

THE AAO
JOURNAL



A Publication of the American Academy of Osteopathy

VOLUME 8 NUMBER 4 WINTER 1998

**The Tree and Wind:
*A Fable of Osteopathic
Growth and
Destruction***

...see page 25

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

January 1999

14-17

Introduction to OMT

Turtle Bay Hilton

Kahuku, Oahu, Hawaii

Hours: 23 Category 1A

29-31

Dx and Tx of Mechanical

Low Back Pain

Sonoma Valley Inn

Sonoma, CA

Hours: 20 Category 1A

February

20-21

Winter OMT Update

The Airport Westin

Atlanta, GA

Hours: 18 Category 1A

20-21

Facilitated Positional Release

The Airport Westin

Atlanta, GA

Hours: 18 Category 1A

March

21-24

*Visceral Manipulation-Trauma and
Emotional Release*

The Adams Mark Hotel

St. Louis, MO

Hours: 32 Category 1A

24-29

AAO Annual Convocation

The Adams Mark Hotel

St. Louis, MO

Hours: 31+ Category 1A

April

16-18

Intro to OMT & Counterstrain

AAO Headquarters

Indianapolis, IN

Hours: 20 Category 1A

May

14-16

Use of Therapeutic Exercise & OMT

AAO Headquarters

Indianapolis, IN

Hours: 20 Category 1A

15-16

Basic Percussion Vibrator

AAO Headquarters

Indianapolis, IN

Hours: 15 Category 1A

June

24-27

HVLA Intermediate Refresher

AZCOM (tentative)

Glendale, AZ

Hours: 20 Category 1A

August

20-22

Visceral Manip. (Abdominal/GI)

AAO Headquarters (tentative)

Indianapolis, IN

Hours: 24 Category 1A

September

23-26

OMT Update

Contemporary Hotel

Orlando, FL

Hours: 23 Category 1A

TRUST 2000: A Legacy to the Osteopathic Profession

Chairman **Ross Pope** and members of the AAO Finance Committee invite all AAO members to consider a "planned gift" to the Academy as part of the endowment program TRUST 2000: A Legacy to the Osteopathic Profession. In 1992, **Alan R. Becker, DO, FAAO** created a charitable remainder unitrust in memory of his spouse, **Catherine S. Becker**. In an ongoing feature to promote the endowment campaign, the Academy is pleased to reprint the following abridged article which first appeared in the Fall 1992 issue of *The AAO Journal*.

Winston Churchill stated that "We make a living by what we get, but we make a life by what we give."

Alan R. Becker, DO, FAAO, medical director of the Becker Osteopathic & Metrecom Clinic in Kailua, Hawaii, has established the Catherine S. Becker Memorial Charitable Remainder Unitrust with the Academy as the beneficiary.

Dr. Becker established the fund to honor his late wife, Cay, who for many years assisted the Academy, serving as structural consultation assistant during the annual conventions and convocations. "Cay was always willing to take on tasks that would help the Academy, and in so doing helped the staff, the students and the physicians during a very busy time."

By setting up the charitable remainder unitrust, Dr. Becker received an immediate tax deduction for his gift, and will be able to receive a portion of the income from the trust during his lifetime. Upon his passing, the Academy will receive the balance of the funds.

Dr. Becker has contributed greatly to the Academy through his generosity and vision, and hopes that his gift to the Academy will inspire others to do the same.

There are a number of planned giving techniques which can be individually tailored to meet your personal needs. Many provide significant tax savings, professional management and lifetime income for individuals and members of their families.

Gifts can be funded by gifts of cash or property such as land, jewelry, silver, coin collections, interests in limited partnerships, corporations and so forth. In your estate planning, please remember the Academy. Likewise, if you have grateful patients who wish to contribute to the profession as a thank you for your services to them, why not recommend the Academy as a beneficiary. □

1998-1999

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Opinions expressed in *The AAO Journal* are those of authors or speakers and do not necessarily reflect viewpoints of the editors or official policy of the American Academy of Osteopathy or the institutions with which the authors are affiliated, unless specified.

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.

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Advertising Rates for the AAO Journal

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The AOA and AOA affiliate organizations and members of the Academy are entitled to a 20% discount on advertising in this Journal.

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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. Hruba, 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-

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Abstract

Provide a 150-word abstract that summarizes the main points of the paper and its 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

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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



Osteopathic Unity Revisited

We have read and heard more information recently regarding osteopathic unity. The AOA Board of Trustees has recently received a report from their task force on osteopathic unity, and we expect to see this published soon for all of us to read. Ron Esper, DO, President of the AOA, has stated he wants to pursue the idea of osteopathic unity during his term as president.

Some time ago in this column, I printed an item that I thought might give us a lesson in unity. Somehow, in this time of renewal of efforts to further unite our profession around common themes, I think it would be helpful for us to see this item again. So, in the interest of osteopathic unity, let me offer the following story, reprinted from the Spring 1994 issue of the AAOJ.

Lessons From Geese

I recently read something very interesting about geese. Now, I usually do not spend much time pursuing facts about geese, but this information crossed my path and I was impressed by it. In fact, it got me thinking again about osteopathic unity. We have heard a lot in recent years about the need for unity in the osteopathic profession. It has been a major theme of the AOA over the last few years, and I have written about the topic in this column as well. With all the concern with what may be happening

with health care reform, I think establishing more unity within our profession is more critical than ever, and the subject bears revisiting. Perhaps, then, you can bear one more dissertation about osteopathic unity. So what do geese have to do with osteopathic unity? Well, let me preface this with the confession that I believe we can learn valuable lessons from birds and animals. Often it seems to me that these creatures seem to know just the right way to approach life. They do not ask for much from the world, or from us as humans, and yet they always seem to have just what they need. No wasted energy, just practical living. We can learn a lot by observing birds, animals, and nature in general. What I learned about geese (and how it relates to osteopathic unity) comes from an excerpt from a talk given by anthropologist Angeles Arrien. This talk was originally published in the newsletter of the Maryland Association of Extension Home Economists and reprinted in the October 1993 issue of *Evaluation Practice*, the Journal of the American Evaluation Association. The excerpt is as follows:

Fact 1. As each bird flaps its wings, it creates an uplift for the bird following. By flying in a V formation, the whole flock adds 71 percent greater flying range than if one bird flew alone.

Lesson 1. People who share a common direction and sense of community

can get where they are going quicker and easier because they are traveling on the strength of one another.

Fact 2. Whenever a goose falls out of formation, it suddenly feels the drag and resistance of trying to fly alone and quickly gets back into formation to take advantage of the lifting power of the bird immediately in front.

Lesson 2. If we have as much sense as geese, we will stay in formation with those who are ahead of where we want to go and be willing to accept their help as well as give ours to others.

Fact 3. When the lead goose gets tired, it rotates back into formation and another goose flies the point position.

Lesson 3. It pays to take turns doing the hard tasks and sharing leadership.

Fact 4. The geese in formation honked from behind to encourage those up front to keep up their speed.

Lesson 4. We need to make sure our honking from behind is encouraging and not something else.

Fact 5. When a goose gets sick or wounded or shot down, two geese drop out of formation and follow it down to help and protect it. They stay with it until it is able to fly again or dies. Then they launch on their own, with another formation, or catch up with their flock.

Lesson 5. If we have as much sense as geese, we, too, will stand by each other in difficult times as well as when we are strong.

Osteopathic unity. We could learn a lot from geese. □

Message from the President

by Melicien A. Tettambel, DO, FAAO



Contribute your expertise to the "Unity Campaign"

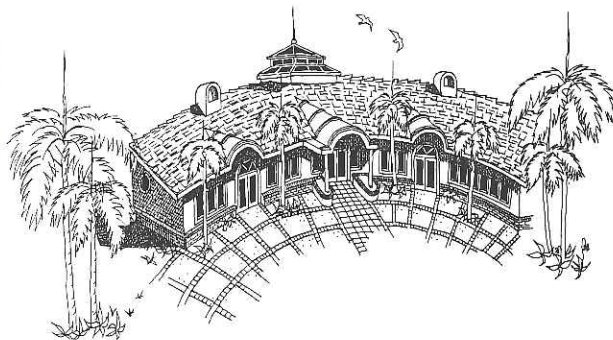
With the holiday season quickly approaching, I should like to extend my best wishes to you for the holidays and a prosperous New Year! I thank you for your personal support and your continued generosity to the Academy's boards, committees and Golden Ram Society through contributions of time, talent, and treasure.

The American Osteopathic Association has launched a multi-year *Unity Campaign* designed to accentuate the distinctiveness of the osteopathic medical profession to the public and revive a sense of unity within the profession. At their meeting last July, the AOA House of Delegates created the framework for the Unity Campaign by the adoption of six resolutions which have now been transformed by a Blue Ribbon Committee and AOA staff members into a series of strategies. The AOA Board of Trustees has reviewed, approved and funded these strategies for implementation.

The AOA leadership recognizes that the Academy has a highly diverse membership which has been successful in educational endeavors and promotion of the osteopathic philosophy and practice. The Academy's leadership has pledged to support the Unity Campaign and encourages all AAO members to lend their expertise in continuing to promote Osteopathy to our fellow practice affiliates, the public and governmental agencies.

I am excited about the 1999 AAO Convocation and look forward to meeting you in St. Louis. The didactic program highlights scientific thinking that influenced practitioners of osteopathy as they expanded Andrew Taylor Still's natural concepts into the realm of basic and clinical science. Recently, I asked Program Co-chairpersons Roberta Fennig and Rajiv Yadava to add Russia's Yuri Moskalenko, D.Sci. to the program on Sunday so that he can share some of his original findings. Dr. Moskalenko has been researching cranial bone motion and the primary respiratory mechanism since the late 1960s and is referenced in the second edition of *Osteopathy in the Cranial Field* by Harold I. Magoun, DO, FAAO. If you have not yet received the program and registration materials, please call the Academy headquarters immediately.

As in past years, there are opportunities to exchange practical applications of osteopathic manipulative medicine, in addition to the hands-on workshops on Thursday and Friday. I encourage my more experienced colleagues to share their "treatment pearls" as part of the "Evening with the Stars" program on Thursday evening. The undergraduate teaching fellows are also looking forward to exchanging ideas with the FAAOs in their annual Forum. I encourage you to submit a "new idea" to the Education Committee for consideration in the New Ideas Forum on Thursday afternoon. Finally, I welcome any ideas or opinions which you would like to share with the AAO's leadership and committees that will contribute to the ongoing success of your Academy. □



The Osteopathic Center for Children needs an additional D.O. who enjoys working with children and is well versed in the various dimensions of osteopathic manipulative treatment including Osteopathy in the Cranial Field.

Contact:

Viola M. Frymann, DO, FAAO, FCA

Message from the Executive Director

by Stephen J. Noone, CAE



AAO members can be “part of the solution”

Members of the American Academy of Osteopathy are familiar with the challenges to utilization of osteopathic manipulative treatment based on claims that such treatment has not been documented in the literature by the “gold standard” double-blind research studies; hence, it is not medically necessary in the treatment of patients. In a commentary in the November 1998 issue of *Alternative Therapies*, Editor Larry Dossey, MD similarly points out how this argument “unfairly challenges ‘complementary and alternative therapies’ and lets orthodox medicine off the scientific hook.” Dr. Dossey quotes Dr. Iain Chalmers, director of England’s Cochrane Center, in the *British Medical Journal*, who states that “It is thought that more than 60 percent of orthodox treatments have not been scientifically proved.” *BMJ*’s Editor Richard Smith estimates that “only about 15 percent of medical interventions are supported by solid scientific evidence.” Dr. Dossey further cites University of California, San Francisco College of Medicine’s David A. Grimes in the *Journal of the American Medical Association* who wrote: “Much, if not most, of contemporary medical practice still lacks scientific foundation.”

Despite more than 100 years of experience with osteopathic principles and practice, the osteopathic medical profession must continue to rebut challenges to the utilization of OMT and demonstrate its distinctiveness. Having just spent the weekend with the Academy’s Computer/Outcomes Task Force, I am encouraged at the prospects of a significant intervention which will yield the data to document osteopathic medical practice and the beneficial outcomes of osteopathic diagnosis and manipulative treatment. The Task Force has been charged by the AAO’s Louisa Burns Osteopathic Research Committee to develop a computerized osteopathic SOAP Note to be used in gathering research data for use in studies of the application of OMT in patient care. This same clinical database will be used in conducting a patient satisfaction survey on osteopathic medical practice.

No longer is the concept of a national osteopathic clini-

cal database just a dream! These clinicians and scientists participated in the weekend at their own expense and made a commitment to complete a grant request in 1998 to fund the development and pilot study of the computerized medical record and patient satisfaction survey. The Task Force already has a “version 1.0” of the SOAP Note and has preliminarily engaged the services of statistical giant SPSS in the refinement of the software. The data output will be both valid and reliable. The Task Force has selected the Rand SF-36 patient satisfaction survey to be supplemented by osteopathically-unique questions. The Task Force has identified one college of osteopathic medicine to serve as the central, data acquisition site for the aggregate clinical data. The Task Force has selected two multi-centered research projects which will use the computerized medical record in generating data on patient care by participating clinicians. How exciting!

