dx/Tx
10:30 am	Small Group Discussion
10:45 am	Complications & Contraindications
11:30 am	Complete Treatment Approach
12:30 pm	Summary
1:00 pm	Adjourn

Faculty:

Boyd R. Buser, DO, Program Chairperson
Mark S. Cantieri, DO, FAAO, AAO President

Call the American Academy of Osteopathy for more information: (317) 879-1881

Osteopathy – A philosophical perspective

Reflections on Sutherland's experience of the tide

by Domenick J. Masiello, DO, DHt

My purpose is to examine philosophically the phenomenon of the Tide in osteopathy. In doing so, I hope to call attention to the essential role that philosophy plays in the art and science of osteopathy. I will attempt to place osteopathy within the context of the history of ideas in western philosophy and show the relativity of the two main epistemological approaches, namely vitalism and materialism.

The characteristics of a vitalist perspective and the relevance to osteopathy will be demonstrated. Osteopathy will be viewed as a quasi-phenomenological method within the context of the vitalist tradition and the emphasis on perception will be noted. Finally, the concept of metaphor will be discussed and applied to the phenomenon of the Tide.

As osteopaths we are all familiar with the notion that Dr. Still's main focus with his students was anatomy and the concept of the osteopath as master mechanic or engineer, reasoning from the level of effect or disease to the level of cause. Namely, that a physical restriction was the reason for the impeded arterial flow, the impeded lymphatic drainage, the impeded venous return, etc. We vaguely know something about his philosophy and we know that we have little in the way of specific techniques as our legacy from him. This is certainly true about his *Philosophy of Osteopathy* and his *Philosophy and Mechanical Principles of Osteopathy*. In his last work, *Osteopathy: Research and Practice*, while we certainly receive more in the way of technique, we cannot avoid the conclusion that the "old doctor" was, at heart, a philosopher. My purpose is not a discussion of his philosophy per se, although I consider his concepts of the *Biogen* and of *Mind*, *Matter*, and *Life* to be most interesting. Rather, it is in part to reflect upon how little we as osteopaths actually engage in philosophy and to think philosophically about the Tide. Since his passing we have had no shortage of anatomy, physiology, pathology, biochemistry, etc. We have had precious little philosophy. We have, in fact, had precious little osteopathy and may have compromised ourselves into near oblivion by living off of the legacy he left us without "digging on" philosophically and practically. I hope to show where osteopathy stands in relation to the history of ideas and describe its essential features so we may apply them to the concept of the Tide. One of my favorite quotes from Dr. Still is from the preface to his *Osteopathy: Research and Practice*, "The mechanical principles on which osteopathy are based are as old as the universe. I discovered them while I was in Kansas. You can call this discovery accidental or purely philosophical."

What could he have meant by the term "philosophical"?

The history of western philosophy is vast and, when taught at the introductory university level, generally requires a minimum of two semesters to complete, so we certainly are not going to attempt that here. However, we can survey this expansive field and try to classify the osteopathic approach. The area of philosophy most closely linked to science is epistemology, that branch of philosophy concerned with the theory of knowledge – the nature, scope and basis for knowledge itself. The history of epistemology can be viewed as our struggle to come to grips with the issue of what exactly can we know about reality. The early Greek philosophers were not very much concerned about this issue, relying on the supranatural and mythic for an explanation. By the 5th century B.C. one minor exceptional group, the Sophists, began to question whether what we know about nature was objective or was the product of the human mind. However, by the middle ages the world of the supranatural, the mythic, or the Platonic world of Forms and Ideas of the Greeks drew to a close to be replaced by a medieval cosmos based on the authority of law, churches, and sacred texts. The modern period in philosophy, and for that matter science too, began during the Renaissance when a world-view based on reason began to reign supreme. Modern science was now the authority which implemented the test of unrestricted doubt.

Personal belief played no role for the grounding of assertions about reality. It began with Galileo and later New-

→

ton and Descartes – and it is here where we must begin a closer search.

With the work of Galileo and Newton, descriptions of material reality are to be stripped of any subjective experience. Objects must have their qualities of color, texture, taste, etc. removed. Space itself is purged of its visual and emotive qualities of vastness, nearness, farness, boundedness, etc. The qualities of our self - referent bodily motion such as to, from, up, down, in front of, in back of , etc. are all removed. The qualities merely occupy space. Space is indifferently occupied by matter. All matter ultimately gets reduced to two allowable qualities - number or quantity and extension or location in space. In the realm of philosophy, the Renaissance also fueled a search for an epistemological method that would determine the truth for once and for all. The French mathematician and philosopher, Descartes, in his *Meditations*, offered a proposition that was beyond doubt. One could never be proved wrong by maintaining the proposition.

This is the now famous proposition, *Cogito, ergo sum. I think, therefore, I am.*

He further proposed that it was indeed possible to make a separation between the *res cogitans* and the *res extensa*, that is between the object as it exists and the object as it is thought about. Philosophically this is the foundation for what has become modern science. This Cartesian perspective is, for all intents and purposes, synonymous with descriptors such as rationalism, dualism, natural science,

Newtonian science, and logical positivism. It is materialism - namely that there is nothing in this world over and above what can be discovered by physics. All that exists in the universe are subatomic particles or aggregates of subatomic particles and that the only properties or relationships that exist - are between and among such particles or aggregates of particles. Should osteopathy be considered a science? - If so, is it a science from the materialist perspective? Let's look a little deeper. What we generally understand today as natural science is materialism. It is characterized as empirical, that is, information is gathered by the application of the so-called scientific method. It is reductionistic since all experience is reduced to two major qualities, namely number and location in space. These two qualities are generally regarded as quantities. Once relationships or laws are generated, natural science can then predict outcomes. The use of Heisenberg's uncertainty principle in quantum mechanics, notwithstanding, science is essentially deterministic. Modern physics has not yet dealt with the indeterminate nature of reality. It has merely attempted to circumvent it by its use of probability statements. However, with the exception of atomic physicists, most scientists, especially in what may be called the "soft sciences" still believe that an independent observer is possible. Before we move on to the issue of osteopathy, however, I would like to take a short detour and comment on the notion of science as objective. I believe this is important because there is a very strong desire and a long historical tradition in the osteopathic profession to be "scientific," "rational," and "objective" to have osteopathy be based on "science" so that we can prove that what we do is real. Simply, to prove that we are as good as allopaths. So, please bear with me as I attempt to demythologize science.

Should osteopathy be considered a science? If so, is it a science from the materialist perspective?

Science is a human activity. It is not a thing. It did not drop out of the sky. It is not a super-human or trans-human essence. It is not an entity unto itself. It cannot be conceived of outside of the matrix of all other human conditions, needs, and interests in which it originates and develops. It is not perfect nor can it ever be. It must always remain one of several ways of viewing the world. There is nothing within the logical basis of modern science which would compel one to automatically accept that logical basis itself. The rules of logic are also a human product and as such do not have an inherent acceptability to them. So world-views or paradigms about the functioning of the universe must always remain relative. Society's selection of a dominant paradigm is a complex, cultural, economic, political, and esthetic choice the basis of which is itself not rational.

Since before the middle of this century, philosophers of science have written extensively about the subjective nature of natural science. For instance, Michael Polanyi, a physical chemist and philosopher at Oxford, in his book, *Personal Knowledge,* exposes the subjective nature of some of the tenets of science. For instance, often theories are held on esthetic grounds for years before technology can be developed to test them – this was certainly true about most of Einstein's work. Probability only makes sense in relation to the notion of order, a concept which we accept tacitly without a logical basis. Probability statements in relation to the null hypothesis are also based in the subjective because ultimately one cannot assign a numerical value to the intensity of one's belief. In addition, there is no specified set of rules as to how a hypothesis is to be generated from the observed data. The myth of science as objective was further exploded by Thomas Kuhn, professor of the philosophy and history of science at M.I.T., by his work, *The Structure of Scientific Revolutions*. In

this work he cogently argues that science does not proceed in time as an orderly progression of the accumulation of knowledge as is typically portrayed in text books. Rather it is a series of explosive quantum leaps in which one paradigm is superseded by the next in a manner not at all logical, objective or scientific. Let us now return to our discussion of osteopathy.

So if we as osteopaths are going to chase after this thing called "science," we should at least know what it is and what it is not. Most of what we are chasing after is the *appearance* of the objective. We seek the outer appearance of science. The research labs, the white lab coats, the federal research grants. These are merely the trappings of the scientistic technocrats. The use of computers, of machines, of measuring devices and the communication of results in graphs, charts and algebraic formulae are not the necessary and sufficient conditions for the activity of science, despite how spellbound we are by them. I am not arguing against the utility of the knowledge derived from scientific activity and the wonderful technologies which have made our lives so much better. However, the knowledge gained must always be placed in perspective. Each perspective is of necessity incomplete and none can be argued to be more correct. No one approach can ever hope to explain the totality of human experience. Nor is every approach applicable to every aspect of human existence. Science is a human activity which at its core derives from the wellspring of human capacities we all share. It is an organized, systematic body of knowledge about the world using certain general principles or laws. There must be universal agreement among scientists and they must share a common language and common criteria for the justification of claims or beliefs. The truths so revealed must be timeless and non-local. It is from *this* definition of science that we can examine osteopathy.

... if we as osteopaths are going to chase after this thing called "science," we should at least know what it is and what it is not. Most of what we are chasing after is the appearance *of the objective.*

In discussing osteopathy as a science it is extremely important to differentiate Still's original work and method from that which we have since used to explain and justify his work. In other words, we need to distinguish his original observations and principles from modern medical science which we retroactively apply to his work in an attempt to show it to be worthy. The first I call osteopathy, the second I call osteopathy or "allopathic" osteopathy. The distinction I am making here is like the difference between the experience of God and religion. One is the transcendent, ineffable experience of the mystic; the second is the written dogma derived from that experience. One is the actual experience; the other our intellectualization and communication of that experience.

How then shall we characterize Still's work? We have very little information about his discovery of the principles of osteopathy. We do not know whether there was some kind of direct inspiration or intuition of first principles and then a downward deduction of particulars, or whether the first principles were the result of an upward induction from the particulars. He only tells us in the *Philosophy of Osteopathy* when he began to" give reasons for his faith in the laws of life as given to men ....by the God of nature". There seems to be no experimentation as we know it today, rather the exhortation to continue the application of the principles of osteopathy during one's professional life and to learn the needed lessons from Nature. Yet osteopathy is certainly organized and systematic. It does use general laws or principles. It does provide knowledge about human health and disease. And its truths are timeless, nonlocal, and can be communicated amongst osteopaths - so it is scientific. But how?