All AAO members can be “part of the solution” in addressing the challenges to the medical necessity of OMT. First of all, you can strongly encourage the colleges of osteopathic medicine, other AOA practice affiliates and Osteopathic Postdoctoral Training Institutes to devote more of their resources to research on osteopathic medical practice. If so inclined, you can volunteer to participate in a research project as a clinician, using the computerized medical record and transmitting the information to the central data acquisition site for use in research projects. You can write a “case history” for the *Journal of the American Osteopathic Association* which reflects your unique practice of osteopathy and demonstrates the beneficial outcomes of OMT. *JAOA* Editor Gilbert D’Alonzo encourages the submission of quality case studies. While they may be anecdotal, such case histories document the scope of osteopathic medical practice and offer suggestions to clinical researchers as they seek to refine their hypotheses.

If we do not respond to the current challenges, we cannot complain about the consequences. I encourage you to join with the Academy’s Louisa Burns Osteopathic Research Committee in support of their current initiatives. □

Letter to A.T. Still

Dear Dr. Still,

You always emphasized the knowledge of anatomy to your students. In fact, you stated that "Osteopathy cannot be imparted by books. Neither can it be taught to a person intelligently who does not fully understand anatomy from books and dissection."

One of your students, F. P. Millard, DO, talked at length about the importance of anatomy in making proper diagnosis. In his book, *Practical Visions* (p. 161), he said: "The study of applied anatomy is one of the most essential, not only surgically as we have a number of text books on surgical applied anatomy; but applied

anatomy from a mechanical standpoint as well."

He stressed, as you did, the importance of anatomical knowledge to the osteopathic physician for purposes of making exact diagnosis and planning treatment. He noted that we must be able to diagnose from a chemical point of view, but that "We must also be able to determine upon examination wherein structural changes have caused perversion, not only in the nerve tracts, but also in the blood vessels and various tissues and organs that make up the composite whole."

He also pointed out how your emphasis on anatomy and osteopathic principles changed everything in the

world of medicine. He noted that "Until A. T. Still discovered the principles and practice of osteopathy, there never had been a complete diagnosis made in any instance in the world's history. The ideas brought out by Dr. A. T. Still absolutely revolutionized the therapeutic reckonings."

We would all do well to take these words to heart, and make daily efforts to improve our knowledge of anatomy. This is one way we as osteopathic physicians can strive to give ever better and unique care to our patients.

Your ongoing student,
Raymond J. Hruba, DO, FAAO

Affiliated organization's 1999 CME calendar...

January 15-17

Workshop on Palpation
Osteopathic Center for Children
San Diego, CA
Hours: 16 Category 1A
Contact: OCC @ (619) 583-0296

January 23-27

SCTF Basic Course
Osteopathy in the Cranial Field
Portland, OR
Hours: 40 Category 1A
Contact: Judy Staser
(817) 735-2498

January 27-30

10th Annual Osteopathic Winter Seminar
The Pinellas County Osteopathic Med. Soc.
Tradewinds Resort
St. Petersburg, FL
Hours: 26 Category 1A
Contact: Pinellas County OMC
(813) 545-3627

February 11-15

Basic Course in Osteopathy
in the Cranial Field
The Cranial Academy
Sheraton Mesa
Mesa, AZ
Hours: 40 Category 1A
Contact: The Cranial Academy
(317) 594-0411

February 12-14

43rd MidWinter Conference &
Legislative Symposium
Texas Osteopathic Medical Association
Fairmount Hotel
Dallas, TX
Hours: 17 Category 1A
Contact: Vanessa @ (512) 708-8662

February 17-21

38th Annual Convention/Scientific Exhibit
Osteopathic Physicians & Surgeons of Calif
Wyndham Hotel
Palm Springs, CA
Hours: 35-40 Category 1A expected
Contact: OPSC @ (916) 447-2004

February 21-26

Ski & CME Midwinter Conference
Colorado Society of Osteopathic Medicine
Keystone Lodge & Resort
Hours: 39 Category 1A
Contact: Patricia Ellis @ (303) 322-1956

February 25-28

Annual Convention
Florida Osteopathic Medical Association
Hyatt Regency Pier 66 Hotel
Fort Lauderdale, FL
Hours: 30 Category 1A
Contact: FOMA Executive Office
(850) 878-7364

April 29 - May 2

102nd Annual Convention
Indiana Osteopathic Association
Radison Hotel at Star Plaza
Merrillville, IN
Hours: 30 Category 1A
Contact: IOA @ (800) 942-0501
or (317) 926-3009

The principles of osteopathic structural therapy - Part III

by *Principles of Osteopathy*, by Leon E. Page, DO, Published by the AAO 1952, Chapter 11

In diseases of the liver and upper intestinal tract, Still regarded corrective adjustment of the upper spinal area of prime importance. For structural correction in this area he suggests the following technique: "If the upper dorsal presents an imperfect alignment of the spinous processes (and often when the spinous processes are in a straight line), on careful examination we may find lateral curvature with convex bulging to the right or left, from the second to the eighth dorsal. A good method of correcting such is to hook your fingers strongly on the opposite side of the spinous processes and in the concavity of the curvature, then push the neck, not the head, toward that concavity. Then I place my hand on the back of the neck and bend the neck forward and down with a rotary motion. We should adjust all ribs carefully in this region and never treat such cases more than once or twice a week for fear of soreness."

One of Still's earliest experiences with structural technique was concerned with the treatment of diarrhoea. He presents the following technique for this condition: "I will now give you one of many methods that have proved effective in many cases of diarrhoea which I have been called upon to treat. When my patient is a stout man, I generally stand him in a doorway and place his breast and abdomen against the jamb of the door. I then stand behind him and place my knee on the upper part of the sacrum so as to bring the spinous process of the fifth lumbar against my knee and

give fairly strong pressure. By taking hold of his shoulders I bring his back firmly towards my knee with the object of lifting his fifth lumbar from the sacrum. Then swing him to the right and left a few times so as to open out and loosen up all of the lumbar articulations with a view of freeing the whole nervous system of the lower spine from any impingement whatever. Now I turn my patient so he will face me with his back against the door jamb. I take him by both shoulders and push him backwards to secure good blood circulation to the upper dorsal region. Now seat the patient on a stool, stand in front of him and have him place both his arms over your shoulders. Place your arms around his body with your hands on either side of the twelfth dorsal vertebra, the place of beginning this part of the treatment. I carefully examine and adjust every dorsal vertebra and also the ribs which articulate with them. With my hands on each side of the spine I gently but firmly draw the patient toward me and know that freedom of the blood and nerve supply is given in this region. The clavicles and cervical vertebrae now receive careful attention and adjustment, not leaving my patient until I have perfect articulation from the sacrum to the occiput. I generally inhibit the occipital nerves in the back part of the neck."

In the treatment of hemorrhoids and other types of pelvic congestion Still gave particular attention to the lumbar spinal area. After adjustment to the coccyx, he proceeds to the lumbar region, thus: "I proceed to adjust

the spine from the sacrum to the dorsal region, taking each vertebra separately. I do this having my patient take the kneeling position with his chest on a stool about fourteen inches high. Then I grasp his thighs between my knees, holding him firmly while I rotate his body, making a fixed point at each vertebra as I go up the spine and make sure that every vertebra is in its normal articulation."

Still sums up his "philosophy of manipulations" in these words: "The philosophy of manipulation is based upon an absolute knowledge of the form and function of all bones belonging to the bony framework of the human body. We must know the position and purpose of each bone and be thoroughly acquainted with each of its articulations. Without this knowledge our work will be a failure. Simply to know that our heads are situated on the atlas and the atlas on the axis, that we have seven bones in the neck, twelve in the dorsal, and five in the lumbar is of little use. We must have a perfect image of the normal articulations of the bones we wish to adjust. We must be critically certain that we know all articulations of the bones of the whole system. We must know how the blood is supplied and when that arterial blood has done its work; we must know how it returns and what would be an obstruction."

Still regarded the body as a structural unit and treated the organism as a whole. Although his methods were specific and direct he did not neglect secondary structural factors. In his technique instructions he constantly

emphasized the necessity of aligning the whole spine from coccyx to occiput. He believed that all technique should be applied with definite objectives in mind and warned against the futility of purposeless manipulations which he considered as mere "engine wiping."

In addition to the specific correction of spinal osteopathic lesions, manipulative technique is used to accomplish various therapeutic purposes. Physiological processes may be stimulated, defensive reactions, may be encouraged, and symptoms may be controlled.

Stimulation of physiological processes

The physiological processes which serve the body economy represent the expenditure of energy through specialized structures. This energy is ultimately derived from the oxidation of food ingested. Energy is released

to muscles for somatic and visceral activity. Energy transmitted to glandular structures results in the elaboration of chemical substances which control growth and visceral functions. The distribution of this energy is vested in specialized cells and their processes found in the nervous system. Normal function, therefore, depends upon the conversion of potential into kinetic energy and the transmission of impulses so produced to cells which are activated.

Disturbed function may result from lack of raw materials for oxidation, i.e., malnutrition; improper oxidation by the tissues, i.e., disturbed glandular function; inadequate transportation by the blood stream, i.e., anemia and congestion; inability of the nerve cells to function as discharging centers, i.e., central paralysis; interference with the proper conduction of nerve impulses, i.e., peripheral paralysis and disturbed reflexes.

Osteopathic structural therapy is concerned with improper conduction

of nerve impulses as a contributing factor in the causation of symptoms because the conduction pathways of the peripheral and autonomic systems are most liable to be disturbed by environmental influences. Disturbances in autonomic innervation may have adverse effects upon vital functions of circulation, respiration, digestion, and elimination. Such disturbances are frequently the result of spinal structural lesions and their specific correction is a primary objective in the treatment of diseases which are accompanied by disturbances of these functions. Clinical experience has shown that great benefit may be derived from nonspecific osteopathic therapy directed to the paravertebral structures and that disturbed autonomic balance may be restored by such technique. In cases where surgical structural therapy may be an essential part of treatment pre- and postoperative osteopathic treatment can be of great benefit. □

Letter from the UAAO

by Mary P. Greiss, Vice Chair, UAAO National Council 1998-1999

The beauty of crimson, maize, and peridot in the changing of the Autumn leaves. The smell of a November chill. The patient anticipation of the Winter snows still to come. I cannot deny it, I am addicted to the changing of the late seasons here in Pennsylvania. However, as I sit here taking a moment to appreciate what nature has created on the other side these visions of warm emerald foliage and sprinkles of sweet sun shining down through large white puffy clouds, I also envision the Gateway Arch, Old Cathedral, the Mississippi River in St. Louis.

In only three and a half short

months, the 1999 AAO Convocation will be in full swing. All of the planning will be done and we will all come together to share and learn osteopathy. I hope until then, the physicians among you, will consider setting aside some time during the Convocation to share your knowledge and skills with the student members of the UAAO. We can never have too many physicians participating in the Evening with the Stars, especially this year. Due to time and space limitations, many of the afternoon workshops have not been made available to interested students. Therefore, it would be wonderful if we were able

to learn some of these techniques and ideas during the two hours with the Stars. Every year these two short hours of direct interaction between physicians and students serve as some of the best education we could ask for. We sincerely hope that each of you in attendance will take part in this program and teach us the techniques you use daily in your practice. All it takes is a check mark the designated box on your registration form and two hours of your Thursday evening.

The next big event in the UAAO portion of the AAO Convocation is

continued on page 16

Case Study: OMT and the enlarged prostate

by Charles J. Smutney, III, DO

A.M. is a 78-year-old male who was referred to the Osteopathic Manipulative Medicine (OMM) clinic from the Geriatric Medicine clinic. His chief complaint was "having neck pain and stiffness over the last few months that seems to be getting worse." He "simply woke up with the pain one day." A.M. described the pain as gradually increasing in intensity since its onset. He did not recall any injury or accidents immediately prior to its onset or any head, neck or back injuries at any time in his life. The pain did not radiate, was dull, and was present all the time.

He went through one course of acetaminophen and five courses of various nonsteroidal anti-inflammatories (NSAIDs) without any success before being referred to OMM. Neither ice nor heat gave any alleviation. He religiously takes Cardizem, Mevacor, aspirin, Zantac, and multiple vitamins with minerals daily. He denies any allergy or the usage of any herbal remedies. His medical history included hypertension, hypercholesterolemia, gastroesophageal reflux, and a hiatus hernia all diagnosed recently. His surgical history included adenocarcinoma positive needle biopsy of the prostate in only one of six aspirates. He lived alone as a widower for more than twenty years, retired at age 70 from a lifetime of owning and running a small grocery store and had no children. He had "outlived almost all of [his] friends." The two he had left

moved to Florida three to four years ago. He smoked tobacco from age 16 to age 30 approximately two packs per day. He rarely had an occasional glass of red wine on holidays and denied using any recreational drugs. He had not been sexually active for the last 10 to 15 years. He walks to a park and back daily and "to all appointments and stores if they are less than 20 blocks away." His family history was not informative. His diet was regular and well balanced. He still has all his own teeth with very few caries.

REVIEW OF SYSTEMS:

Non-contributory.

Labs: Prostate specific antigen (PSA), CBC, SMA 18, TFT's, UA and cervical spine x-rays were pending at the time of the first interview.