To answer that question we need to look at two things: the world view or paradigm of osteopathy and its basic methodology again (bearing in mind that I am talking about the actual doing of osteopathy) and that a paradigm or world view *is t*he collection of basic assumptions by a scientific enterprise. If we understand what materialism is as a paradigm and if osteopathy is scientific, then clearly the world-view of osteopathy is *not* that of materialism. The osteopathic philosophy is a vitalist philosophy. From the vitalist perspective living things are not just a complex pattern of organization where each element of that pattern is itself nonliving. From the vitalist perspective, a living thing is not alive because something called life emerges when nonliving elements are combined in a certain way. Vitalism maintains that there is in living things the presence of an entity or organizing principle that imparts powers not possessed by inanimate objects and which is not reducible to the mere sum of the parts of the living system. The vital entity or principle that animates an organism is called Life. Life is not made up of nonliving substance and Life is capable of an existence apart from the organism.

The concept of an animating principle is not new or unique to osteopathy. In Ayurveda, the ancient Indian healing system it is known as *prana.* In Chinese medicine it is

→

known as *chi*. Hippocrates called it *physis*. Galen called it *pneuma* or spirit. Paracelsus called it the *archeus*. Samuel Hahnemann, the founder of homeopathy, called it the *vital force*. The concept of *Life* for Still was much more than just a force of nature or an organizing principle. It is with this concept that we see the basis for Sutherland's work with phenomena such as the Breath *of Life*, the *Tide*, or *Liquid Light*. *Life* is not a blind force. *Life* has a purpose. It has a plan or goal. It is oriented toward this goal and in this sense it is teleological. *Life* can communicate directly to each of us personally. *Life* is ever present - it is only we who fail to notice. For Still and Sutherland *Life* is God. In this sense, osteopathy is more than vitalistic. It is more correct to say that osteopathy is theistic and that vitalism is a subset or a special case of theism. In the *Philosophy of Osteopathy*, Dr. Still states:

> *"First the material body, second the spiritual being, third a being of mind which is far superior to all vital motions and material forms, whose duty is to wisely manage this great engine of life." (p.26)*

There are several more points to be made about vitalism which will help our understanding of osteopathy. Its methodology is for the most part descriptive.

One of its methodological tools is the metaphor . The metaphors used are multidimensional matrices of meaning whose depth at first glance is not obvious.

Perception (not physiological sensation or physical palpation) is the foundation of the science. The perception shifts with the experience of the practitioner. The perceptual field of practice changes as the osteopath evolves mentally, psychologically, and spiritually. The metaphorical becomes literal, but now on a different plane of understanding. Unlike the natural sciences, in vitalism it is not a matter of mere intellectual experience and technical expertise. In the natural sciences one physicist is as good as another once he or she has the basic training and can perform experiments. The field of physics in its practice is the same regardless of the experimenter. In vitalism, the entire field of study shifts according to developments in the consciousness of the practitioner. In theistic perspectives like osteopathy that evolution is toward a particular end point, namely God. In vitalism knowledge (as an object to be possessed) is *not* the goal, rather, wisdom (as a way of being) is sought. In vitalism, each practitioner is a participant observer within the context of the co-created field with the patient.

I believe that Dr. Still recognized the perceptual shifts which take place as an osteopath grows and evolves over a lifetime of practice. We see this most clearly in a quote from *Osteopathy: Research and Practice* where he states in paragraph 34:

> *" ...and all the mysteries concerning health disappear just in proportion to man's acquaintance with this sacred product, its parts, principles, separate, united or in action."*

As a descriptive science, osteopathy comes closest to a movement in western philosophy known as phenomenology. Phenomenology as a movement was started in the late 1890s by the German philosopher, Edmund Husserl. It was in large part a reaction to the mathematical and mechanical reductionism in philosophy and science of the times. Phenomenology is non-empirical, relying on description and intuition of essences.

The task is to perceive things as they are in themselves, without any presuppositions. Belief in the existence of objects itself is suspended. All theories about reality are bracketed. Phenomenology attempts to describe phenomena and not explain them. Phenomenology seeks to describe how the world makes itself known to our awareness. Husserl called it the "science of experience." For Husserl, reality can never be "objective" because the field of our experience is inhabited by other subjective beings whose embodied gestures and expressions call forth a kind of associative empathy. The pure, objective reality assumed by modern science is viewed as an artificial construct, an idealization of an inter-subjective experience. The common, collective world we all share as an inter-subjective field, Husserl called the *lebenswelt*, the life-world. The life-world is that organic, open-ended field which we each experience from our individual perspectives, in which our lives are inexorably intertwined and which is ultimately indeterminate.

This life-world always stands as a backdrop to everything we do in life. It is the horizon that exists in our subsidiary awareness as we engage in a focal act or thought. Any human activity has meaning only in relation to the life-world.

Following Husserl's death in 1938, the work of modern phenomenology was carried in slightly different directions by Martin Heidegger in Germany and Jean-Paul Sartre in France. Phenomenology in the formal sense is not a set of doctrines but is rather a method of exploration, each philosopher utilizing it in slightly different ways. Another French philosopher and psychologist, Maurice Merleau-Ponty, studied perception from the phenomenological perspective. It is his work which provides an excellent foundation for understanding perception in the field of osteopathy.

In a sense what Descarte had separated – consciousness and matter – Merleau-Ponty restored. For Merleau-Ponty, the notion of a transcendent self, separate from the

continued on page 35

MRI assessment of changes in swelling of wrist structures following OMT in patients with carpal tunnel syndrome

by Kenneth A. Ramey, DO, Robert E. Kappler, DO, FAAO, Murthy Chimata, MD, John Hohner DO, Angelique C. Mizera, DO

Abstract

We treated patients with Carpal Tunnel Syndrome using OMT. Treatments were focused on the upper thoracic spine, lower cervical spine and tenderpoints in the forearm muscles. OMT was not applied to the wrist in an attempt to stretch the transverse carpal ligament. MRI images were used to assess changes in fluid content in both the carpal tunnel and median nerve after OMT treatment. MRI measurements of median nerve area, carpal tunnel area and length of the transverse carpal ligament were also obtained. These measurements were correlated with changes in nerve conduction velocities (NCVs), pain ratings, wrist motion measurements, and somatic dysfunction information. The numeric data were compared and contrasted using t-test statistics. Significance probabilities of $P < 0.05$ were computed. Statistically significant changes were noted in pain ratings, wrist motions and nerve conduction (sensory amplitude). Five patients responded with improvement in symptoms and one did not. The responder group demonstrated a decrease in the amount of swelling of both the median nerve and carpal tunnel. The nonresponder demonstrated increased swelling in both the median nerve and carpal tunnel. Changes in the swelling of both the median nerve and carpal tunnel appear to more closely parallel changes in hand symptoms than nerve conduction results.[1] No statistically significant increases occurred in the length of the transverse carpal ligament or the carpal tunnel area. Minimal changes in both the length of the transverse carpal ligament and carpal tunnel area did occur despite no active attempts to stretch this region. All six patients had a predominance of acute changes in the upper thoracic spine and upper ribs. Most patients had tension in the flexor muscles of the forearm. Treatment of the upper thoracic spine, upper ribs and forearms are all important in the management of carpal tunnel syndrome.

Methods

Seven patients were identified as having clinical signs and symptoms of carpal tunnel syndrome. Patients excluded from the study include those with rheumatoid arthritis, osteoarthritis, Paget's bone disease, gout, myxedema, multiple myeloma, acromegaly, current pregnancy, evidence of motor atrophy of the hands, diabetes, dialysis patients with A/V shunts, prior wrist fracture, hepatic disease, IV drug abuse, prior carpal tunnel release surgery, patients with impending litigation suits and workman's compensation cases. The institutional review board approved the project. Written informed consent was obtained from each patient.

The following nerve conduction criteria were used to confirm the diagnosis of carpal tunnel syndrome: median nerve motor latency (MML) (8 cm) > 4.0 ms or median nerve sensory latency (MSL) (14 cm) > 3.7 ms or median nerve sensory velocity (MSV) (14 cm) < 50 M/S.[2] Bilateral carpal tunnel MRI's were obtained on each patient.

Pretreatment pain and distress scales,[3] hand pain analog scales and wrist motion measurements were obtained on each patient. Each patient underwent six OMT treatments. Each of the first four treatments were separated by a one-week interval. Each of the last two treatments were separated by a two-week interval. Treatments were focused on the upper thoracic spine, lower cervical spine and tender points in the forearm muscles. *OMT was not applied to the wrist in an attempt to stretch the transverse*

→

carpal ligament. After the six treatments the pain and distress scales, hand pain analog scales, wrist motion measurements, nerve conduction studies and MRI's were repeated. One patient dropped out of the study after failing to keep several scheduled appointments due to work conflicts.

Analysis: Bilateral carpal tunnel MRIs were obtained on each patient. T2-weighted axial images were assessed using General Electric's image analysis software. The hydration of the carpal tunnel was assessed by generating a line plot between the distal aspect of the hook of the hamate and the base of the trapezium. The computer will graph the pixel intensity of every structure along the line. The pixel intensity correlates with the level of hydration. A higher pixel intensity correlates with a higher level of hydration while a lower pixel intensity correlates with a lower level of hydration. If the cursor is moved along the line plot the computer will generate the pixel intensity every 0.4 mm. The hydration of the structures located in the entire tunnel can be obtained by averaging the pixel intensities generated between the hook of the hamate and the base of the trapezium. The hydration of the carpal tunnel only (entire tunnel with median nerve removed) can be obtained by removing the pixel intensities for the median nerve when calculating the mean pixel intensity for the entire tunnel.

The hydration of the median nerve can be assessed by using the region of interest software. A 1.0 cm pixel box was placed around the median nerve. This function generates the mean and standard deviation for 121 separate pixel points within the box (see figure 2).

The pretreatment and posttreatment MRI images require standardization because the overall pixel intensity of the picture can vary depending on where the controls on the console are set. This standardization necessitates the identification of a struc-

Case Number	Median Nerve Intensity (mean)		Tunnel Intensity (mean)	
	Pretreatment	Posttreatment	Pretreatment	Posttreatment
*Case 1 Right	295.1	263.1	34.0	120.0
Case 1 Left	286.7	267.9	78.0	63.8
*Case 2 Right	274.4	221.5	192.0	20.0
*Case 2 Left	278.4	222.7	87.0	1.0
*Case 3 Right	225.6	245.2	172.0	81.0
*Case 3 Left	248.6	235.0	112.0	19.0
*Case 4 Right	257.1	256.3	109.0	139.0
*Case 4 Left	251.8	222.8	125.0	113.0
Case 5 Right	317.8	287.2	103.0	153.0
*Case 5 Left	336.6	360.6	159.0	161.0
Right mean SD	274.0 31.6	254.6 21.5	122.0 56.0	102.6 47.9
Left mean SD	280.4 31.7	261.8 52.1	112.2 28.8	71.6 59.2
Case 1-5 mean SD	277.2 33.5	258.2 42.2	117.1 47.2	87.1 59.1
2-tail t-test sig	0.280		0.225	
*Case 6 Right	207.9	227.9	18.0	24.0
*Case 6 Left	160.6	171.4	29.0	43.0
Case 6 mean SD	184.3 23.6	199.6 28.2	13.5 4.5	33.5 9.5

*Table 1: Changes in pixel intensity of the median nerve, and carpal tunnel (with median nerve removed). The t-test statistics were performed on the mean pretreatment and posttreatment values for cases 1-5. * - symptomatic hand*

Case #	Median Nerve Area (mm^2)		Carpal Tunnel Area (mm^2)		Transverse Carpal Ligament Length (mm)	
	Pretx.	Posttx.	Pretx.	Posttx.	Pretx.	Posttx.
*Case 1 Right	20.0	8.0	416.0	207.0	27.0	25.0
Case 1 Left	12.0	10.0	x	x	x	x
*Case 2 Right	x	x	230.0	171.0	22.0	20.0
*Case 2 Left	x	x	180.0	170.0	18.0	18.0
*Case 3 Right	6.0	4.0	264.0	240.0	21.0	21.0
*Case 3 Left	8.0	10.0	264.0	240.0	19.0	20.0
*Case 4 Right	15.0	24.0	231.0	220.0	21.0	22.0
*Case 4 Left	x	x	253.0	220.0	20.0	22.0
Case 5 Right	6.0	15.0	207.0	220.0	24.0	22.0
*Case 5 Left	15.0	15.0	220.0	220.0	23.0	24.0
Right mean SD	11.8 6.0	12.8 7.6	269.6 75.4	211.6 22.9	23.0 2.3	22.0 1.7
Left mean SD	11.7 2.9	11.7 2.4	229.3 32.7	212.5 25.9	20.0 1.9	21.0 2.2
Case 1-5 mean SD	11.7 5.3	12.3 6.4	251.7 67.4	212.0 25.7	21.6 2.7	21.6 2.1
2-tail t-test sig.	0.859		0.119		0.925	
*Case 6 Right	10.0	4.0	231.0	220.0	23.0	22.0
*Case 6 Left	10.0	10.0	230.0	207.0	23.0	24.0
Case 6 mean SD	10.0 0.0	7.0 3.0	230.5 0.5	213.5 6.5	23.0 0.0	23.0 1.0

*Table 2: Distal Carpal Tunnel Anatomic Measurements. The t-test statistics were performed on the mean pretreatment and posttreatment values for cases 1-5. * - symptomatic hand*

Case #	PAD Scale		Past Week Pain		Wrist ROM	
	Pretx.	Posttx.	Pretx.	Posttx.	Pretx.	Posttx.
*Case 1 Right	46.0	38.0	3.0	2.0	133.0	147.0
Case 1 Left	x	x	1.0	1.0	140.0	167.0
*Case 2 Right	37.0	36.0	4.0	2.0	110.0	119.0
*Case 2 Left	x	x	4.0	3.0	107.0	118.0
*Case 3 Right	36.0	32.0	8.0	5.0	92.0	129.0
*Case 3 Left	x	x	8.0	5.0	118.0	133.0
*Case 4 Right	53.0	30.0	10.0	4.0	78.0	112.0
*Case 4 Left	x	x	5.0	2.0	120.0	125.0
Case 5 Right	46.0	46.0	1.0	0.0	120.0	128.0
*Case 5 Left	x	x	10.0	2.0	104.0	112.0
Right mean SD	43.6 6.3	36.4 5.6	5.2 3.3	2.6 1.7	106.6 19.6	127.0 11.8
Left mean SD	x	x	5.6 3.1	2.6 1.4	117.8 12.7	131.0 19.3
Case 1-5 mean SD	43.6 6.3	36.4 5.6	5.4 3.4	2.6 1.6	112.2 18.4	129.0 17.0
2-tail t-test sig.	0.126		0.031		0.048	
*Case 6 Right	58.0	44.0	8.0	9.0	115.0	125.0
*Case 6 Left	x	x	8.0	10.0	105.0	112.0
Case 6 mean SD	58.0 x	44.0 x	8.0 0.0	9.5 0.5	110.0 5.0	118.5 6.5

*Table 3: Individual Pain and Distress Scale ratings, past week analog pain ratings and wrist range of motion (ROM) measurements. The t-test statistics were performed on the mean pretreatment and posttreatment values for cases 1-5. * - symptomatic hand*

Case	Motor Latency (ms)		Motor Amplitude		Sensory Latency (ms)		Sensory Amplitude		Sensory Velocity (M/S)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
*Case 1 Right	5.8	4.6	5.0	11.0	5.2	4.9	10.0	14.0	26.9	28.6
Case 1 Left	3.7	3.9	8.0	11.0	3.9	3.7	18.0	34.0	35.9	37.8
*Case 2 Right	x	x	x	x	x	x	x	x	x	x
*Case 2 Left	x	x	x	x	x	x	x	x	x	x
*Case 3 Right	5.2	4.7	9.0	7.0	4.6	4.6	10.0	20.0	30.4	30.4
*Case 3 Left	5.3	5.3	7.0	8.0	5.3	5.5	8.0	12.0	26.4	25.5
*Case 4 Right	x	x	x	x	x	x	x	x	x	x
*Case 4 Left	x	x	x	x	x	x	x	x	x	x
Case 5 Right	x	x	x	x	3.4	3.5	15.0	37.0	41.2	40.0
*Case 5 Left	5.9	4.5	7.0	8.0	5.1	3.5	9.0	21.0	27.5	40.0
R Mean SD	5.5 0.3	4.6 0.1	7.0 2.0	9.0 2.0	4.4 0.7	4.3 0.6	11.7 2.4	23.7 9.7	32.8 6.1	33.0 5.0
L mean SD	5.0 0.9	4.6 0.6	7.3 0.5	9.0 1.4	4.8 0.6	4.2 0.9	11.7 4.5	22.3 9.0	29.9 4.2	34.4 6.4
Case 1-5 mean SD	5.2 0.9	4.6 0.5	7.2 1.5	9.0 1.5	4.6 0.8	4.3 0.8	11.7 3.9	23.0 10.3	31.4 6.0	33.7 6.3
2-tail t-test	0.236		0.130		0.535		0.031		0.526	
*Case 6 Right	4.1	3.9	9.0	10.0	3.8	3.2	50.0	52.0	36.8	43.8
*Case 6 Left	4.1	3.9	12.0	13.0	3.6	3.0	45.0	64.0	38.9	46.7
Case 6 mean SD	4.1 0.0	3.9 0.0	10.5 1.5	11.5 1.5	3.7 0.1	3.1 0.1	47.5 2.5	58.0 6.0	37.8 1.1	45.2 1.4

*Table 4: Nerve conduction examinations (median nerve). * - symptomatic hand*

ture that has a relatively consistent pixel intensity pre- and post-treatment. The trapezium was chosen for this purpose. Pretreatment and posttreatment pixel intensities of the trapezium were obtained (see figure 3). The pretreatment measurement of the trapezium's pixel intensity was chosen as the standard. The posttreatment values for each individual patient were adjusted by a factor that would make the posttreatment pixel intensity of the trapezium consistent with the pretreatment value.

The cross-sectional area of the median nerve, the cross-sectional area of the carpal tunnel and the length of the transverse carpal ligament were obtained at the distal portion of the carpal tunnel (narrowest region and most likely site of compression).

The numerical data obtained from the MRI images, pain ratings, wrist measurements, nerve conduction studies and osteopathic structural examinations were compared and contrasted statistically using the SPSS-PC+ for WINDOWS program. This program employs Student's t-test statistics. Significance probabilities of $P < 0.05$ were computed.

Results

Five patients (cases 1-5) responded with improvement in symptoms and one did not (case 6). Statistically significant changes were noted in pain ratings , wrist motions and nerve conduction findings (sensory amplitude). Changes were also noted in pain and distress scale ratings, median nerve hydration and carpal tunnel area. The data and statistics are listed in tables 1-4.

Discussion

Statistically significant changes were noted in pain ratings (see chart 1), wrist motions (see chart 2) and nerve conduction findings (sensory amplitude) (see chart 3). Changes

→

were also noted in pain and distress scale ratings (see chart 4), median nerve hydration (see chart 5), carpal tunnel hydration (see chart 6), median nerve area and carpal tunnel area.

Overall, five patients responded with improvement in symptoms (past week pain ratings) and one did not. The responder group demonstrated a decrease in the amount of swelling of both the median nerve and carpal tunnel. The nonresponder demonstrated increased swelling in both the median nerve and carpal tunnel. The nonresponder group did demonstrate improvement in pain and distress scale ratings and wrist motion measurements.

Changes in the hydration (swelling) of the median nerve and carpal tunnel appeared to more closely parallel changes in patient hand symptoms than nerve conduction studies. In the responder group, the amount of swelling in both the median nerve and carpal tunnel decreased; the nerve conduction findings improved, as did the hand symptoms. In the non-responder group the amount of swelling in both the median nerve and the carpal tunnel increased; although the nerve conduction studies improved, the hand symptoms worsened. Perhaps more investigation in this area is warranted.

Changes in hydration in the carpal tunnel were two to nine times greater than in the median nerve. For years the medical establishment has been dwelling on the point that there is not enough room underneath the transverse carpal ligament. The median nerve becomes compressed, ultimately leading to hand symptoms and debility. The question that needs to be addressed is: why isn't there enough room underneath the transverse carpal ligament? This study may indicate that there is increased swelling in both the carpal tunnel and median nerve in patients with carpal tunnel syndrome. OMT effectively reduces this swelling and results in improvements in both nerve conduction parameters and hand symptoms.