PHYSICAL EXAM:

This was a well groomed, well appearing 78-year-old male who entered the office briskly. Short in stature, he walked aggressively with a slightly widened gait, slightly increased upper thoracic kyphosis with increased cervical lordosis, moderate side bending of the neck to the right from the shoulders up, a mild forward lean, and his feet exhibited mild turnout with each stride. There was no noticeable scoliosis. He presented pleasantly and was well spoken, asking intently about the current condition of his health. He was descriptively "fearful of [his] imminent demise." His vitals were:

T=98.6 BP=130/86 PR=64 RR=12
Height: 5'4" Weight: 142 lbs.

His heart, lungs, abdomen, lumbar, upper extremities, neurologic and pelvis exams were unremarkable. His **Cranial** exam found a PRM cycle = 6 with low amplitude with asymmetric boney motion. The right occipital-mastoid (OM) and occipital-atlantal (OA) joints were restricted on the right. The OA was extended, side bent right, and rotated left (OA E S_RR_L) The right condyle was anterior, left condyle lateral, and opisthion turned to the left. The right temporal was externally rotated and the left internally rotated.

Sphenoidal motion was decreased with its basilar part to the right. The tentorium cerebelli was tense on the right; the falx cerebri was long and flat with poor upward and A-P excursion. There was no lymphadenopathy, thyromegally, or jugular venous distention. Asymmetric tone with tightness and side bending to the right and rotation to the left was evident in the neck. The right trapezius and sternocleidomastoid muscles exhibited increased tissue tension and tenderness. There was one tender point on the right over the supra-spinatus near the acromial process. The **cervical** vertebra rotoscoliosis findings were as follows: C₂ F S_RR_R, C₃ E S_RR_R, and C₇ F S_LR_L. **Thorax:** T₁ F S_RR_R and T₆ E S_LR_L. Notably the lower and middle segments of the Trapezius were symmetric. The first Rib was elevated and posterior on the right. →

The prostate was enlarged, firm, smooth and non-lobulated. Sphincter tone was good, stool in the vault was brown and a hemocult test was negative. Notably absent tender points: lumbar, sacral, and anterior pelvic points. Special tests performed were the Spurlings maneuver, cervical distraction, valsalva, straight leg raising, Faber's, Mc Murray, Anterior Draw, Lochman's, Hip Drop, Trendelenburg and Adsons, which were all negative.

ASSESSMENT:

metastatic spread of prostate cancer	184.30	thoracic spine	739.20
osteo-arthritis	721.90	first rib.	739.80
radiculopathy	729.20	cranium.	739.00
Cerumin impaction	380.40		
cervical spine	739.10		

PLAN

Osteopathic Manipulative Technique (OMT) was administered using only gentle techniques. Indirect myofascial release (MR) to cervical musculature, muscle energy (ME) to cervical articular lesions, and balanced ligamentous tension (BLT) to first rib and T1 were applied with an immediate increase in cervical range of motion noted and a significant decrease in the presenting side bending to near symmetry. Posteriorparietal lift and indirect stacking were used to address the cranial lesions. A.M. described feeling "very little pain for the first time in several months." A gentle cervical stretching exercise was prescribed three times per day (TID) for a period of five minutes each. He would side bend to the left, then forward, then to the right pausing in each position for 10 to 15 deep, slow breaths and allowing his head to drop further with each breath. He demonstrated the exercise well. A prescription for gently warmed glycerin in each ear for 30 minutes daily with cotton plugs times 7 days was given. He was to follow this in the second week with peroxide for 5 minutes

daily times 7 days. Emphasis was placed on the need for him to obtain the blood tests and the x-rays requested. He was asked to obtain the prostate pathology reports from the other hospital, discontinue his use of all NSAIDS and was to return to clinic in three weeks.

On follow up the patient returned as scheduled with "general improvement of the neck pain but the soreness in the upper shoulder persisted." He pointed to the right lateral trapezius region in the vicinity of the su-

pra-spinatus muscle as he described the pain. There was relatively pure right side bending of the cervical spine demonstrated as he spoke. He claimed to have done the exercises, as prescribed daily and demonstrated proper execution of them. There was also a new complaint of right hip pain "out of nowhere just this morning."

Findings that persisted were: OA E S_RR_L, right restricted OM, C₂ F S_RR_R, C₃ E S_RR_R, and C₇ F S_LR_L, T₁ F S_RR_R, and the first rib continued to be elevated and posterior on the right. Right trapezius tone was increased. New findings included right rotation of the lumbar group with increased para-vertebral muscle tone from L₁ - L₅. Right external rotation of the hip was noted with resistance to internal rotation. There were no significant tender points, ilial rotation or sacral restrictions noted. Cerumin remained impacted.

Laboratory findings were normal except for an abnormally elevated PSA at 8.07 nanograms per deciliter. A-P, lateral, oblique, and open mouth x-rays were reported as showing extensive degenerative disease with osteophyte formations without bridging

and without disc space narrowing. The dens was intact and the foramina were unremarkable. No osteopenia was noted.

PLAN:

Gentle OMT was again administered as above with a resulting increase in ROM to near symmetry with a reduction of pain to "zero" according to the patient. A urology phone consult resulted in ordering an official consult and requesting a total body bone scan to be completed before his urology appointment. An Ear, Nose, and Throat (ENT) consult for cerumin removal was requested. A.M. was asked to continue his gentle stretching exercises and to return to clinic in 4 weeks.

On the third visit, A.M.'s pain was gone and he carried his head in a symmetric manner. The bone scan was negative, his cerumin had been removed and he was "hearing better than [he] had in years."

Urology was continuing to follow him and had a repeat PSA scheduled 3 months after the first one. A.M.'s somatic dysfunctions in the OA, C₇, T₁ and first rib persisted for an additional 2 visits without a return of pain. High velocity low amplitude positioning was utilized at this time and without a thrust the cervical lesions and T₁ released. A change in the stretching protocol now included hanging his hand on the superior aspect of the head on the side being stretched. On the 6th visit the dysfunctions had resolved. The follow up PSA demonstrated decreasing values and lab reports from the other hospital further supported decreasing values. With resolution of the cervical and lumbar dysfunctions, A.M. was asked to return to clinic on an as needed basis.

DISCUSSION:

Our initial thoughts concerned the possibility of metastatic disease to the

neck in this gentleman who came with a significant patient reported history of prostatic cancer. Manipulation of a person in this state is highly controversial in our current literature. Thrusting techniques have a relative contraindication. Cases can be made for both sides of the argument as to whether or not to treat at all until a better picture of the state of health is available.

Our decision was to treat with gentle and indirect techniques until such time as the patient's state was better understood. Once the bone scan was established as normal, a program that was a bit more aggressive was executed. With high velocity positioning, the cervical and T₁ lesions in question released without a thrust being administered. With the exercise program at home being advanced, this gentleman began to move forward in the resolution of his somatic dysfunc-

tions. He felt he was "able to take back some control of his life and his health".

During the course of treatment, the patient had improved to the point of having little to no pain despite the fact that he had "impressive degenerative joint disease" on the x-rays of his neck and upper thorax. Consults in Urology, Geriatric Medicine, and ENT clarified his current health as better than what he had originally thought. His reflux complaints had disappeared. In addition, serial PSA tests were completed and dropping. He was told by urology that cancer was "unlikely under these circumstances and he had little to worry about." "In any event, new found prostate cancer at this point in his life is extremely unlikely to be the cause of [his] death."

To further improve his chances at longevity and ease the problems that

come with prostate hypertrophy, Urology proposed to perform a transurethral prostatectomy. The patient was considering it at the time of this writing.

Six months later revealed that he had no further pain and was feeling just fine. He continues to actively exercise and stretch. He is also helping teach some children how to run a grocery store as a Junior Achievement project at the local elementary school.

His taking back responsibility for his health was empowering for him. Addressing the whole individual, mind, body and spirit worked well in his return toward health and community activity. With renewed hope and vigor he had become a contributing part of our society again, enjoying what he called a "bright twilight of his years." □



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Acupuncture Energetics – A Clinical Approach for Physicians

Joseph M. Helms, who is at the forefront of physician acupuncture education in the United States, has authored a comprehensive text on acupuncture energetics. Acupuncture energetics refers to the model of acupuncture that has evolved over two millennia and reflects the philosophy of man functioning harmoniously in an orderly universe. Acupuncture energetics are used to bring to balance disharmony in the totality (body, mind and spirit) of the human organism.

Acupuncture energetics differs from “traditional Chinese medicine” (TCM) acupuncture which is a relatively new phenomenon that began in the 1960s as a way of delivering to the western world an easily received and palatable novel medical procedure. Dr. Helms has approached this philosophy in a straight forward, well written, easy to use reference that can

be kept close by during clinical work, as well as a scholarly text that begs the reader into pondering alternate paradigms of medicine.

Acupuncture Energetics offers to the reader an excellent work on the “Basic, clinical and speculative scene of acupuncture” preceded by a concise historical section and followed by an overview of differing acupuncture models.

The various meridian subsystem and energy axes are delved into at great depths. Not only does Dr. Helms offer to the reader a profile of the patient who falls into a particular meridian axes by commentary on his structural biopsychotype, but he also goes into depth on the diagnostic evaluation.

The goal of the diagnostic evaluation in acupuncture is to arrive at a

conclusion about the level of the energy circulation network that is disturbed in the patient, the intensity of expression of the disturbance and the axes and subsystem that gives access to that disturbance.

Little is left to assumption in *Acupuncture Energetics*. Discussions as to different types of needles, the reason to use or not to use them is analyzed, as is the appropriate and various methods of insertion of the acupuncture needle itself. Clearly, Dr. Helms considers the patient as an integral factor in the treatment process.

The book is rich in information supported by an equally rich infrastructure of tradition. *Acupuncture Energetics* is highly recommended for anyone using this tool in their practice.

by Dallas D. Hessler, DO, FAAO
Denver, CO □

Easy OMT

A 43-year-old patient presents with pain in her middle back. Upon examination, you find the transverse process at T₅ to be posterior on the left. When the patient extends, the transverse process moves further posteriorly; upon flexion, both transverse processes at T₅ become symmetrical. What is the positional diagnosis? How would you treat this patient using HVLA, muscle energy, and indirect techniques? How am I going to remember when we covered this in OMM lab three semesters ago????

For all those who have found

themselves in clinical situations where harkening back to the days of OMM lab brought clearer memories of complaints over the most recent exam than of how to position the patient for treatment, help has arrived! *Easy OMT*, a book written by Dr. W. H. Howard, is an OMM text for the trenches. In writing this textbook, and its pocket-sized companion, Dr. Howard provides the student and clinician alike with the quick, clear, and useful techniques that are essential for osteopathic manual care of patients in the busy clinic and hospital setting.

The book is arranged by anatomical area, starting with the OA joint, working through cervicals, thoracic,

lumbar, pelvic, and sacral regions and rounding out with extremities. Bold headers on the edge of each page provide quick reference to the area of the body in question. The main text provides ample space for note-taking, and the pocket edition is a must-have for clinical rotations. Both books have indices which provide quick access to desired treatments; simply look up the area of the body and the diagnosis which was found.

Dr. Howard then provides excellent notes on the diagnostic criteria, including palpatory findings and gross observations, for each diagnosis. For example, in describing a right rotation at the atlantoaxial joint, the

book explains the following: "**Gross Observations:** Restriction to left rotation with motion present to right rotation. **Palpatory Findings:** Transverse process posterior on right and anterior on left." These notes are extremely helpful especially as students develop palpatory skill. Treatment techniques are explicitly described in step-by-step instructions. For each diagnosis, treatments using HVLA, muscle energy, and indirect techniques are described.

Perhaps the brightest gem of this text is the use of Dr. Howard's talent in photography. Each treatment is accompanied by a series of photos clearly depicting the position of the

patient as well as the operator. Arrows are used on the photos to explain directions of force and hold positions. The photos are large and clear, and correspond closely to the adjacent instructions.

This textbook, as mentioned, is very clear, concise, and brief. It is assumed that the student or physician clearly understands the principles of muscle energy, HVLA, and indirect techniques or has other resources available for this information. Furthermore, the treatment techniques addressed in this book focus on the three modalities that have been discussed. Other techniques, such as counterstrain, myofascial release, and craniosacral treatments are not

mentioned.

With these understandings, however, it remains evident that Dr. Howard has, indeed, provided a much-needed resource, bridging the gap between theory and application in the practical use of osteopathic manual medicine. *Easy OMT* is a workbook for students and clinicians with such usefulness and clarity as to make it essential for any osteopathic library.

*J'Aimee A. Lippert MS II,
MSUCOM* □

[**Editor's Note:** *Easy OMT* is available in the Academy's Bookstore, please call (317) 879-1881 for your copy.]

Letters to the Editor

To: Editor

Re: Vicki Abbott Taylor, DO

Dear Dr. Taylor:

I have just read your homeopathic case history in the *AAO Journal*. It is interesting from a homeopathic point of view, but I am questioning what you, as an osteopathic physician did for her. I did not find any osteopathic structural dysfunction described, or manipulative treatment given. Yet the history you describe certainly suggests that there was a significant osteopathic component.

While osteopathic and homeopathic philosophy are very similar and fully compatible, I do not feel the osteopathic physician is rendering optimum care to the patient by using homeopathic treatment to the total exclusion of osteopathy. With osteopathic care she might no longer need "aspirin one or two times per week for headache."

It is our experience that homeopathy is most appropriate when osteopathy has already addressed the structural

problems and a plateau has been reached. Then the appropriate remedy will accelerate the progress by removing certain road blocks to the healing process.

Let me encourage you to combine the best of homeopathic and osteopathic worlds for the benefit of your patients.

Yours sincerely,

Viola Frymann, DO, FAAO, FCA
San Diego, CA

Dear Editor,

I have just returned from the yearly refresher course in manipulative medicine at KCOM and have deepened my relationships with my graduating class of 1958, both living and dead. I came home with a profound sense of awe and gratitude. One recurring theme during the OMT classes, where we were exposed to ever more refined diagnostic skills and a more precise descriptive language, was expressed by a DO a few classes before me. He said, with an

exasperated smile, "My God, if I have been doing it wrong for over 40 years, how come so many patients got better!?" Had I not been so overwhelmed with this new language of "side bent and rotated to the same side etc.", I may have shared with him a feeling that often comes with my experience of religious fasting. Namely, there are those days when I have carefully abstained from food only to feel that my obedience was ineffective and other days when I goofed (did it wrong) somehow felt assured of full credit. I sense that when serving both humanity and/or our Creator we are involved in a process that transcends ordinary cause and effect. This experience seems to have endured the centuries and may now be back in fashion. In other words some of my awe and gratitude includes those years of practice when I was "doing it wrong" and/or being "unscientific"; and also the many times my motives were less than pure, i.e. – the cases that were not referred early on due in part to a messiah impulse or had potential

→

for quick profit. I cannot leave out that I sometimes withheld "alternative" modalities known to be safe and effective because they would be embarrassing to explain to my more orthodox colleagues. Some people got worse under my best prognosis and some got better in spite of my worst fears and doubts. The ambiguity of living with this experience brings to my mind the question, has this anything to do with my perception of myself and the patient? For instance, do I fast some days as if I am a *physical* being having spiritual experiences and other days as if I am a *spiritual* being having physical experiences? And, how would this perception play itself out in the care of the patient? During recent years, I have been impressed that my osteopathic profession is willing to confront issues of our collective identity and include the notion, as did A. T. Still, that humanity is a spiritual work in progress. That the creative impulse within us may well play a vital role in our healing physically and our growth spiritually.

For the first 15 years of my practice, I was casually curious toward a fellow DO who could be found at every convention quietly demonstrating at some out of the way table the art and science of acupuncture.

Dr Harold Saita, a Japanese Canadian, would generously offer to show anyone that this unfamiliar modality, which preceded osteopathy by several centuries, was consistent with it's principles. Only when my father was diagnosed with pancreatic cancer did I have a teachable moment that resulted in remarkable pain management for 11 of the 12 months he lived and also that my needling helped his advanced osteoarthritis more than anything we had tried. Perhaps just as we often hang onto and imitate the religious practices that have become comfortable we also accept the familiar in medicine and even feel uneasy in searching for some truth from another medical system as if it is in some way disloyal to learn from another medical prophet. This was

true for me for another 10 years as I curiously explored classical homeopathy. It occurs to me that Religious Prophets throughout human history revive, in their age, the essential spiritual truths and principles of those they follow and that from a wholistic point of view their mission is to add a new understanding needed for the next stage of our collective healing and development. In a medical sense the European contribution of Dr. Samuel Hahannaman in the early 1800s may have prepared the way for a similar (no pun intended) inspired osteopathic movement in the United States a few years later.

In the 5 days I spent in Kirksville, I was not only grieving the 20 or so classmates that have died and the physical changes for us who live, but the remote expectation that homeopathy and osteopathy could celebrate what they have in common. I found limited openness and enthusiasm for including, at KCOM, a curriculum developed from this synthesis of theory and practice. A synthesis where the hands-on approach removes the energetic and mechanical obstacles to healing while the remedies remove the compensatory patterns of dysfunction in the dynamic state of the person. Imagine my delight when I found, in the OMT Lab, a copy of the Fall 1998 *AAO Journal* which includes a remarkable case history managed by Vicki Abbott Taylor, DO using Sepia followed by Tellurium to successfully treat a person suffering with sciatic neuritis.

Again, I have reason to feel awe and gratitude for my profession and it's willingness to find new ways to apply our truths to the changing needs of our patients. We have enjoyed serving as primary care physicians throughout our past history and it is my conviction that to the extent we honor the unity of these apparently diverse systems of health care we can go into the next century more assured of that same place in medicine.

Ian A. Marsh, DO,
Monterey Park, CA

continued from page 11

the A. Hollis Wolf Case Presentation Competition. Students representing each of the osteopathic institutions may present a five minute case study which required osteopathic diagnosis and treatment. Research is an important part of the academic process. Please show your support for these students by stopping by the competition and listening to some of their studies. Lectures are also being offered during this same time frame on Saturday. Despite these conflicts, we still ask that you take a few moments to stop in and support student research.

Another UAAO event at Convocation is the UAAO Semi-Silent Auction. You can place your silent bids on the many donations at our Council booth throughout the week. Then Friday evening you can enjoy the entertainment of the Auction. This is the biggest fund raiser we offer for the UAAO, so bring your credit cards and prepare to shop-til-you-drop. Also, if you are interested in donating an auction item, please feel free to contact the AAO office.

The final event available to you from the UAAO is our 7th Annual 3 mile/5 K Fun Run. This activity will take place early Friday morning. The course will take you around the Gateway Arch in the Jefferson National Expansion Memorial. Light refreshments will be served following the event and prizes to the fastest physicians and students will be awarded. The registration cost for the Fun Run is \$25.00 for physicians and \$15.00 for students. Just check off the appropriate box on your registration form.

Well, all of this talk of the Convocation and springtime has made me neglectful of a beautiful November morning. It is time to go outside and enjoy the crisp chill in the air and the leaves floating in the wind. Best wishes for continued success in your practices and studies. See you in the Spring! ☐

Classified Ads

CALIFORNIA:

Touro University College of Osteopathic Medicine seeks Osteopathic Manipulative Medicine Faculty to develop and implement integration of osteopathic principles and manipulative medicine in the third-year and subsequently the fourth-year clinical curriculum. The third-year program will be clinic and hospital based at new rotation sites. A pioneering, dynamic, personable self-directing person is required. This faculty member will work at TUCOM rotation sites supervising the integration of osteopathic principles in all disciplines, instructing students in patient examination, treatment, charting and interprofessional relationships and conduct. This unique opportunity requires meeting and instructing clinical faculty, hospital and clinic administrations and staff about the osteopathic profession.

Requirements: California license, OMM certification and experience in mixed-staff facilities. This position opens in early 1999 and the instructional program starts in June 1999.

Send curriculum vitae and letter of interest, specifically outline qualifications for this position and salary requirements to: Robert C. Clark, DO, MS, Chairperson of Osteopathic Manipulative Medicine, Touro University College of Osteopathic Medicine, 1188 Franklin Street, Suite 101, San Francisco, CA 94109

MAINE:

Osteopathic family practice residency faculty members sought by New England's oldest family practice residency, osteopathic internship accredited. Responsibilities include OMT curriculum as well as a full

range of family medicine teaching and practice. Please contact Dan Onion, MD, Director, Maine-Dartmouth Family Practice Residency, 15 East Chestnut Street, August, ME 04330; (207) 626-1892, e-mail: Daniel.K.Onion@Dartmouth.edu or web address: <http://www.dartmouth.edu/dms/mdfpr>

MICHIGAN: OMM/FP

Integrated residency positions (PGY-II) and Plus One Fellowship positions available at Botsford General Hospital in Farmington Hills, Michigan. Program is 3 years including PGY-II to PGY-IV in association with MSUCOM. Contact T. Reid Kavieff, DO, CSPOMM, Residency Director by phone at (248) 661-3333, or e-mail at kavieff@com.msu.edu. Feel free to visit our website at <http://www.bghlib.org/bim>.

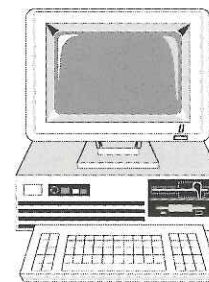
MONTANA:

Montana, Missoula. Blue Mountain clinic, Private, non-profit clinic seeks BC/BE family physician to take over established practice. 70 percent manipulation, 30 percent family practice. Clinic also provides non-allopathic therapies, full reproductive health care including 1st trimester abortion, and mental health counseling. Must value working with mid-levels and non-allopathic practitioners, be pro-choice and committed to integrated and wholistic health concept. Salary negotiable. Contact: Anita Kuennen at (406) 721-1646.

PENNSYLVANIA:

OMM Physician:

The Philadelphia College of Osteopathic Medicine, an independent medical school, is seeking a BC/BE (CSPOMM) OMM Physician interested in practicing state-of-the-art osteopathic manipulative medicine. The chosen candidate will practice at our site locations and will also be responsible for teaching medical students and residents. Previous clinical and classroom teaching preferred as the chosen candidate will have course content and lecturing responsibilities in all techniques of OMT. Research orientation also a plus. Applicants must be a DO with experience in academic settings. This position offers a competitive salary and an excellent benefit package. Please forward your CV including salary requirements to: Alexander S. Nicholas, DO, Chairman, PCOM, Department of Osteopathic Manipulative Medicine, 4190 City Avenue, Suite 230, Philadelphia, PA 19131. EOE



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Scoliosis and Osteopathic Manipulative Treatment

by Jennifer Weatherly, MS-III, The University of North Texas Health Science Center/Texas College of Osteopathic Medicine

Introduction

Structural scoliosis is a pathologic condition that produces lateral curvature of the spine and is accompanied by rotation of the vertebrae and ribs in a horizontal plane. The Greeks used the word *skoliosis*, which means crookedness, to describe this condition. The curves are officially named according to the direction of the convexity of the curve. A curve that is side-bent to the left is called a right scoliosis because the convexity of the curve is toward the right. The most common situation is a double major scoliosis with a thoracic and lumbar combination. The disease often affects adolescents at the time of their pubertal growth spurt and slows at the end of skeletal growth. The effects are both physiologic and cosmetic. The more significant physical side effects are pain and cardiopulmonary complications. Back pain is not common in most children with scoliosis but pain in adults is a significant problem. Measurable changes in cardiopulmonary function are usually not found in curves of less than 60 degrees. The prevalence in the United States is variably reported as 0.3 percent to 15.3 percent, depending on the school-age screening study used. Boys and girls are equally affected, but the curvatures in girls are three to five times more

likely to progress and produce subjective symptoms. Studies have demonstrated that scoliotic girls were significantly taller than matched normals.

Many classifications of this disease exist. Scoliosis can be divided into structural and functional groups. A structural curve does not correct on lateral bending of the trunk and is relatively fixed and inflexible. Functional curves can be partially or completely straightened by lateral bending in the opposite direction. If the trunk is centered squarely over the pelvis it is said to be compensated; whereas, if the trunk is off-centered it is decompensated. Three degrees of severity exist – mild scoliosis (thoracic curve 5-15 degrees), moderate (20-45 degrees), and severe (more than 50 degrees). Juvenile scoliosis occurs from 4 to 10 years of age. Adolescent idiopathic scoliosis occurs from age 10 until skeletal maturity and is the most significant and prevalent form. The remaining 20 percent of structural scolioses occur secondary to congenital anomalies, neuromuscular diseases, tumors, trauma, infections, and iatrogenic causes.

The etiology of adolescent idiopathic scoliosis in the allopathic realm is generally regarded as multifactorial, including genetic factors. Defects in connective tissue have also been

implicated in the etiology of scoliosis. School-based screening often refers students to their doctors for further evaluation. This screening is usually done with the adolescent flexing from the waist as if to “touch their toes.” This positioning is excellent for finding asymmetric paravertebral musculature or thoracic “rib humps” which occur when ribs on the convex side of the curve are forced posteriorly on one side. Many patients also complain that pant hems and sleeves do not hang symmetrically. The standard radiologic evaluation consists of a posteroanterior radiograph of the spine. The Cobb method is used to measure the degree of scoliosis and the numerical value is called the Cobb angle.

Many allopathic treatments are available for scoliosis. In general, treatment should be considered in physiologically immature patients with scoliosis between 20 to 30 degrees, especially if progression is present. Curves between 30-40 degrees require immediate bracing. Surgery is considered for curves over 40 to 45 degrees in patients with remaining growth. However, bracing is only used to prevent the curve magnitude from increasing to the point that progression into adulthood is likely but this is not always successful. TLSO

braces are now available that fit from under the arms to the upper pelvis and are much less conspicuous. However, they are often still noticeable and can adversely affect an adolescents self-esteem. Another treatment called transcutaneous electrical nerve stimulation can be used at night to involuntarily contract the paraspinal musculature on the convex side but the effectiveness of this treatment is inconclusive. Surgical intervention with Harrington rods may improve the curve. Instrumentation is thought to help correct curvature and balance and solid bone fusion maintains the spine in the corrected position. Post-operative bracing or casting is no longer necessary and most patients are discharged from the hospital in fewer than seven days following surgery. Fusion of the spine usually becomes solid about six months, at which time patients are usually permitted to resume normal physical activities. However, the amazing force in the spine often breaks the Harrington rods and surgeons must then reoperate. This may occur every 3-5 years and the entire process is quite painful. Obviously, other treatment options are needed.