What is the role of the sympathetic nervous system in the development

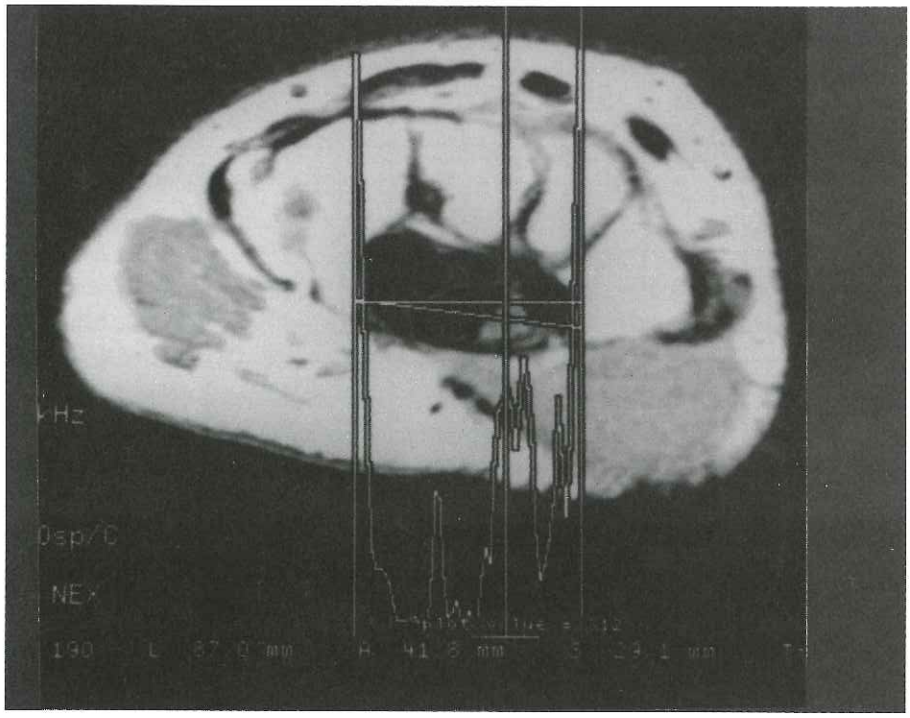


Figure 1: MRI of the distal carpal tunnel. A line plot is generated between the hook of the hamate and the base of the trapezium. The computer generates the pixel intensity for every structure along the line. The cursor (long vertical line through center of median nerve) is positioned to obtain the pixel intensity every 0.4 mm along the line. Note the pixel intensity of 312 generated through the center of the median nerve.

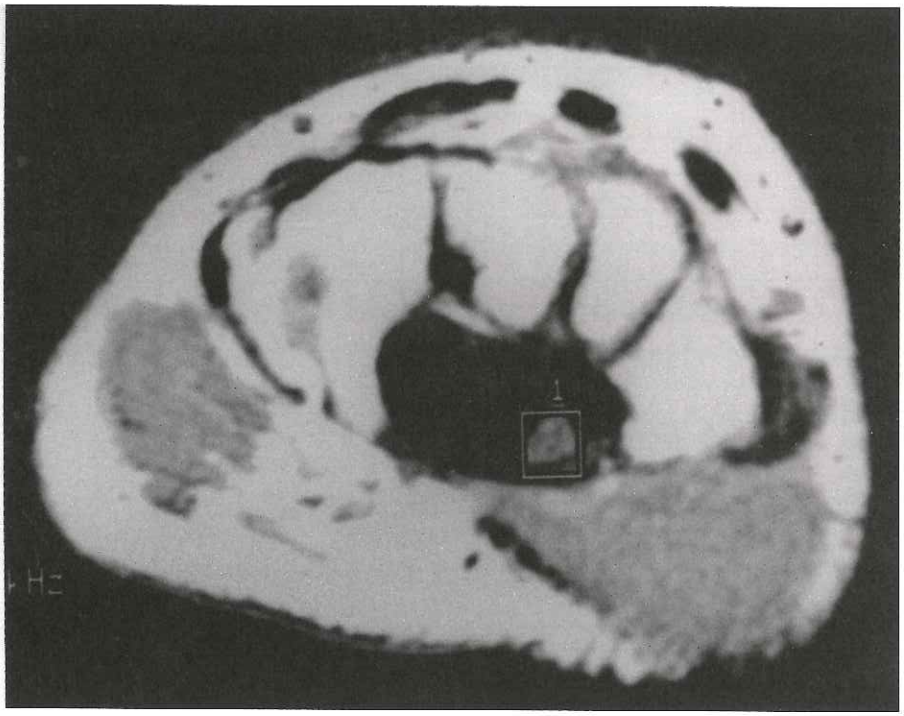


Figure 2: A 1.0 cm pixel box is placed around the median nerve. The computer generates the mean and standard deviation for 121 separate pixel points within the pixel box.

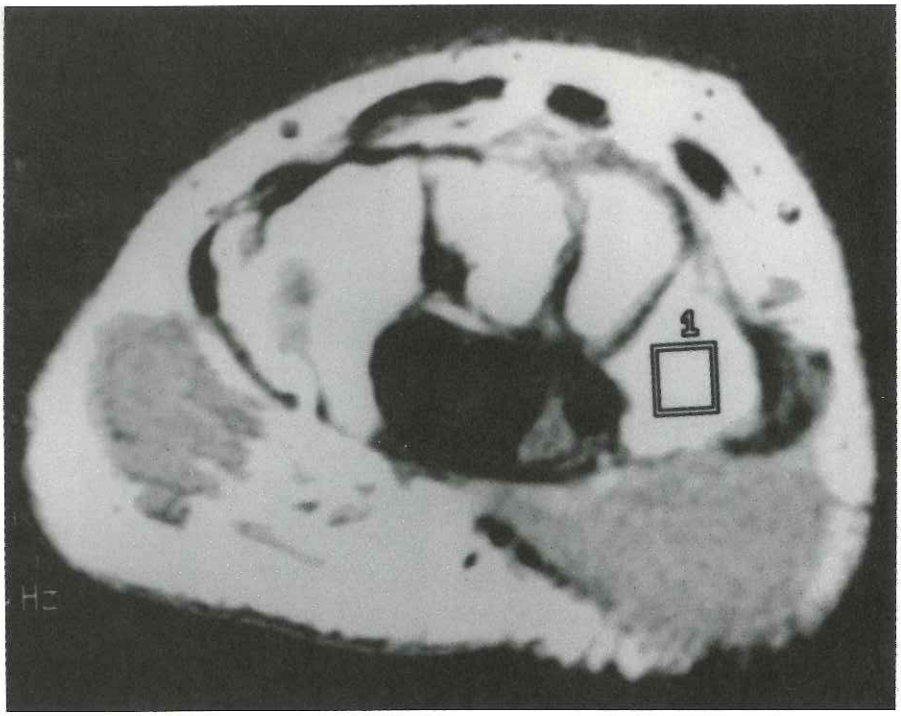


Figure 3: A 1.0 cm pixel box is placed over the trapezium. The computer generates the mean and standard deviation for 121 separate pixel points within the pixel box. The pretreatment pixel intensity of the trapezium is chosen as the standard. All posttreatment pixel measurements are adjusted based on the pretreatment trapezium pixel intensity.

of carpal tunnel syndrome? All six patients had a predominance of acute changes in the upper thoracic spine and upper ribs. Cell bodies of preganglionic sympathetic neurons concerned with the upper extremity are located in the upper thoracic spinal cord segments.[6] The smooth musculature in the walls of lymphatic vessels contracts when sympathetic nerves are stimulated. This results in reduction in the size of the lumen, thereby impairing lymphatic drainage.[7] Increased sympathetic tone can close down lymphatic channels and lead to congestion in regions of the body. Upper thoracic dysfunction increases sympathetic tone to the upper extremity and decreases lymphatic drainage. This may lead to the increased swelling observed within the carpal tunnel (and possibly the entire upper extremity) and the subsequent production of symptoms.

Do these findings support the role of the "double crush" in the genesis of carpal tunnel syndrome. The double crush hypothesis proposed by Upton and McComas explains that compression of axons at one location may not impair axoplasmic transport enough to result in denervation changes in their target structures, but if a similar amount of compression is simultaneously applied at a second location the threshold for denervation effects is exceeded.[8] The median nerve passes deep to the bicipital aponeurosis (the fibrous band connecting the biceps tendon to the forearm fascia). It then passes down between the two heads of the pronator teres and through the fibrous arch formed by the flexor digitorum superficialis.[9] Most of the patients in this study had tension in the flexor muscles of the forearm. It is possible that increased tension in the flexor muscles of the forearm is providing one part of the compression and making the median nerve more susceptible to compression distally. The increased swelling observed within the carpal tunnel may →

be providing the second portion of the compression, thereby leading to the production of carpal tunnel syndrome. Additional areas where the brachial plexus may become compressed include the interscalene triangle, the space between the clavicle and the first rib, and underneath the pectoralis minor muscle.

No statistically significant increases occurred in the length of the transverse carpal ligament or the carpal tunnel area. Minimal changes in both the length of the transverse carpal ligament and carpal tunnel area did occur despite no active attempts stretch this region. Changes in the length of the transverse carpal ligament and cross-sectional area of the carpal tunnel did not conspicuously correlate with changes in the swelling of the median nerve and carpal tunnel, nerve conduction studies and patient symptoms. In the responder group the transverse carpal ligament increased in length in 44.4% of the limbs, was unchanged in 22.2% of the limbs and decreased in length in 33.3% of the limbs. In the nonresponder group the transverse carpal ligament increased in length in one limb and decreased in length in the opposite limb.

Conclusion

OMT is effective in the treatment of carpal tunnel syndrome. OMT results in significant improvements in pain symptoms, wrist motions and nerve conduction parameters. OMT also results in decreased swelling in both the median nerve and carpal tunnel. Changes in the swelling of both the median nerve and carpal tunnel appear to more closely parallel changes in hand symptoms than with nerve conduction findings. Upper thoracic somatic dysfunction, acting by way of the sympathetic nervous system, may play a role in the development of swelling in the carpal tunnel and the development of carpal tunnel syndrome. Somatic dysfunction involving the forearm flexor muscles may be contributing to the "double crush" and the subsequent production of symptoms. Treatment of

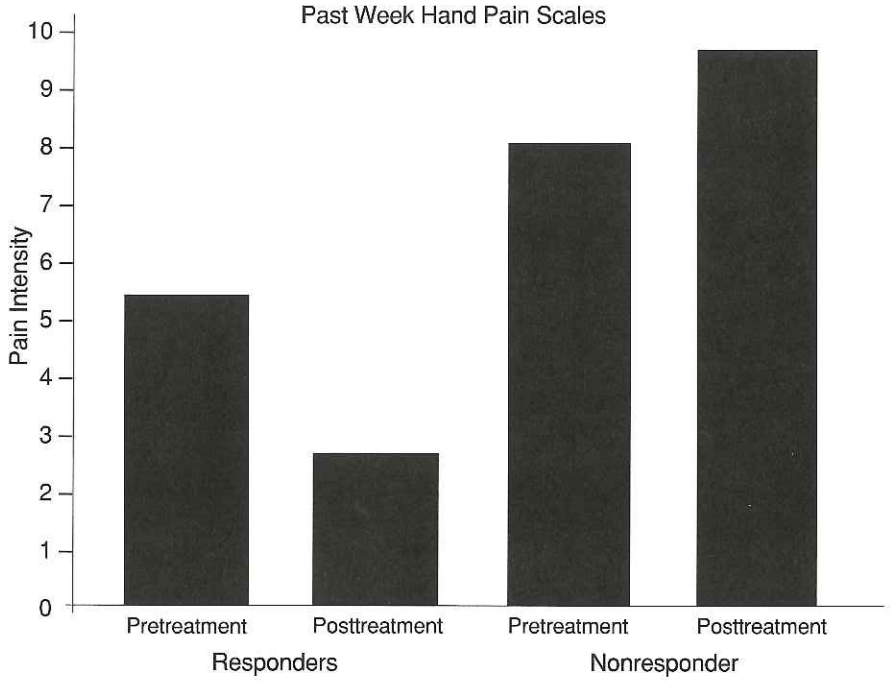


Chart 1: Comparison of the changes in the past week hand pain analog scales for the responder group and the nonresponder (0=no pain, 10=unbearable pain).