Case Report

A 10 3/4-year-old white female initially presented to the University of North Texas Health Science Center's Manipulative Medicine Clinic in February of 1996 with a chief complaint of scoliosis. She had had the diagnosis since age 6 or 7. At this time she had a 22 degree curve in the thoracic region and a 26 degree curve in the lumbar. She has no particular pain but was recently fitted with a night brace in order to slow the progression of this curvature. The patient states an unwillingness to wear a brace 23 hours a day. She is the oldest child and had a forceps delivery. She was breast fed for approximately one

month. She has been active in gymnastics, cheerleading, and dancing for twelve months before presenting for treatment. She has also had asthma since age 3 for which she uses inhalers. She has seasonal allergies that seem to trigger it. She has had some trauma including injury to her left ankle. Family history includes a grandmother with scoliosis and an aunt with childhood asthma.

Objective findings on initial visit reveals genu valgum when standing, pronated feet, and minimal pes planus bilaterally. She also seems to have a short left leg, visually approximated at a half inch. She is a mouth and chest breather with a tight rib cage. A prominent T4/5 was noted (rib hump). Thoracolumbar is the apex of the lumbar curve with overall S_RR_L positioning present. A full left occipito-atlantal area was palpated and there was very tight motion of the right half of the skull. Initial assessment was therefore scoliosis, pelvic obliquity in the left leg, and somatic dysfunction of cervical, thoracic, lumbar spine, and pelvis. Initial OMT consisted of release of the diaphragm and pelvis with various direct myofascial procedures. Decompression of the sacrum as well as some gentle springing of the thoracic spine was also performed. She was also given some deep breathing exercises to see if she could "open up" and soften the scoliotic curve and if that might help with night bracing. She was then scheduled for regular monthly appointments.

Over the last year, treatments have been aimed at keeping her tissues soft and maintaining flexibility. The primary manipulative medicine doctor responsible for her case states a subjective report of lessening spinal curves, especially in the thoracic region.

Curves remain reversible. However, OA remains S_RR_L and cranial bones remain tight on the right. Lately

treatments consist of direct therapy with the percussion vibrator at the thoracic and lumbar levels in addition to direct HVLA to these levels. Sacrum and occiput unwinding are also employed along with periodic realignment of the pelvis. The patient does not appear to practice her breathing exercises regularly. Posteroanterior radiographs of the spine have recently been obtained which were ordered by the patient's orthopedic surgeon. In November of 1995, the thoracic curve was 22 degrees and lumbar curve from T11-L4 was 26 degrees. In September of 1996, these same curves were measured at 17 and 18 degrees respectively; a 5-8 degrees change! The most recent radiographs were measured with a 26 degree thoracic curve and 27 degree curve from T11-L3. However, the x-ray measurements appear rather subjective. Some x-rays were taken closer to the patient than others and it is not clear that the patient was indeed standing for the last x-ray. Also, the Cobb angles on the last radiograph were measured from different vertebral levels than the initial spinal x-rays.

A psychological component may also be present with this patient. She was reportedly pleasant, though rather quiet, on the first five visits. Since, however, she has become belligerent and outspoken at times. After observing the interaction between the patient and her mother it is evident that there may be abnormal bonding issues present between them.

Review of the Literature

Research by Harold Magoun, DO⁶ suggests that the etiology of idiopathic adolescent spinal scoliosis may rest with birth trauma. Slight abnormality of the maternal pelvis can produce excessive molding in the infant cranium. Abnormal presentation is a well-known source of trouble after-

ward, bringing undue forces on the delicate cranial structure. Compression all focuses on the presenting part - usually the condylar. Precipitous or prolonged labor can add to the trauma. Some specialists in cranial osteopathy have been critical, especially in the use of forceps. The stretching and searing strain on the falx cerebri and tentorium cerebelli has been observed and photographed. Orthopedic specialists are becoming aware of the fact that plagiocephaly is a common finding with scoliosis. Risser stated that more than half have malocclusion of the teeth and commonly the heads of these patients were deformed and flattened posterolaterally. The persistent malposition is that of the occiput, which remains tipped up on one side and down on the other. This malposition usually goes unnoticed. The unleveling of the occiput affects the concomitant positioning of the sacrum, which together dictate the contours of the spine. As Pope wrote, "Just as the Twig is bent, the Tree's inclined." Rotation, extension of the neck, and restitution of normal relations usually follow but the warping that causes scoliosis may have already occurred. Molding incidental to delivery should be overcome shortly afterward by two factors. The explosive cry of an infant following birth, which can be adversely affected by sedation or anesthesia of the mother, and the exertion of considerable pressure by the infant's nursing tongue upward in the roof of the mouth and thence the base of the skull. Idiopathic adolescent scoliosis is more common in firstborn babies because primiparas usually have more difficult labor than multiparas. In the many years of practice Magoun consistently found malpositioning of the occiput and sacrum in almost all cases of adolescent scoliosis. *Removing them immediately after birth would be preven-*

tive medicine of the first order.

In "Manipulation for the Control of Back Pain and Curve Progression in Patients with Skeletally Mature Idiopathic Scoliosis: Two Cases," Tarola⁹ documents the effect of chiropractic manipulative therapy on back pain and curve progression in the at-risk, skeletally mature patient with adolescent idiopathic scoliosis. Diversified type therapy including HVLA was used palliatively for back pain relief in one case and routinely 1-2 times per month in the other case. No attempt was made to "straighten the curve" by thrusting into the convex side. Gentle manual intersegmental mobilization, stretching and muscle massage techniques were also applied. The case treated palliatively had curve progression consistent with the literature. The case treated routinely did not. The procedure was effective in both cases for subjective relief of back pain. The second case was a young female with severe lumbar and thoracic curvatures of 63 and 36 degrees respectively. During her six years of treatment, she had two full-term pregnancies. Over this time period, her lumbar curvature increased 2 degrees and her thoracic curvature increased 4 degrees. Based on literature, it would have been reasonable to anticipate progression of 16-28 degrees when factoring 1-2 degrees (per year average progression in curves over 30 degrees) plus 5-8 degrees per pregnancy.

Robert E. Irvin, DO⁴ documented the efficacy of heel lift therapy in "Reduction of lumbar scoliosis by use of a heel lift to level the sacral base." The population of 51 adults involved in his study was limited to those with a sacral base unlevelness from 2 to 17 mm, and lateral bend in the lumbar spine that ranged from 2 to 19 degrees. This range of unlevelness was chosen as it was less than that stated as significant in the etiology of

scoliosis by Caillet who has been considered an expert on this subject. Initially, unlevelness of the sacral base ranged from 2 to 17 mm, with a mean of 6.7 +/- 1.0 mm. This unlevelness was significantly decreased to 2.6 +/- 0.4 mm. Prior to this study, the angle of lateral bend ranged from 2 to 19 degrees with an average of 7.5 degrees. After leveling of the sacral base, the angle was significantly reduced to a mean of 5.3 +/- 0.8 degrees. By the use of postural studies and heel lift to delineate and correct unlevelness of the sacral base, one can reduce mild lumbar scoliosis in adults by approximately one third. Further studies are needed on heel lift therapy on more significant scoliotic curves. Another importance of the current study is that scoliosis reduced after leveling of the sacral base is then classified as postural in origin, rather than idiopathic.

Discussion

The parallels between the case report and Dr. Magoun's article are obvious. First of all, this child had a forceps delivery and only one month of breast-feeding. One might expect abnormalities in the cranium and these have been observed. In addition, she currently wears braces on her teeth due to malocclusion. She is also the first-born child which might account for a more traumatic birth. From these facts, one could easily draw a conclusion that the patient's cranial abnormalities may have indeed caused misalignment of the sacrum and the vertebral structures in between.

The spinal x-rays may not actually be objective enough to be considered as a true measure of this child's progress. If they are accurate, we must assume that the curves decreased considerably and then increased again which would be a rather positive finding in these circumstances. The manipulative treatments

in six months time would have not only slowed the curves progression but allowed the tissues to decrease the curvature. As far as the last radiograph obtained is concerned, the child might have increased her angles on one particular day by one traumatic injury from gymnastics. If the last Cobb angles are correct, the increase in curvature would not be considered an amazing progression since the child seems to be in her adolescent growth spurt at this time.

No postural studies have been obtained for this patient but a leg length discrepancy is obvious by visual inspection alone. However, heel-lift therapy is not an option since the patient is still growing and will be for some time. If this short left leg is still present at adulthood, a heel lift will be a wonderful option for this patient. It is important to remember that though osteopathic physicians will now consider this patient to have an acquired or a postural scoliosis, her allopathic physicians will still classify her problem as idiopathic and treat her as such.

Much spiritual literature actually suggests that scoliotic curvatures may be due to unresolved psychological conflicts within a person as well as structural problems. These psychological problems could begin as early as infancy in unwanted or unloved children. Possibly, the psychological component could be due to decreased bonding with a child's mother also. Though this possibility initially seems unlikely, consider the psychological/stress constituent in low back pain and fibromyalgia. After contemplating on these disorders, a psychological component to scoliotic curves seems more plausible. As if to back up this possibility, biofeedback has recently been found helpful for decreasing curvatures in scoliotic patients.

Summary

Scoliosis is a common but a potentially significant health problem. Magoun and Irvin's research may have actually found two causes for "idiopathic adolescent scoliosis" that can be treated rather easily without any braces or invasive techniques. If the problem is cranial misalignment due to birth trauma, one could easily understand how preventive manipulative therapy on infants or therapy on adolescents and adults with existing curvatures might allow more motion of the cranial bones and restore normal functioning and structure to the vertebral column. Adjuvant soft tissue and myofascial techniques could provide enough flexibility to allow the body to reverse curves and other compensatory changes. Home stretching and postural exercises may also be of great benefit. In addition, osteopaths can help with pain relief and aide in realigning other anatomy as the spine straightens.

Unfortunately, no published research is currently available on the benefits of OMT on scoliotic curves. Many manipulative medicine physicians have treated scoliosis patients and most self-report remarkable results with therapy. These doctors state that it not only stops progression but actually decreases curvatures. Unfortunately, none of these results are documented and only subjective results are reported. Surely if chiropractic manipulative therapy is proven affective, osteopathic medicine can also make an improvement. Further research in this area is obviously necessary.

Adults with scoliosis definitely need to be examined for pelvic obliquity and treated with a heel lift if a leg length discrepancy is found. Many patients labeled with idiopathic disease may actually have a short leg which has not been identified. This therapy can help with the pain adult scoliosis patients experience as well

as with decreasing their Cobb angle(s). Obviously, more research is necessary to document decreasing curvatures in moderate and severe scoliosis as well.

More studies than ever seem to be underway for osteopathic manipulative treatment than ever before. Hopefully new and exciting advances can be found in the near future for scoliosis patients to provide much needed, more suitable, documented treatment for these patients.

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The Early History of Osteopathy

by Dennis J. Dowling, DO, CSPOMM

While all of us are familiar with the very origins of the osteopathic profession due to the contributions of Andrew Taylor Still, MD, DO, there is scant mention of some of the work performed by some of his early pupils in this regard. There are even members of Dr. Still's own family who played a great role in establishing osteopathy and making inroads in key locations with influential patients.

One of Dr. Still's earliest patients was his fourth son, U.B. Still, DO. A graduate of the second and lesser known class of the American School of Osteopathy, U.B. originally pursued a career as a teacher but was unable to secure permanent employment due to his strict disciplinarian attitude. On his last classroom assignment in Patience, Missouri prior to entering the ASO, it was noted that he had sent one particular noisy student to the corner for some infraction and returned him to his desk a mere two days later. U.B. could behave in much the same way with his patients. There was one patient who waited three whole days in an examination gown for the younger Dr. Still to come and see him. The gentleman was quite appreciative of the excellent treatment he finally received but was quite hungry at the time. The initial part of the treatment was spent releasing the spasm of the patient's leg adductor muscles and uncrossing his knees. It was only after many similar situations and a multitude of complaints that U.B. placed reading materials in the waiting and examination rooms for the patients to use while they sat in anticipation of his arrival. History does not really record the event but he may have been the first physician west of the Mississippi to do so. However, true to form, the newspapers and magazines were years out of date.

Not to be outdone by his older sibling, I.M. Still also studied osteopathy in the town of Kirksville under his father's tutelage. A slow but steady student, he waited until he was 45 before entering the school. It took him six years to complete the program and he was the first decelerated student. The graduation picture for his class has the ubiquitous Andrew Taylor Still at the forefront surrounded by his proud graduates. Careful analysis of the Daguerreotype has revealed that there is one more shadow than there are counted people and this is supposed to be the laconic I.M.

I.M. Still's greatest contributions were to the development of certain idiosyncratic types of manipulations, which were to be taught at the school subsequently and then ultimately dropped from the curriculum. He personally developed the technique of Homeostatic Operative Homeplastic Unisonous Manipulation abbreviated by its initials on the patients' charts. This simple but elegant technique was cited in early articles in the *National Osteopathic Doctor*, a Journal that had only a single issue run. Although not taught as such in any of the current colleges, HO/HUM was considered to be a forerunner and very influential on the later development of indirect techniques such as those used by some practitioners of Fascial Release and/or Cranial Osteopathy. As originally executed, it was a passive-passive technique in which the patient would lie supine and the physician would sit at the head or alongside the table. Both parties would remain in position until the patient woke from sleep, felt improved, or the physician fell asleep. Although quite effective if the first two conditions occurred, it fell into disuse due to the third situa-

tion. Too often, the patient felt well enough but would leave quietly so as not to awaken the doctor. Financially, most practitioners could not be compensated well enough for the treatment. Either the patients would leave without paying or the fact that only four patients were typically seen in a given day dampened the enthusiasm for this technique.

The town of Kirksville was once home to not one but two schools of osteopathy at the same time. The second school was actually set up to rival the first by one of ASO's early graduates. Amazingly, its building was directly across the street. On hot summer days, the students of both schools would bring their cadavers out and conduct anatomy class on the lawn so as to avoid the sweltering heat. This would bring them into almost direct confrontation with their competitors. The animosity, which ran high between the students of both schools, was in evidence one day when it nearly came to an exchange of blows, or body parts. The "old doctor", as Dr. Still was called, himself became involved and brandished a rather large femur to discourage the opposition. Prior to this he had not been accustomed to carrying this cumbersome bone with him since he preferred the much smaller and more easily pocketed phalanges from skeletons. A photograph was taken on this day and the femur became his signature prop. The rival school was disbanded shortly thereafter, but Dr. Still continued to carry his favorite exogenous leg bone wherever he went.

Louisa Burns, DO is well known to have conducted early scientific research on the autonomies. Of lesser notoriety was the work performed on the functions of the automatics by Bea

Still, D.O., a niece of the "old doctor". A close observer of human behavior, her interest began when she noted the automatic response of, "Fine, and You?" to the question, "How are you?" even by the sickest patient. Behaviorally, she was also ahead of her time and studied the phenomenon of "reactive skywatching" on a crowded street which occurred subsequent to one person looking upwards. The length of time, frequency of attempts, and postures varied depending on the intensity which the initiator placed in the activity. She did note that there was a frequent avoidance of mimes, especially in park-like settings. A few years prior to her death, Bea had received a research grant from the Otis Elevator Company and had begun an investigation into the staring behavior on those relatively new contraptions. One of her early recommendations was a precursor to Muzak. It was difficult to convince members of string quartets that it was only dangerous to perform on the roof of an elevator if someone requested to go to the top floor. This danger could be reduced if all four were to play their instruments while lying down. Not getting cooperation in this, the company had to settle for a few harmonica players who were desperate enough to play for free for the audience the small movable room would provide. Even this was abandoned after potential passengers made it known that they preferred the stairs instead under those conditions.

One of the few members of Dr. Still's offspring to not become a doctor, but who still had an impact on the profession was his youngest daughter, Q.T. Still. She rather had intentions to be a stage actress, which at the time was not considered such an honorable profession for a lady of any age. Although she could physically perform a wide variety of demanding female roles, her voice barely rose above a whisper even at

its loudest and she could not be heard in the orchestra let alone the whole theater. A lovely young lady of delicate features at the turn of the century, she had also been the beneficiary of two decades of osteopathic manipulation by the best practitioner of the art. At the Chicago World's Fair she was awarded the title of "Miss Perfect Spinal Column". This not only gained notoriety for her but the profession as well, initially. However, she did enter into contract with the Maidenform Corset Company and had her physiognomic perfection erroneously attributed to those devices. Because of the combination of the relative amount of undressing, and a rather scandalous appearance in the Sears-Roebuck catalog, and a brief but intense liaison with a grocery supply salesman who passed through Kirksville at one time, any other information concerning Q.T. Still has passed into obscurity.

It must be admitted that some of the other early history of osteopathy has been suppressed. Although Dr. Still himself believed in temperance, this was sadly not practiced at one of the early fraternity sites - Coccyx House. Members of the other better known fraternities, such as the Axis and Atlas Clubs were frequently involved in their studies or in some extracurricular event. However, the members of Coccyx House, or cocci as they were known, frequently disappeared immediately after class or did not go at all. At first, some of the professors assumed that these students were extremely attentive and diligent as they were always sighted to be in their assigned seats and were often noted sitting equally as alert after class. However, by the third week of classes there was some concern about both their nutritional and hygienic status. The first discovery that a ruse was being promoted came during an anatomy demonstration. In their rush to return their specimens which had stood in, or rather sat in

their places for them, the cocci just carried them to the tables as they were. It was noted at that time that some of the cadavers were much better dressed than the students. The anatomy professors and assistants realized the trickery and brought it to the attention of the administration. After the discovery, the Coccyx fraternity was dissolved, their house was razed to make room for new privies and most of the members had failed their exams anyway. Some of them drifted into neighboring states where they were then able to take classes in a similar profession by mail, which suited their demeanors better.

In those early years, it was fairly common for graduates of the school to call upon Dr. Still for advice. With the advent of more advanced means of communication, they were able to overcome some of the disadvantages of the great distance which they found between themselves and the "old doctor". It is well noted that the ASO was the owner of the first Roentgen Radiological device west of the Mississippi. It is not as well known that the school had one of the few privately owned telegraph machines in the country with which the graduate doctors communicated with Dr. Still. Many a day was taken up with the give and take of a telegraph conversation. Some of the remains of paper tapes, which were made from an automatic transcribing Morse machine, still exist in the Museum in Kirksville. One in particular advises the referring physician to "sidebend left, rotate right, and then thrust". Since it is in Morse code it needs interpretation of the series of dots and dashes which the original graphite marker made upon the strip of paper. No one is quite certain as to the diagnosis in question since most of the tapes have been lost or used for measuring head circumference. Given the "old doctor's" usual acumen in such matters it must be judged that the treatment was correct regardless. □

How does our profession get 100,000 cases of influenza reported?

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

“One hundred thousand cases of influenza with a death rate of one-fortieth of that officially reported under conventional medical treatment,” was reported at the October 18, 1919 Annual Convention of the American Association of Clinical Research in New York City. The report was later published in the *Journal of the American Osteopathic Association*, January 1920. I have transported this article since my medical school days (early 80s) from location to location and occasionally it comes to my attention as I look through my files. Like a lot of articles that I have defended from being tossed during a purging mode, re-reading the material raises questions and sometimes creates a new understanding that contributes to my knowledge and appreciation of osteopathic medicine.

Invariably, the review of our osteopathic heritage raises new questions. The new question that the above-mentioned article raised was “How did the author get 100,000 cases of influenza in his practice for the report”? The answer is that the author, R. Kendrick Smith, MD, DO, did not get that information from his practice, instead this information was obtained from 2,445 osteopathic physicians where the average number of cases reported per physician was 110-120 cases. That is a large but reasonable number of cases per physician during a major epidemic, I thought.

This revelation raised another question, “How did Doctor Smith get 2,445 osteopathic physicians to report on their cases and the results of treatment?” Apparently, the American Osteopathic Association collected detailed case reports from its mem-

bers. A statement in the article reports that the death rate of patients’ receiving medical care was forty times as high as those receiving osteopathic care and the DOs outcomes were attributed to osteopathic treatment. Another question was raised, “How did the AOA know what treatment was provided to osteopathic patients”?

Apparently, being an osteopathic physician meant that you applied the principles of osteopathy when treating the patient and included the use of “osteopathic treatment”. The diagnosis that accompanied the usual clinical and laboratory diagnostic methods of that era, included the osteopathic physicians’ perceived tension in skeletal muscles, the status of glands, the flexibility of vertebral joints, mobility of the chest wall and vital response of viscera to the tactual feel. The patient’s health care evolved from this physical examination survey and a decision process that defined appropriate treatment – dosage, duration, and potency.

Additional questions come to mind, “How far has our osteopathic profession come in reporting patients’ health care and their health outcomes.” Putting these questions aside, temporarily, it is amazing to think that in 1918, a few thousand DOs could be polled for data on their practice. Although, obviously flawed from a statistical point of view, valuable “outcome” information was obtained. Applying currently recognized standards for data collection is a valuable tool available to our profession and will increase the academic, medical and governmental communities as well as our patients’ and publics’ understanding of osteopathic patients’ health care.

“Outcome studies” are gaining favor for research into clinical practice. Volumes of information published in medical journals, lay magazines and the media address the methodology, and contributions to knowledge and practice made by outcome studies. Our American Academy of Osteopathy formed a task force to help collect and aggregate data from our DOs’ practice. Under the direction of Sandra Slezynski, DO, this task force has drafted a standardized data collection form that is in a SOAP note format and is practical for use in an outpatient office setting. Data obtained with these standardized procedures provide reliable information on individual practices that is aggregated for statistical analysis. When such data is obtained from several thousand osteopathic physicians they will contribute reliable information about osteopathic contributions to health care.

The Task Force’s efforts have developed a valuable tool for all types of clinical research. Data collected with standardized procedures and methods insures the reliability and credibility of clinical research data whether it appears in surveys, questionnaires, database, clinical research studies or clinical trials. When site testing of the SOAP note system is completed and the system’s validity and reliability is established, it will advance our understanding of osteopathy principles and practice. The site-tested system insures that an adequate number of cases on any diagnosis or surveys that report patients’ health outcomes will provide a credible scientific base to support osteopathic medical theory and practice.

Thomas L. Northup, DO Lecture - 1998

The Tree and the Wind: A Fable of Osteopathic Growth and Destruction

by Eileen L. DiGiovanna, DO, FAAO

Once upon a time a man stood on a hilltop. He noticed how barren that hilltop was. The sun beat down on it and the wind howled over it. He knew something needed to be done, so he dug a hole and filled it with good soil from his farm. In the hole he planted a little tree. Every day he fed and watered the tree. It grew straight and strong. People soon came to see the little tree. At first they laughed at it. They thought it was so small that it would never amount to anything. They teased the old man and made fun of him.

Soon, however, they realized that the tree was indeed growing. It was becoming more and more beautiful. They admired its green leaves in the summer and how they turned bright yellow in the fall. They congratulated the old man on how smart he was to have planted this tree. Soon they began to take comfort from the tree as it grew taller. It shaded them from the sun and protected them from the rain and wind. The children played under its branches and the old folks rested in its shade.

The old man taught others how to care for the tree. He urged them to "Dig on!" When the old man died, other good men and women came to feed and water the tree. It grew stronger and taller. It cast more shade on the ground and provided more shelter from the wind and rain.

But the wind that blew around the

hilltop soon grew jealous of the tree. It wanted the hilltop back for itself. So it whirled into a fury and blew on the tree. The tree was pelted with rain. Bolts of lightning were hurled at it. Some of its leaves and weakest branches were torn away. But when the storm passed, the tree stood taller and stronger than ever.

Now some people knew about the tree, but some never knew the tree was there. It did not make itself noticed the way the wind did. It did not have the power of the wind. But those who knew of the tree came to it and rested, played, sang and worked in its protection. And the good men and women continued to feed and water the tree.

But what these good men and women did not notice was that something was happening to the tree. Something very bad was going on. Into the very heart of the tree bored small insects. They, too, sought shelter from the tree. The insects were fed and protected by the tree. But the insects did not give anything back to the tree. They took sustenance from the wood, but they tore holes in the every center of the tree. Slowly they ate away the heart of the tree. And the good men and women did not notice that the tree was weakening. They did not notice that the leaves were beginning to droop and fall to the ground. They were so happy with the tree that they did not notice the

little things that showed that the tree was no longer as healthy as it had once been.

But the wind saw and knew the tree was weakening. Again, it blew upon the tree in a fury. It whirled around the tree. This time not just the leaves and smaller branches blew away, but the whole tree toppled because it had no support within. The damage in its heart had weakened it too much to withstand the wind this time.

The people mourned the loss of their tree. They could not understand what had happened to it. It had seemed so strong. They missed seeing it standing straight on top of the hill, casting a shadow over the land.

My friends, this beautiful tree is Osteopathy. It was planted long ago by Dr. Andrew Taylor Still, who care for it as it grew stronger and stronger. It grew from his recognition that traditional medicine was not fulfilling the needs of the people. He nourished it and ignored those who ridiculed him. When he died, other good men and women took his place and came to feed and water it. Men like Thomas L. Northup, DO, to whom this lecture is dedicated, and his son, George, who nourished the profession with his wonderful writings. Men like William Garner Sutherland, Rollin and Alan Becker, Fred Mitchell, Sr., Lawrence Jones, Paul Kimberly, Irvin Korr, Albert Kelso, J. S. Denslow, and

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Wilbur Cole. Women like Nettie Boles, Louisa Burns, Louise Astell, Edna Lay, Ann Wales, and Viola Frymann. The list goes on and on and is too extensive to complete.

The people, our patients, have come to admire and receive comfort from this tree. They have been able to rest, they have been able to work, they have been able to play because of the comfort given by this tree. It is true that some people do not know about the tree, but many more do and love it.

But right now, disease is eating away at the heart of this beautiful tree. Within the profession, there are forces at work that have the potential to destroy it.

Much damage is being done by those in our ranks who admire the power of the wind. They want to be like the wind, that everyone knows, to have recognition and prestige and power. Osteopathic medicine welcomed them and allowed them to become physicians. They were nurtured in the very heart of the profession and were fed on all the knowledge and skills acquired over many years. But, they have not learned to love the tree. They do not even respect it. They want so desperately to be the wind. So they slowly and mindlessly destroy the heart of osteopathy.