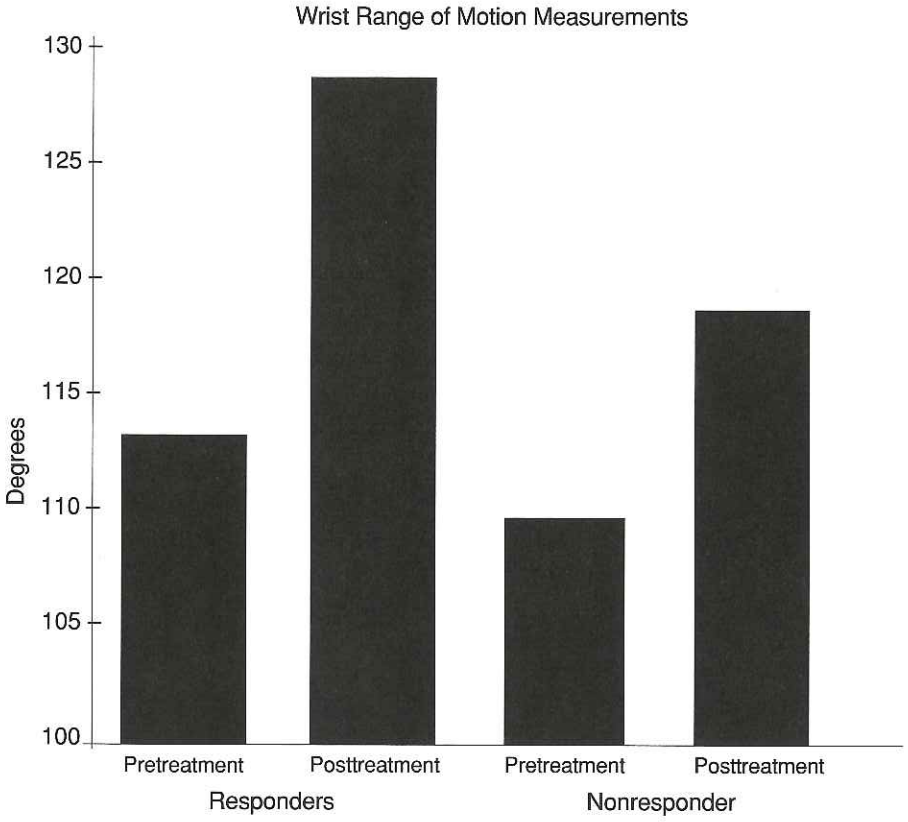


Chart 2: Comparison of the changes in wrist motion measurements (combination flexion and extension) for the responder group and nonresponder.

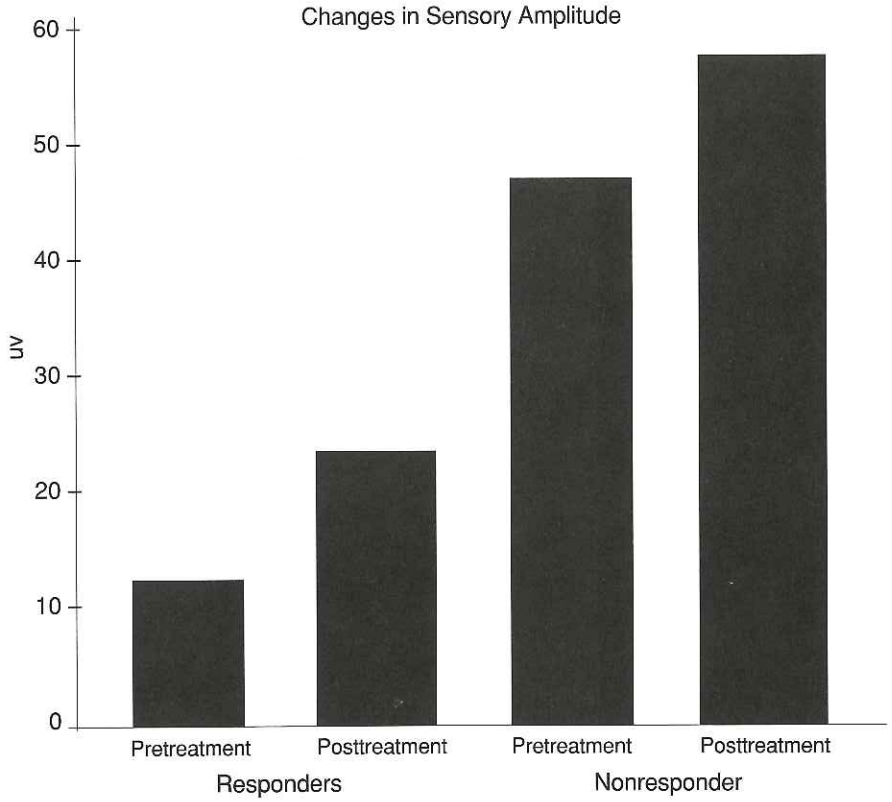


Chart 3: Comparison of the changes in the sensory amplitude of the median nerve for the responder group and nonresponder.

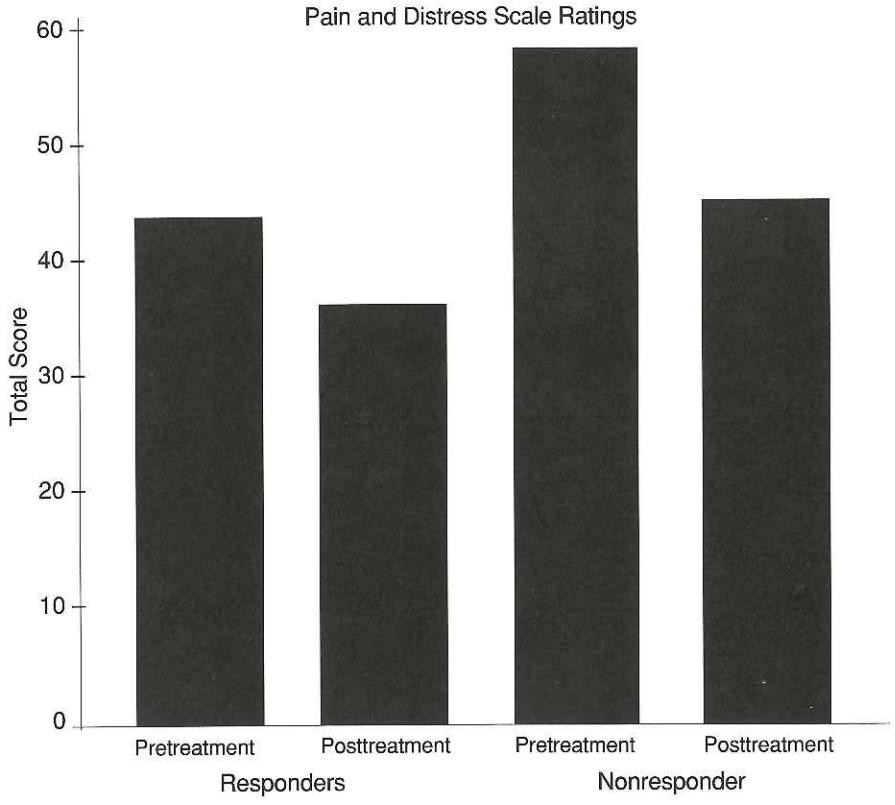


Chart 4: Comparison of the changes in the pain and distress scale ratings for the responder group and the nonresponder. The scale is scored from 20-60. A higher score correlates with a greater level of disability.

the upper thoracic spine, upper ribs, lower cervicals and release of forearm dysfunctions are all crucial in the treatment of carpal tunnel syndrome.

Sources

1. Ramey KA, Kappler RE, Chimata M, Hohner J, Mizera AC: The Effects of Osteopathic Manipulation in the Treatment of Carpal Tunnel Syndrome. JAOA 1996;8:487.

2. Stevens JC. The Electrodiagnosis of Carpal Tunnel Syndrome. Muscle Nerve 1987;10: 99-113.

3. Zung WWK. A Self-Rating Pain and Distress Scale. Psychosomatics 1983;24(10):1-6.

4. Mesgarzadeh M, Schneck C, Bonakdarpour A: Carpal Tunnel: MR Imaging. Part 1: Normal Anatomy. Radiology 1989;171:743-748.

5. Mesgarzadeh M, Schneck C, Bonakdarpour A, Mitra A, Conaway D: Carpal Tunnel: MR Imaging. Part 2: Carpal Tunnel Syndrome. Radiology 1989;171:749-754.

6. Willard F. Foundations for Osteopathic Medicine. Chapter 5: Autonomic Nervous System. Baltimore Md: Williams and Wilkins; 1997:61-62.

7. Williams, P. Gray's Anatomy: The Anatomical Basis of Medicine and Surgery. 38th ed. New York: Churchill Livingstone; 1995: 1606.

8. Upton A, McComas AJ. The Double Crush in Nerve Entrapment Syndromes. Lancet 1973; 2:359.

9. Williams, P. Gray's Anatomy: The Anatomical Basis of Medicine and Surgery. 38th ed. New York: Churchill Livingstone; 1995: 1272.

We would like to thank the Glaxo Wellcome Company for their support.