The founder of osteopathy warned us that the profession could never be destroyed from outside forces, but that destruction would come from within the profession. Asa Willard, DO commented in the 1954 Academy Yearbook, "If our profession dies, it will die from within, not from outside opposition. The latter may handicap and put stumbling blocks in our way, but conviction and opposition merely draws us together and fires our determination."

All the members of the Academy are among the "good people" in charge of feeding and watering the tree. They have loved and nourished

it. They have always cared for it. But they must be alert to the silent destruction going on within. They must act before the tree is so weakened that it can no longer stand the onslaught of the wind, which forever seeks to blow the tree of osteopathy down. What can you, the members of the Academy do to preserve our profession?

First, you need to be aware of these destructive forces eating at the heart of the profession. The causes of the damage must be identified and then you must arrive at solutions which will protect our "tree" and allow it to continue its growth into the twenty-first century and beyond.

A major cause of the destruction we need to deal with is the lack of "osteopathic identity" plaguing all too many members of the profession, turning them against it. We must particularly deal with this problem among our students, the future of the profession. In his 1993 Thomas L. Northup Lecture, "Osteopathic Identity: Finding the Pony", Raymond Hruby, DO, spoke to the importance of developing the osteopathic physician's identity as being distinct from the allopathic profession through his or her belief systems and through the experiences when help that individual identify with the osteopathic profession as "their" profession and with themselves as "osteopathic", not merely physicians.

The DO must not only feel and act "osteopathic" but must be proud to be unique and distinct. Two weeks ago, at a dinner, and MD and I were discussing the differences between the two professions. He asked me if I would not be happy to have an MD degree if it were offered to me with no strings attached. I emphatically said "No, I only wanted to be a DO, I never even tried to get into an allopathic medical school." He responded, "I guess your philosophy really is different then."

Recently the Council of Student

Council Presidents asked members to survey the students in the colleges regarding the desire for a change in the degree from DO to MDO or MD/DO. Among our first and second year students at NYCOM, 81 percent of those responding to the survey were in favor of a degree change. The results published by CSCP showed 60 percent of responding students wanted a degree other than the DO. It is clear that these students have not developed an osteopathic identity, although we are continually working on helping them do that. It is imperative that they be given role models who will provide them with the experiences needed to develop that identity. I read that stubbornness is the reason that "old-timers" are resistant to changes such as degree changes.

Well, if stubborn is being proud of being a DO, Doctor of Osteopathy, then I am stubborn. If wanting the right to be certified in osteopathic manipulative medicine is stubborn, then I am. If stubborn is wanting to be a really unique kind of doctor, you bet I am. Personally, I think I have just developed a really strong osteopathic identity that I try to share with my students.

Academy members, as well as all osteopathic physicians who care about this profession, must be the role models who will work to strengthen the belief systems of all DOs, especially our students and demonstrate for them what it means to be truly osteopathic. Through these role models, young DOs will gain an identity which will define them as being, likewise, truly osteopathic.

In a conversation I had with Norman Gevitz, author of *The DOs*, he commented that students today cannot relate to the early struggles of the profession and must be imbued with a sense of the history of the profession. They must be taught to identify with those struggles and the need

to protect and strengthen the profession if it is to survive as an equal and distinct profession. We must work to provide that connection to history for our students as well as all DOs.

You must be the role models; you must define the belief systems; you must provide the sense of history. The Academy has worked hard at bringing our students into fold. At most Convocations the students outnumber the DOs. And yet we still lose so many of them by the time they go into practice. Seek a solution to providing a strong osteopathic identity for our students.

The internal destruction is also fed by apathy. Too many physicians in the profession are content with the status quo. They do not want to be involved in the struggle. They attend to their business and neglect to give their support. The profession needs money for public relations and for political action. The Academy needs resources to provide educational programs. The colleges need teachers who can teach the distinctiveness of our profession to our students. We need preceptors to show our students what is unique about the osteopathic approach in the clinical setting. We need deans who are willing to support the osteopathic manipulative medicine departments and are willing to integrate osteopathic principles into the entire curriculum. We need hospitals willing to train our students as truly osteopathic physicians. We need advocates at many levels.

I encourage you to participate, teach, guide, and get involved! Do not sit back and say "Let someone else do it. I am too busy." Help provide the financial resources necessary to maintain strong educational programs, strong political representation, and osteopathic role models. Get involved!

Too many of our graduates prefer to associate themselves entirely with the allopathic profession, turning their backs on the profession which gave

them their chance to become the doctor they had always dreamed of becoming. Their money goes to the AMA and to the allopathic state societies. Their training and credentialing are purely allopathic. Unfortunately, there is little we can do about our "lost sheep". They are the sap, the lifeblood of the tree, seeping from damaged bark. We need to stem this leak of our strength, by assuring our students receive quality educational experiences into which osteopathic principles are firmly integrated; by assuring our students quality postgraduate medical education within our approved internships and residency programs, again with osteopathic principles and practice an integral part of these programs; and, assuring quality CME programs for our physicians which can clearly be identified as osteopathic.

The American Academy of Osteopathy must be alert to the needs of the profession and supply the guarantee of our unique heritage to all DOs. You must guard the tree.

In the 1997 Thomas L. Northup Lecture, Dr. Edna Lay detailed for us the events which occurred in California in the early 1960s as numerous DOs, a state society, and an osteopathic college were taken from the profession in an attempted merger. That time the wind tried to destroy our tree and failed. It's blowing fury was in vain as DOs all over the country banded together to fight the hostile takeover. The tree stood strong and grew even stronger. Legislation was restored to allow the licensing of DOs in California, a new state osteopathic medical society was formed. And there are now two colleges in California.

But the wind waits just over the rim of the hill, sighing alluringly as it tries to distract the caretakers from their responsibility. It, again, is waiting for our tree to weaken to the point that it can finally blow the gusts that will take our tree down, and then there will be only the wind blowing across the hilltop. □



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Is human cerebrospinal fluid reabsorbed by lymph?

Lymph drainage therapy (LDT) and manual drainage of the central nervous system

by Bruno Chikly, MD (France)

"The lymphatics are closely and universally connected with the spinal cord and all other nerves, long or short, universal or separate, and all drink from the waters of the brain."

A.T. Still, *Philosophy of Osteopathy*, pg. 105.

"Possibly less is known of the lymphatics than any other division of the life-sustaining machinery of man."

A.T. Still, *The Philosophy and Mechanical*

Principles of Osteopathy, pg. 66.

These two quotes from the father of osteopathy still today remains so contemporary. The latest scientific reports agree that about half of cerebrospinal fluid (CSF) may be reabsorbed by the lymphatic circulation. That proportion can even be greater when the CSF pressure increases.^{24,48,86} But in spite of this new information, the relationship between lymphatic circulation and CSF still generates controversy among experts espousing their various theories.

This article describes some of the new concepts concerning the circulation between CSF, cerebral interstitial fluid (CIF) and lymph. It also will present some specific lymphatic techniques (Lymph Drainage Therapy) that can help facilitate the exchange of these fluids.

Cerebrospinal fluid (CSF) production

"...the cerebrospinal fluid is one of the highest known elements that are contained in the body..." A.T. Still, *The Philosophy and Mechanical Principles of Osteopathy*, pg. 44.

Scientists agree that production of CSF is done mainly by the highly vascularized choroid plexus. However, other experimentation found that the choroid plexus are responsible for only 60 to 85 percent of the total production of CSF.^{33,34,71} Some studies have shown that about 15 to 30 percent of CSF is produced in an extrachoroidal origin.⁷⁹ The capillary endothelium of the cerebral tissue is believed to be the major source of extrachoroidal CSF production.^{15,81,99,101}

Cerebrospinal fluid (CSF) absorption:

1) Choroid Plexus:

The choroid plexus may absorb about 1/10th of their own secretion.^{87,99} For that reason, the function of these structures has been compared to that of the proximal renal tubule.

2) Arachnoid villi and granulations (pacchionian bodies): the venous side

In 1914, Weed made an important discovery when he showed that the arachnoid villi and granulations are the major source of CSF absorption.⁹⁷

Villi and granulations are covered by a epithelium with very tight junctions. On the apical cap of arachnoid cells, the dural coat is lacking, and the presence of open channels has been shown to connect the arachnoid bodies to the venous side. The exact role of the arachnoid villi and granulations in reabsorption of CSF is still unclear. Well limited channels up to 100 microns in diameter have been described at the apical cap of the arachnoid granulations and seem to be in continuity with the SAS.^{12,18,19,33,34,58,93} Pinocytosis or vesicles seem to be another possible mechanism of CSF transfer.¹⁹

We can already observe that a link between intracranial and extracranial veins exist. The cranium is made of

an inner and outer plate (lamina) of resistant compact bone with an intervening layer of light, spongy bone (the diploe). The diploe is covered by a network of veins (the diploic veins: anterior and posterior temporal diploic veins, frontal and occipital diploic veins) that receive venous drainage of the entire skull. Emissary veins are veins without valves that pass through the cranial bones to connect with the superficial extracranial veins, for example the superficial temporal vein. There is a connection between intracranial veins, diploic veins, emissary veins and extracranial veins (temporal, occipital, parietal).

Clinical studies also have shown that stimulation of lymphatic drainage also activates venous reabsorption⁸³ Specific manual lymphatic drainage techniques can specifically facilitate extracranial lymphatic circulation and are able to activate CSF/venous exchanges/lymphatic exchanges.

3) *The lymphatic side*

"...the lymphatics are almost the soul requisite of the body..." A.T. Still, *Philosophy of Osteopathy*, pg. 109.

Lymphatic vessels have been noted only in the dura, the pia mater,⁶⁸ the pituitary capsule, the orbit, the nasal mucosa, and the middle ear. To date, a lymphatic system has not been identified within the brain itself. However, some type of lymphatic-like drainage is necessary to evacuate the small amount of proteins of the central nervous system, which becomes particularly important in cases of edema, hemorrhage or infection.^{16,25} The significant presence of the lymphatic system to help the scavengers cells (macrophages and microglia) evacuate large proteins in extracranial connective tissue is lacking in the central nervous system.

In addition, the central nervous system requires fast pathways equivalent to the lymphatic system, for circulation of immunocompetent cells, which lead to lymphatic nodes and/or the spleen in order to activate a significant immunological response.^{31,32,63,101}

A) Lymphatic Drainage of the CSF: "Perineural Pathways"

By injecting Berlin Blue dye into a dog's subarachnoid space, Schwalbe, in 1869, made the first observation that the lymphatic pathways were the major means to absorb CSF.⁸⁷ Later, in 1872, Quincke theorized that the CSF can leave the subarachnoid spaces through small areas surrounding the nerve roots.⁸⁰

In 1875, Key and Retzius were the first to demonstrate the circulation through the arachnoid granulations into lymphatic vessels in the nasal mucosa, the frontal sinus and along cranial nerves using dye-colored gelatin.⁵⁷

Their model held until 1914 when Weeds, who judiciously used alternatively two solutions of a ferrous cyanide then acid, observed precipitation of blue crystals into the lateral ventricles of cats and rabbits. He concluded that the arachnoid villi were the dominant way for CSF to be reabsorbed.^{97,98} After reviewing Weed's work today, we know he observed that a certain amount of dye colored the course of cranial nerves and cervical lymphatics, but he concluded at the time that the lymphatics are an "accessory pathway" for CSF absorption. After that, the theory of central nervous system lymphatic drainage was slowly discarded.

Numerous published studies show that some constituents of the CSF in animals drain into cervical lymph nodes. Passage from the CSF to the deep cervical nodes occurs within 1mm in the rabbit,¹⁰³ and 30mm in the rat and guinea pig.^{6,11,59}

In 1968, Foldi was one of the first scientist to use ligation of the cervical lymphatics to provoke lymphostatic encephalopathy in dogs.^{31,40} The recent research by Boulton et al^{7,8} illustrates that about one half (48 percent) of the protein tracer injected in the lateral ventricles of sheep is transported into extracranial lymphatics.

Mistakes or imprecision in standard studies have minimized the role of lymph in CSF reabsorption. Courtice and Simmonds, in 1951, injected radio-labeled albumin and recovered about 5 percent in the cervical lymph nodes.^{29,89} They reported that 95 percent was reabsorbed by arachnoid villi. Actually, they recovered only 14 percent of all the radioactive substances. After correcting the calculations, their experiments showed that approximately 30 percent was reabsorbed in the cervical lymphatics.

After several experiments, Brinker et al showed that at least 50 percent of CSF is reabsorb through the lymphatics rather than arachnoid villi.¹⁷ The increase in CSF intraventricular pressure eventually will augment the amount of CSF drained by the lymphatics^{24,48,55,69,86} and amount of the fluid recovered seems to depend on the molecular weight.

However, strong scientific evidence of these findings in human subjects is still insufficient.²⁴ Smith showed that various tumors of the central nervous system (medulloblastoma, glioblastoma), can metastasize into the lymphatic system.⁹⁰ Ogilvy also observed gliomas spread to deep cervical lymph nodes.⁵²

In addition, clinical observations help us understand that some of the constituents of the CSF are reabsorbed in the periphery of the body. McComb observed that children with hydrocephalus develop nasal congestion, facial and periorbital edema when their cranial shunts develop an obstruction.⁷¹

1) Drainage through nasal lymphatics:

The historical experiment of Schwalbe using Berlin blue dye, showed some quantity of the marker passing along olfactory bundle nerve pathways. Numerous experiments with different species confirmed the existence of this pathway.^{9,10,11,23,31,37,55,59,66,67,71,72,87,88,97,103,105}

Jackson showed in 1979 that inflammatory blockage of nasal mucosa lymphatics can facilitate central nervous system retrograde viral infection.