[**Editor's Note:** *The authors are faculty at the Chicago College of Osteopathic Manipulative Medicine, Midwestern University in Downers Grove, Illinois. All correspondence should be address to: Kenneth A. Ramey, DO, 8308 Highpoint Circle, Unit C, Darien, IL 60561.*]❐

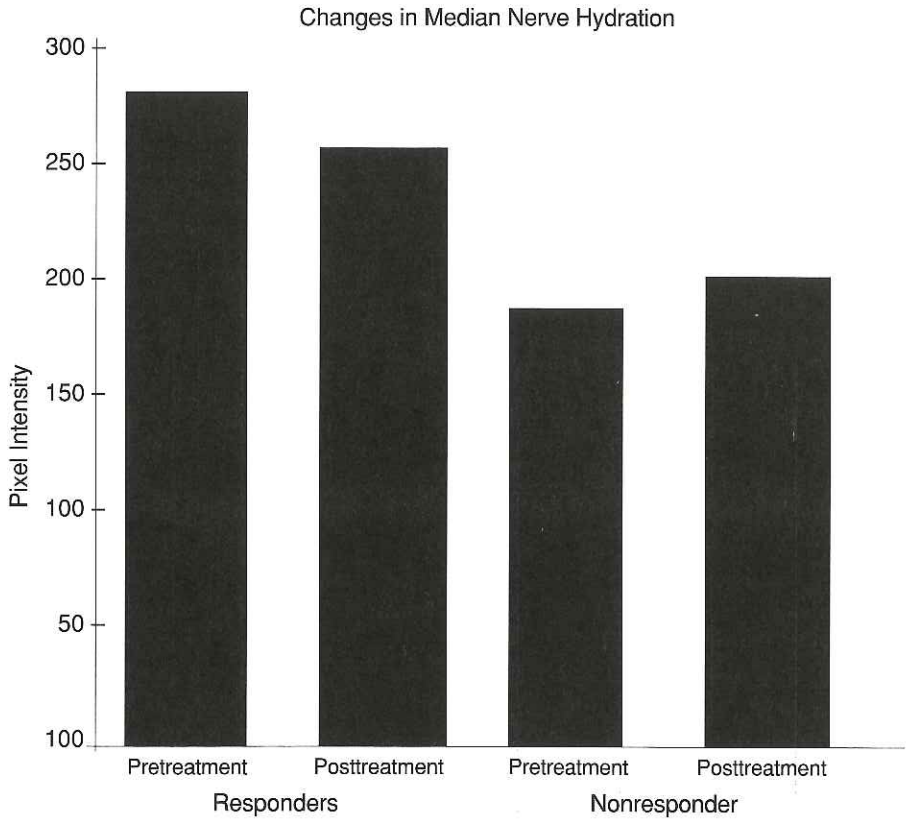


Chart 5: Comparison of the changes in the hydration (swelling) of the median nerve for the responder group and the nonresponder.

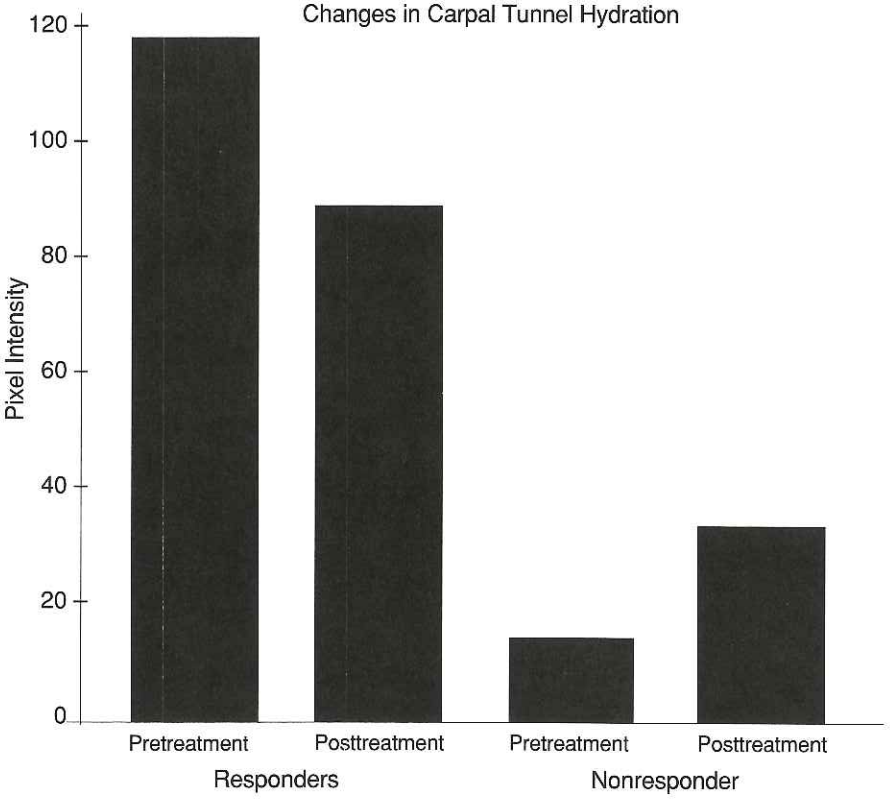


Chart 6: Comparison of the changes in the hydration (swelling) of the carpal tunnel (with median nerve removed) for the responder group and the nonresponder.❐

AOA Convention
October 25-27, 1999

AAO Program Theme:
Balancing your practice with OMT

Ross E. Pope, DO, Program Chair

This program is designed to offer a theoretical basis and provide insight into practical applications and use of the Common Compensatory Pattern. Gordon Zink, DO, was the first to recognize and develop a treatment model for this commonly found sequential pattern of fascial compensation. The pattern occurs in virtually every patient we see on a day to day basis. It also represents a common linkage between all other treatment models and we will examine this relationship with the Postural, Muscle Energy, Visceral and Muscle Imbalance Models. In an effort to balance your practice, our goal is that you recognize this pattern and use it as a fulcrum between the needs of your patients and the use of osteopathic manipulative treatment.

Monday, October 25, 1999

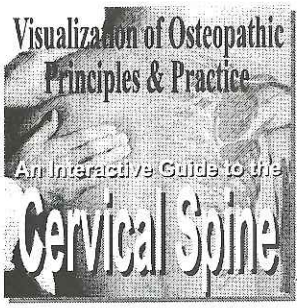
8:00 am - 9:00 am	AOA Opening Session
9:10 am	Welcome: Program Chairperson Ross E. Pope, DO
9:15 am - 10:15 am	Common Compensatory Pattern (CCP) with associated systemic dysfunction Michael L. Kuchera, DO, FAAO
10:15 am - 11:45 am	Fascial continuity Frank Willard, PhD
11:45 am - 12:45 pm	T. L. Northup Memorial Lecture James S. Jealous, DO
12:45 pm - 1:15 pm	Pharmaceutical Update/Exhibits
1:15 pm - 2:30 pm	Alumni Luncheons
2:30 pm - 3:00 pm	Pharmaceutical Update/Exhibits
3:00 pm - 5:00 pm	Lecture and Workshop: The common compensatory pattern Boyd R. Buser, DO

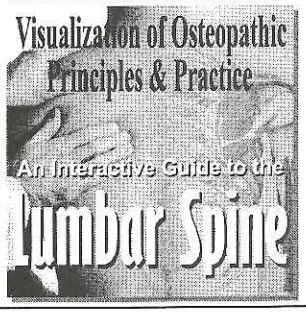
Tuesday, October 26, 1999

8:00 am - 9:00 am	Origins of the CCP: An obstetrical perspective Melicien A. Tettambel, DO, FAAO
9:00 am - 10:00 am	Lecture and Lab: Postural correction used for the CCP Robert Irvin, DO
10:00 am - 12:00 nn	Lecture and Lab: Diagnosis and treatment of common patterns of visceral dysfunction Daniel Bensky, DO
12:00 nn - 1:15 pm	Lunch
1:15 pm - 2:00 pm	Pharmaceutical Updates/Exhibits
2:00 pm - 5:00 pm	Lecture and Workshop: Commonly found somatic dysfunction and muscle energy techniques used for treatment of the CCP Guy DeFeo, DO & Robin Dyer, DO

Wednesday, October 27, 1999

8:00 am - 10:00 am	Lecture and Lab: Muscle testing: Patterns and muscle imbalance associated with the CCP. Brad Sandler, DO
11:00 am - 12:00 noon	Coding Update Judith A. O'Connell, DO, FAAO
12:00 nn - 1:15 pm	Lunch Break
1:15 pm - 2:00 pm	Pharmaceutical Update
2:00 pm - 5:00 pm	Therapeutic Exercise: Treatment of Patterns of Muscle Imbalance Brad Sandler, DO





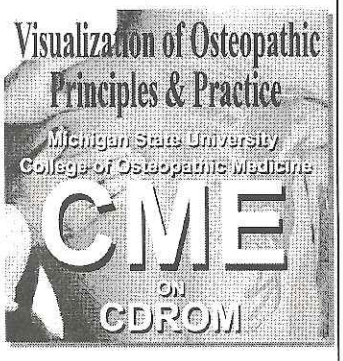
These two CDROMs, specifically designed for students and practitioners, are a "must have" for individuals in all fields of manual medicine. They contain:

- **3-D animation of normal and pathologic motion**
- **Video clips of muscle energy and high-velocity, low-amplitude treatment techniques**
- **Visualization of spinal anatomy and biomechanics**

Extensive use of multimedia (video, animation, and interactive simulation) has been shown to facilitate learning and retention of complex medical materials. The use of a standard Internet browser makes navigating through the units of material almost intuitive; Self-testing exercises after each section provide you with feedback. Installation and operation is a simple and straight-forward process, and we unconditionally guarantee that you will be satisfied or we will refund your money.

Osteopathic Principles & Practice on CDROM

We also offer physicians the opportunity to conveniently and inexpensively obtain CME credits. MSUCOM will award 15 hours of Category 1-B CME credit when an accompanying quiz is completed with a passing grade of 70%. If you have a computer, you can complete the requirements for obtaining Category 1-B credits in the convenience of your home or business. The use of a standard Internet browser makes navigating through the units of material almost intuitive; Installation and operation is a simple and straight-forward process.



Questions?

Email: hallgren@com.msu.edu
Telephone: 517-355-4674
Fax: 517-432-1339
Web: http://hal.bim.msu.edu
Michigan State University
College of Osteopathic Medicine
East Lansing, MI 48824

Order Form

___ @ $75 **Cervical Spine** CDROM/Manual
___ @ $75 **Lumbar Spine** CDROM/Manual + $6 shipping & handling for up to 2 CDROMS, allow 4-6 weeks for delivery
___ @ $225 **CME** CDROM/Manual + $8 shipping & handling — allow 4-6 weeks for delivery

Name: _____

Address: _____

_____

Telephone: _____

Payment Type (check one):

Check enclosed ☐

Visa ☐ MasterCard ☐

Visa/MasterCard No: _____

Expiration Date: _____

Signature (required): _____

Total Amount: $_____

Mail or fax this order form to:
IMC Marketing Division
P.O. Box 710
Michigan State University
East Lansing, MI 48826-0710
Fax: 517-432-2650

Software and Hardware Requirements:

- **Computer — Pentium grade PC, 133 MHz or higher**
- **Operating System -- Windows 95, 98, or NT 4.0**
- **Memory — at least 32 Mbyte of memory (RAM)**
- **Hard Disk — 100 Mbyte free disk space**
- **CD-ROM — at least an 8X drive**
- **Video – 16-bit color at 800X600 resolution**
- **Sound card -- SoundBlaster-compatible**
- **Simplified Operation — Start the program by inserting the CD-ROM into the CD-ROM drive of your computer.**
- **Technical Support — In the unlikely case that should need it, we will provide you with free technical support.**

Order on-line at http://ntweb1.ais.msu.edu/imc_shop

experiencing self, was an impossibility. The experiencing self *is* the bodily organism. What gives us the possibility of reflection, abstraction, and intellectualization is the body itself. However, the body for Merleau-Ponty is the body as lived, not the body of natural science. This lived – body has fuzzy boundaries. A boundary which is permeable to and interacts with the life-world. In the act of perception, the boundary of where I end and the object begins interpenetrate whether the object is another human being or a tree.

Merleau-Ponty's phenomenology is an attempt to give voice to the world from our situation of being emersed in it. Mind or consciousness can never stand outside of the life-world. An abstract absolute perspective is never possible. Perception is primary and reality is always perspectival. The world always remains indeterminate because I can never embody all perspectives at the same time.

"I wish to impress it upon your minds that you begin with anatomy, and that you end with anatomy, a knowledge of anatomy is all you want or need, as it is all you can use or ever will use in your practice, although you may live one hundred years."

Perception is always participatory, that is, there is some interplay between the perceiving body and that which it perceives. The interplay is possible because there is a fundamental matrix or unity in which both I and the object of my perception participate. For phenomenologists, this unity is arrived at by the application of the phenomenological method to the experience of perception. For Still, this unity or *Life* is a presupposition - hence osteopathy is quasi-phenomenological. However, with this one exception the two philosophical disciplines are very similar. It is in understanding perception that we can begin to understand osteopathy as philosophical.

In his *Philosophy of Osteopathy*, Dr. Still states:

> *"I wish to impress it upon your minds that you begin with anatomy, and that you end with anatomy, a knowledge of anatomy is all you want or need, as it is all you can use or ever will use in your practice, although you may live one hundred years." (page 16)*

What Dr. Still meant by anatomy is not only the descriptive anatomy of the books and the gross anatomy laboratory, but also physiology, histology, biochemistry (what he called elementary chemistry), observation in the clinics and observation and practice in what he called the operator's room, i.e. the treatment room. All of this information, all of our medical studies, even today, form the background out of which emerges our perception of the patient when we are working as osteopaths.

Each of us, with our totally unique perspectives, must approach the other with all of these facts which we learn at school as the ground on which we stand, as the horizon from which emerges our particular focus with each patient. The medical science we learn from the materialist perspective must inform the osteopathy we perform from the vitalist perspective. So, we have this synthesis of all of our natural science which we have learned in our colleges as the background to the actual doing of osteopathy. Dr. Still advised us to proceed as an artist would, by having a *living* picture in our minds. Now, he could have said *photographer* who captures the "real anatomy" as it exists for modern science, but he chose the word *painter* which implies subjectivity, perspectivity, interpretation, and the notion of having an "eye" for things. In fact, Still often talks about having something in your mind's eye.

For instance, on page 13 of his *Philosophy of Osteopathy*, he states - *"...because I want you to carry a* living *picture of all or any part of the body in your mind as a ready painter carries the picture of the face, scenery, beast or anything he wishes to represent by his brush"*. (emphasis mine)

Later, on page 23 he states:

> *" I believe that more rich golden thought will appear to the mind's eye as the study of the fascia is pursued than any other division of the body."*

He is talking about perception. I have been at CME courses where the instructor was showing slides of anatomy so we could memorize them. I do not think that is the limit of what Dr. Still was talking about. There is nothing inherently wrong with viewing anatomical drawings. However, we need to understand that the segmental anatomy we study is a perspective we have historically chosen to communicate our knowledge of structure. It is one way of "seeing" anatomy. It is not the only way. It is definitely *not* the way we experience our own bodies, nor is it the way we experience our patients as participant observers. The work of artist

Alex Grey, as portrayed in his work *Sacred Mirrors*, comes closer to an osteopathic perception during treatment. Here we see the attempt to portray human anatomy in terms of energy. There is less "hardness" or mass to it and the borders interpenetrate with the environment. It recalls Sutherland's metaphor of the house at the bottom of the sea, surrounded and emersed in fluid. For Still, the first kind of anatomy gets you into the field, the second allows you to become an osteopath.

Often times we are more oriented, as osteopaths, to the tactile. There are many perspectives. There are many ways to be an artist. The only goal is to find health, as Dr. Still said - anyone can find disease. Each perspective is equally valid and yet each follows the same general principles. While we are on the subject of perception, I would like to quote at length from Harold Goodman, DO in his foreword to the 1992 edition of *Osteopathy: Research and Practice*:

" Please remember that what you will read in this book is the distillation of a lifetime's experience of a very elevated and advanced soul. Originally, Dr. Still was said to have remarked that he doubted that the work of osteopathy could be taught. He realized that most people saw things in a radically different way than he did. And yet, there was a continuous demand for this type of practice, which he alone could not satisfy. Out of compassion he allowed himself to attempt to do what he personally believed was impossible: to impart the life and soul of his work. Essentially they were instructed in anatomy and osteopathic philosophy. No technique of any sort was taught, we are told. Each student made his own connection according to the level of his personal development and evolution. Dr. Still realized that people can only see and hear what they are open and prepared to receive. In an effort to facilitate the teaching process, Dr. Still repeatedly uses purely mechanical terms and images to encourage the student.

Don't believe for one second that this was the limit of his vision. According to many who studied with him and others who have spent years studying his works, it was his hope that the experience of living, dynamic anatomy would awaken dormant centers of perception in the student. Gradually, over a period of years of focused attention, conscious intention of purpose and deep, non-judgmental concentration on the experience of life as manifested in the patient, the physician would evolve into an osteopath. This was Dr. Still's hope in sharing his work."

In separating out the explaining of osteopathy versus the doing of osteopathy and in noting the descriptive nature of osteopathy and its reliance on perception - I am struck by several questions. Did Dr. Still *teach* osteopathy? Are *we* teaching osteopathy now? These questions have profound implications for our profession in terms of admission, education, examination, licensing, board certification, post graduate education and CME particularly as taught by the SCTF and the Cranial Academy. What is it that we teach? We are very good at providing the background natural science education, of teaching all about brushes and paints, how to use them, clean them, about the nature of pigments and the physics of color, etc. Are we teaching the art? Can it even be taught? Does our educational system, especially our CME curriculum, actually *prevent* the deepening of the perceptual skills with which we all started our freshman year? It may be that osteopathy is learned by prayer or meditation; by milking cows or riding horses; by fly fishing or marathon running; by ballet or pottery; by glass blowing or singing opera; by any human activity in which we experience the interplay of form and function, energy and matter, mind and motion – in which we experience what one biofeedback pioneer calls "open focus" – what is otherwise known as love. We must confront the possibility that what makes a true osteopath is already present in nascent form before the student begins formal study. Do our admissions committees seek to ascertain this? Could it be that the best osteopaths are not DOs at all?

Dr. Still realized that people can only see and hear what they are open and prepared to receive.

One of the ways a teacher can communicate ideas from a clear level of perception to a level capable of being understood by his students is to use stories, parables, paradoxes, or metaphors. These devices are attempts to give voice to the ineffable, to strain and push the limits of language and give voice to phenomena so sublime that the very act of languaging them threatens to destroy them. However, before we go on to the metaphor of the *Tide* we need to look closely at what a metaphor might be.

Keeping in mind Still's description of the osteopath as artist, it is not surprising that in attempting to verbalize his perception of the *Tide* as one of the finer forces of nature, Dr. Sutherland chose a tool of the poet – the metaphor. Although metaphors have been used for thousands of years, there is not universal agreement amongst scholars regarding the nature of metaphors. This ,of course, has led to several theories of metaphor, each which informs the other, and all of which are useful. The substitution theory maintains that a metaphor attempts to communicate a meaning that might have been expressed literally. For example, in the statement, "Richard is a lion" – lion is a substitute for the word brave. This is a bit like solving a riddle. The comparison theory sees metaphor as performing a transformational function on the basis of

analogy or similarity. The metaphorical statement could be replaced by an equivalent comparison. Here, the statement, "Richard is a lion" says something about Richard and about lions as well. The interaction theory maintains that a metaphor does not substitute or compare rather it initiates an interaction the result of which produces meaning. It is from the interconnectedness of the principle subject and subsidiary subject of the metaphor that the mystery and magic of the metaphor reside. Despite the varying theories of metaphor several features of metaphor should be noted. There is a transferral of meaning in intention and extension. There is a measure of semantic impertinence. A certain tension is generated by that which is odd, new or startling about the metaphor. Despite the oddness it must be intelligible. From this tension, from this dialectic emerges the clash of perspectives all embued with ambiguity and yet yielding glimpses of the truth. The sameness and differences of the metaphor are joined together by their likeness. The metaphor is a unique device which is very flexible for extending the resources of language by creating a new sense for words in particular situations. It is like teaching old words new tricks. By applying an old label in a novel way, the metaphor can illuminate a aspect of human existence not previously communicated. This is especially true about phenomena which are illusive, difficult to categorize or pin down. By the binding of apparent opposites the metaphor generates a tension which pushes us to the limits of language. One of my professors in phenomenological psychology once described the metaphor itself with the following metaphor: *"The metaphor is a lie that tells the truth, a confusion that clarifies, a detour that puts one more directly on the road, a blindness that enables one to see."*

Ultimately, the metaphor is a heuristic, that is, that which serves to find out or discover a truth. It is a method for solving problems without any guarantee for doing so but which can educate and elucidate in the process.

So we have finally come to the point of appreciating the metaphor of the *Tide*. We will look at how Dr. Sutherland described a natural phenomenon from his perceptual field. Bear in mind that he only began talking about things like the *Tide* toward the end of his 50th year as an osteopath. It took him that long to get it. I am not saying that his first 49 years were uneventful, I am merely pointing out that from the perspective of hindsight his previous work, however great, was only a prelude to his crowning achievement of the clarification of his own perceptual field and the realization of the finer forces. To fully appreciate the fullness of Sutherland's choice of the metaphor of the Tide, we need to perform what is known as a *hermeneutic*. The word hermeneutic comes from the Greek word for interpreter. It derives from *Hermes*, the winged messenger who shuttled back and forth from the gods to man. It is a kind of interpretation used in biblical studies to uncover metaphors and parables which serve to at one and the same time obscure and illuminate. The first step of this hermeneutic involves the recognition of the word fluid.

Fluid, from fluare, the Latin for "flow," must be distinguished from the notion of "liquid." Liquid is a state of matter; fluid is a description of behavior. Fluid implies freely moving particles which give way to the slightest pressure and conform to the outline of the container. Liquid is incompletely elastic; fluid has complete elasticity. In osteopathic philosophy fluid does *not* refer to any liquid. The water to be supplied to the withering fields is *not* the cerebral spinal fluid, or at least it is a fluid whose *least* significant aspect can be identified with the CSF. Even if natural science finds ubiquity of the CSF through all tissues, it would still be true that the CSF is only the material plane correlate of a more important fluid. Further, finding the fluid via the natural science approach will not help you very much to experience the fluid with your patient. The 19th century physicist Maxwell in his work "Electricity and Magnetism" called the two electricities fluids Benjamin Franklin spoke of "a particle of electric fluid." The fluid of Andrew Taylor Still is something close to a definition given in the Oxford English Dictionary: *"several subtle imponderable all pervasive substances whose existence has been assumed to account for the phenomena of heat, magnetism, and electricity."* In *Osteopathy: Research and Practice*, Dr. Still states:

> *"Osteopathy has no place for the masseur, but for the mechanic of first water, endowed by nature and well qualified by practice." (par. 46)*

Dr. Still's fluid or first water is what flows through the human bioelectromagnetic energy field. It is a type of intelligent bioelectromagnetic plasma. It penetrates and permeates anatomical structures such as brain, dural membrane, ligament, even bone. We tell ourselves and our students that when we do a v-spread on a patient that we are directing CSF – but we really know that CSF, as a liquid cannot go through brain, membrane and bone on a diagonal, in a matter of seconds, because we will it to be so. However, an electromagnetic fluid can and does. There is not a true reciprocal tension system in a closed space based on hydraulics, rather there is a reciprocal tension system that is magnetic and not bounded by anatomy as we know it. Now we can begin to see the genius of Dr. Sutherland in using a metaphor connected with the sea.

In contemplating the *Tide,* we must consider the essential structure of the phenomenon which would make the metaphor understandable to all. Remember, this is Dr. Sutherland's attempt to communicate from his clear per-

ception as teacher to our cloudy perception as students. Imagine if you will, a beach scene containing some of the following elements each a perspective of the experience of the tide; each person experiencing the tide in their own unique way, yet each in a way similar enough to allow for the phenomenon of the tide to have universal meaning. What is the tide:

To a child playing with a sandcastle?

To the ship's captain calculating his departure?

To adolescent boys in the full throws of a hormone storm – girl-watching bikini clad beauties?

To two lovers strolling hand in hand not noticing their feet getting wet?

To a sunworshiper lulled to sleep by the sound of the pounding surf conducted through sand and her thick beach blanket, momentarily interrupting the music on a transistor radio?

To a clammer, rake in hand, looking for that telltale squirt from beneath the sand?

To the solitary beach comber walking into the wind, hair blowing, hands clasped behind him thinking sad thoughts?

Somehow from perspectives such as these, the essential structure or essence of the phenomenon of the ocean tide can be distilled into the meaning which is the metaphor of the tide. By using this metaphor, Dr. Sutherland meant to convey something about what he experienced with his patients that shares some qualities with the ocean tide. This phenomenon he called the *Tide*.

The *Tide* as metaphor was Sutherland's attempt to described an aspect of his lived experience of the field of perception co-created with his patient during an osteopathic treatment. This approach is known historically as the phenomenological or human science approach.

Continuing the hermeneutic, let's dive into the metaphorical tension between the terms water and fluid and also between the term the ocean tide and the *Tide*. Water or the sea represents that primordial substrate which was first fertilized by the seed of the spirit. In *Genesis,* we are told that the Spirit of God hovered over the waters. The Firmament separated the two waters, the water above and the water below. The material water which is a liquid and the spiritual water which is the first water or fluid. Water symbolizes the universal matter from which the cosmos was created. Its qualities are adaptability, plasticity, fluidity, and receptivity. Just as we are all immersed in the amniotic waters of gestation, so too we are all immersed in the immensity of the cosmic waters as the fish are immersed in the sea. Water has a natural tendency to spread out as widely as possible over surfaces, to seek the depths and in traveling downward to fill up spaces until it fills everything. Water is a horizontal principle. The horizontal provides the possibility of a plane of perception that can include a midline. When the patient is lying supine, the phenomenon that is the *Tide* is experienced as arriving from a point an infinity away at the patient's feet, which then passes through both you and the patient to a point an infinity far behind you somewhere on the horizontal plane. Physical water is the material plane correlate of the cosmic fluid that fills the entire universe. If your perception is clear enough it is said that even physical water has all of the elements and forces of cosmic water – one need only awaken to them. Water has no form of its own, universally it is the most plastic and receptive of elements. It has no color of its own, it takes on color based on the terrain it flows through. It is perpetually on the move. It undergoes change yet remains unchanged as it passes through its environment. It is water that both cleanses and nourishes all. Water literally and figuratively reflects its environment. Most importantly it reflects the firmament above, the dwelling place of the gods. Next, there is the aspect of fluctuation, of the ebb and flow of the *Tide*. There is periodicity in the Tide, the primary respiration of the universe. From our puny little human perspective this *Tide* is never ending. The rhythm is apparently permanent. It gives us the experiences of forever and infinity. There is more. Just like the rustle of the leaves in a tree is not the wind but the effects of it, so too the rhythmically crashing waves are not the *Tide.* The *Tide* is that invisible element that makes possible the movement of water. It has potency. In *Teachings In The Science Of Osteopathy*, we have Dr. Sutherlands words on this topic:

"Now, notice the fluctuation of the Tide - a movement coming in during inhalation and ebbing out during exhalation. Is it the waves that come rolling along the shore - is that the tide? No."

There is the sense that what drives the water is invisible yet potent - yet where is that potency? When we try to locate this potency we are mystified. There is a sense that we must leave the surface of our planet to find the origin of this invisible energy just as we know that these finer forces of the *Tide,* the *Breath of Life*, and *Liquid Light* are not bound by the borders of the material body. We have the moon to guide us. The genius of using the metaphor of the tide is that it contains within its matrix of meaning the concept of the regulation of the ocean tide by the invisible gravitational forces of the Moon. This immediately takes the fulcrum of the *Tide* and moves it off the surface of the earth. When we are working with the *Tide* we have an awareness of the "horizontalness" of our perceptual field – the plane of flow, if you will. We acknowledge that there is an horizon of awareness at the periphery of the field. And on occasion if we can "be still within" then the *Breath of Life* will announce itself to our awareness from a location that is at one and the same time

very far away off the horizontal plane of flow and yet as close to us as our own hearts. In contemplation of the moon we note that it makes its appearance only in as much as it reflects the light from the sun leading us to the experience that the forces involved in osteopathic healing are universal, invisible, interplanetary and cosmic.

In summary, placed within the context of the history of ideas and the philosophy of science, osteopathy is a holistic, vitalistic (theistic) healing art. As a discipline, osteopathy meets the criteria of a science historically established by the philosophy of science regardless of its oftentimes "unscientific" outward appearance. While its explanation and teaching is often expressed in natural scientific terms, the description of the doing of osteopathy is best achieved from a human science, phenomenological approach. Perceptual descriptions hinted at by Still, and later clearly stated by Sutherland lend themselves to a method of analysis no less scientific, albeit less mainstream in today's culture. The evolution of the individual osteopath's consciousness and therefore his or her perceptual field, those characteristics which Still hoped would naturally develop over time, can be purposefully nurtured in our students if we recognize the legitimacy of the human science perspective. The challenge for osteopathy in the future is to systematically train our students in methods of perceptual clarity. Natural science will eventually endeavor to quantify the finer forces in the universe but the totality of the experience of osteopathic healing must always require a dialogue between the natural science and human science perspectives. This dialogue must accept the relativity and incompleteness of any one approach to a subject matter that is as profound as it is infinite. If we accept this challenge we can arrive at working models of healing based in essential structures of behavior derived from the lived experience of our patients and ourselves. It is in this sense that osteopathy is philosophical and it is in this sense that we must "dig on."

Bibliography

Abrams, David, *The Spell of the Sensuous: Perception and Language in a More-Than-Human World*, New York, Random House, 1997.

Aivanhov, Omraam, Mikkael, *The Mysteries of Fire and Water,* Frejus, France, Provesta,1993.

Grey, Alex, Ken Wilber and Carlo McCormick, *Sacred Mirrors: The Visionary Art of Alex Grey,* Rochester, Vermont, Inner Traditions International, 1990.

Kuhn, Thomas, S., *The Structure of Scientific Revolutions*, Chicago, University of Chicago Press, 1970

Merleau-Ponty, Maurice, *Phenomenology of Perception*, London, England, Routledge & Kegan Paul, 1962 (English Translation).

Polanyi, Michael, *Personal Knowledge: Towards a Philosophy of Post-Critical Philosophy*, Chicago, University of Chicago Press, 1974.

Still, Andrew, T, *Philosophy of Osteopathy*, Colorado Springs, The American Academy of Osteopathy, 1977.

The Philosophy and Mechanical Principles of Osteopathy, Kirksville, Osteopathic Enterprises, 1986.

Osteopathy: Research and Practice, Seattle, Eastland Press, 1992.

Sutherland, William Garner and Anne L. Wales (ed.), *Teachings In The Science of Osteopathy*, Rudra Press, 1990.

Wartofsky, Marx, W. *Conceptual Foundations of Scientific Thought*, Toronto, Canada, Macmillan, 1969.

History of Epistemology, Encyclopedia of Philosophy, Edwards, Paul (ed.), New York Macmillan, 1972.

Vitalism, Encyclopedia of Philosophy, Edwards, Paul (ed.), New York, Macmillan, 1972.

Direct correspondence to: Domenick J. Masiello, DO, 420 E. 51st Street, Office B, New York, NY 10022-8022.

American Academy of Osteopathy
3500 DePauw Boulevard, Suite 1080
Indianapolis, IN 46268-1136

ADDRESS CORRECTION AND
FORWARDING REQUESTED

NON-PROFIT ORG.
U.S. POSTAGE
PAID
PERMIT #14
CARMEL, INDIANA

Disney, OMT, and You at the . . .

Ninth Annual OMT Update

(Intermediate Course)

"Application of Osteopathic Concepts in Clinical Medicine

plus Preparation for Certifying Boards

September 22-25, 1999

This Academy program was designed to meet the needs of the physician desiring the following:

- OMT Review - "hands-on experience and troubleshooting"
- Integration of OMT in treatment of various cases
- Preparation for practical portions of certifying boards
- Preparation for AOBNM (American Osteopathic Board of Neuromusuloskeletal Medicine) certifying board
- Information on CODING for manipulative procedures
- Good review with relaxation and family time

Location: The Contemporary Hotel (Walt Disney World® Resorts) Lake Buena Vista, FL

CME Hours: 4 days; 22 hours; AOA Category 1-A

Contact : **American Academy of Osteopathy** for more information:
3500 DePauw Blvd., Suite 1080, Indianapolis, IN 46268-1136
Phone: (317) 879-1881; Fax: (317) 879-0563; or E-Mail: AAODLF@aol.com