Carbon particles and labeled proteins follow the olfactory tracts and pass through the cribriform plate (lamina cribrosa) to the nasal mucosa, the retropharyngeal lymph nodes and the angulus venosus at the base of the neck (internal jugular vein, subclavian vein, brachio-cephalic vein).

At the level of the fila olfactoria passing through the cribriform plate, the layer of dura and arachnoid fuses and becomes continuous with the one-layer thick perineurium. Perhaps 90 percent of radio-labeled particles follow this route in the rabbit.³⁰

The perineurium space seems to communicate freely with the loose interstitial tissue of the submucosa (passive escape pressure-dependent, no tight junctions). Pinocytosis is another mechanism that has been proposed.⁵⁵

Adjacent lymphatic vessels can easily reabsorb constituents of the CSF and escape into the nasal mucosa. Intraoral and intraoral lymphatic drainage (including soft and hard palate, palatoglossal and palatopharyngeal arches, sublingual lymph circulation) can help activate this circulation.

2) Drainage through optic nerve pathways:

Numerous studies also identify the optic pathways as a route for the SAS to be reabsorbed from the central nervous system.^{5,11,35,69,71,88}

Markers injected in the SAS also have been shown to reach the retro-orbital connective tissue. Shen found some arachnoidal trabecular network at transitional areas at the end of the SAS and the posterior uveal/periorbital compartment.⁸⁸

Lymphatic drainage of the orbits and periorbital tissues to the temporal and parotidians lymph nodes helps activate this circulation.

3) Drainage through auditory pathways:

Some experimental animal studies have shown that constituents of the CSF also may drain via the perilymph then the fenestra rotunda, to the mucosa of the middle ear.³ The communication between SAS and the ear takes place through the cochlear duct.⁵⁹ Activation of lymph flow through drainage of the preauricular and post auricular

lymph nodes, external auditory meatus, and auricle of the ears also can be used clinically.

4) Other nerves pathways: trigeminal nerves, facial nerves and other cranial nerves.²

This circulation can be activated with extensive lymphatic drainage of the neck and face.

5) Spinal nerve root:

In 1928, Pigalew injected a tracer in the lumbar dural space and found it in the abdominal and pelvic lymphatics, including the pancreas, suprarenal glands and paraaortal lymph nodes. Brierley and Field¹⁴ detected Indian ink suspension in the lumbar and sacral nerve roots. Later a small quantity of this marker was observed in the lumbar para-aortic lymph nodes.⁵³

Lymphatic drainage of the spine is accessible following deep or superficial lymphatic pathways. Deep lymphatic drainage involves pathways through the intercostal nodes to the paraspinal nodes or through the quadratus lumborum. The superficial drainage of the spine follows three distinct lymph territories, or lymphotomes, that drain to the cervical, axillary or inguinal lymph nodes.

6) Direct dural pathway

Under high pathological pressure, the CSF can escape from the arachnoid barrier and be reabsorbed by the lymphatics of the dura mater.¹⁹

B. Lymphatic drainage of cerebral interstitial fluid (CIF): "Intravascular/perivascular pathways"

Passage from the brain to the deep cervical nodes takes place in 3 hours in the rabbit,¹⁰² 8 hours in cat and sheep.^{11,30}

Dubois-Ferriere first demonstrated the connections between the intraadventitial circulation and the cervical lymphatics.³⁶ These studies, which were followed by those of Kozma, Casley-Smith and others, showed that carbon particle markers injected in the cerebral cortex were detected in the adventitia of cerebral blood vessels both intra- and extra-cranially.^{12,20,21,22,56}

Virchow (1851) and Robin (1859) described spaces located inside the main cerebral blood vessels, located between the basement membrane of the glial limitans externally and the tunica media.^{38,94,95} These spaces have been described as perivascular or more appropriately intraadventitial.^{21,23,44,45,96,104}

Extra cerebral blood vessels present in the adventitia a circulation of minute vessels and nerves that is called the

“vasa-vasorum”: the vessels inside the vessel.^{51,77,85} Cerebral vessels after passing through the layer of dura mater have no vasa-vasorum in the adventitia²⁸ and their endothelial cells are joined by tight junctions.¹⁰⁴ However, the surface of the adventitia contains many circular openings measuring 1 to 3 microns (stomata), which connect with the intraadventitial spaces on one side and CSF on the other side.¹⁰⁴ A free communication between the perivascular pathways and SAS has also been described.^{60,82,98}

Two schools of thought exist concerning whether the delicate layer of pia mater coats the blood vessels when they enter the cerebral tissue. The possible continuity between the SAS and perivascular spaces is yet another subject of controversy.

Several investigators support the viewpoint that the pia mater follows the blood vessels in the SAS that enter the cerebral parenchyma.^{45,47,64,65,78,84,94,98,105} Zhang showed that intracortical arteries are coated at their source by a sheath of cells derived from the pia mater, while veins are covered incompletely by some pial cells.

Other studies concluded that the pia mater does not accompany the blood vessels in the cerebral tissue.^{20,21,22,23,26,37,40,41,42,43,44,54,65,101}

Foldi^{41,53,62} and his team ligated the cervical lymphatics of numerous animals. In his report, he stated that researchers noted lymphostatic hemangiopathy characterized by spaces in the blood vessels of the neck, edema fluid in the adventitia of intracranial extracerebral as well as intracerebral vessels (...)” those spaces being 6-10 times larger than usual.⁴⁴

Intraadventitial spaces, which follow the course of blood vessels, are present throughout the body. The fact they do not present valves and that retrograde lymph flow is possible, constitutes an alternate pathway, if needed, for lymph circulation. In the case of the CNS, these structures represent a natural escape for some of the constituents of the CIF in order to drain into lymphatic pathways.

In conclusion CSF and CIF may choose between two major pathways: the neurolymphatic pathways along perineurium of nerves, principally olfactory nerves, and hemangiolymphatic pathways, perivascular/intravascular pathways, along major arteries and veins.

Clinical applications: lymph drainage therapy

“We lay much stress on the uses of blood and the powers of the nerves, but have we any evidence that they are of more vital importance than the lymphatics?” A.T. Still, *The Philosophy and Mechanical Principles of Osteopathy*, pg. 65.

“...your patient had better save his life and money by

passing you by as a failure, until you are by knowledge qualified to deal with the lymphatics” A.T. Still, *Philosophy of Osteopathy*, pg. 105.

Lymphology has evolved as a new branch of medicine as medical science is only beginning to fully understand the role that lymph plays in the body. The first recorded use of gentle manual techniques to activate the lymphatic flow took place at the beginning of the 20th century. Osteopath F. P. Millard, a graduate of the Kirksville Osteopathic College, was the first practitioner to document specific techniques working on the lymphatic system.⁷⁵ Specific lymphatic techniques, like cranial techniques, were introduced in a second time, in the history of osteopathic manipulation.

Scientific descriptions of a lymphatic rhythm have been described in human,^{39,46,61,91,92} but very few practitioners are working with stimulating lymph circulation in a direct and specific manner in the same way we work with the CSF circulation. There is a whole new and very rich field of osteopathy to deepen and expand into.

Lymph Drainage Therapy is an original method of lymphatic drainage developed by French physician Bruno Chikly. The particularities of LDT are that it teaches practitioners how to manually attune to the 1) specific rhythm, 2) direction 3) depth and 4) quality of the lymph flow consistent with scientific discoveries.^{46,91,92}

1) Human lymphatic rhythm:

The main vessel of the lymphatic system (lymphatic collectors) consists of two or three layers of spiral muscles with specific contractions that are innervated by the sympathetic and parasympathetic system (49, 56, 73, 78, 81). Contrary to some views, the lymphatic system is not a passive system; lymph does not need to be pushed with our fingers like a tube of toothpaste. Obstruction on the way has to be removed, specific pressure and rhythm needs to be applied in synchrony with the lymphatic system. Even though one main lymphatic rhythm has been scientifically described in humans in practice two different lymphatic rhythms have been identified: the capillary and lymphangions rhythm, and a pre-lymphatic (connective tissue) rhythm.

2) Direction of the lymph flow:

Advanced LDT practitioners can assess and manually “map” the flow of the lymphatic circulation during sessions. This method consists of manually assessing the specific direction of lymphatic flow and finding areas of fluid retention, edemas or fibrosis. The mapping tools are very

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important in cases of fluid obstruction when it can be used to find the most accurate alternate lymphatic pathways to evacuate stagnant fluids.

3) Depth and pressure:

The ideal pressure has been calculated as no more than 33 mm of mercury per cm².⁴ The standard pressure used is very similar to that applied in cranial work. We need to be identify the specific depth of the lymph circulation we are addressing: working on superficial epifascial circulation, lymph circulation below the fascia, muscles, intercostal spaces, viscera, periosteum will require a different intention and depth.

4) Quality:

Quality of lymph need also to be assessed. Lymph can be quite viscous in cases of chronic lymph retention like allergies, fibromyalgia, chronic fatigue syndrome, chronic inflammation, etc. Emotional "fluidity" is also usually related to lymph fluidity.

For drainage of the central nervous system, the main goal of LDT is to activate resorption and cleansing of some constituents of CSF through the neurolymphatic or haemangiolymphatic pathways. A small study showed that lymphatic drainage techniques can reduce intracranial pressure dramatically, even more effectively in some case than Mannitol.¹⁷

Many other lymphatic functions also can be applied for different clinical cases. Lymph flow stimulation activates all other fluid fluctuations of the body, locally decreases chronic pain, spasms and chronic inflammations, and drains toxins,²⁷ fat and macro molecules (proteins) away from tissues. Activation of lymph flow through the lymphatic nodes also stimulates the immune system, increasing production of lymphocytes by about 30 percent.

Clinically these lymphatic techniques may seem to a patient, quite similar to a cranial technique: a very light touch of few grams per cm², a very slow rhythm, stimulating the parasympathetic tone. The overall quality of the lymphatic stroke is very often described as a "love touch".

Dr. Chikly will present a lecture and seminar at the next AAO Convocation in St. Louis, MO. Dr. Chikly can be contacted at: P.O. Box 14, San Gregorio, CA 94074-0014 or phone/fax: (650)747-9764, e-mail: BCHIK@aol.com.

**This article was excerpted from Dr. Chikly's new book.*

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Evolving Strategies for Management of Various Musculoskeletal Disorders: Evidence-Based Approaches and Beyond

by Wolfgang G. Gilliar, DO, San Mateo, CA

"As we function, so shall we live."

Carl Granger, 1998

Practice guidelines and practice parameters – patient populations

The past two decades have witnessed a profound paradigm shift in the assessment, interpretation and management of musculoskeletal pain not only in the medical community and among the various "health care providers" but also in governmental agencies and the society-at-large. The recent efforts to develop practice guidelines appear to have been driven, at least in part, by the expectation (biased optimism?) to satisfy various agendas, which include the improvement of the quality of health care, protection of professional autonomy, reduction of litigation risk, minimization of practice variation, provision of standards for auditing medical records, reduction of health care costs (and thus health care premiums), defining areas of practice, improvement in efficiency of practice, and identification of inappropriate care, to name a view (Woolf SH: Turk, MA.)

Practice Guidelines are written with specific recommendations in mind. Practice Parameters as used by the AMA (American Medical Association) are meant to be strategies for patient management, developed to assist physicians in clinical decision making. Practice parameters are highly variable in their content, format, degree of specificity, and method of development (American Medical Association. *Attributes to Guide the Development of Practice Parameters*. Chicago, IL, American Medical Association: 1994, pg.1).

Despite their best intentions many authors of the varied guidelines and practice parameters may yet forget that their approach is based on one set of assumptions about human nature and on being able to change human behavior while there may exist other valuable assumptions (Grol R.)

Evidence based medicine – and the individual patient

The rational implementation of up-to-date information in the management of an individual patient requires of the treating clinician a broad knowledge of the current literature in addition to one's own clinical expertise. Over 20 systematic literature reviews on implementing guidelines, research findings, and changes in clinical practice have been published in the past six to seven years (Bero L, et al.).

The practice of evidence-based-medicine (EBM) means integrating individual clinical expertise with the best available external clinical evidence from systematic- research. Increased expertise is reflected in many ways, but especially in more effective and efficient diagnosis and in the more thoughtful identification and compassionate use of individual patients' predicaments, rights, and preferences in making clinical decisions about their care (Sackett DL, et al.).

As with any recommendation there is always the potential for abuse. Therefore procedures must be established that monitor the correct and meaningful implementation of such guidelines. Otherwise, the "post hoc" fallacy is once more responsible for one-sided interpretation and utilization to one's own advantage (the various health care entities, for instance).

Classifications

Whereas those patients afflicted by disorders with known biological causes (e.g. arthritides, disc herniations, space occupying lesions, fractures, dislocations etc.) can be managed more "precisely" with the disease-appropriate intervention - yet comprising but 10-15 percent of the back pain population - it is a clinical challenge to estab-

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lish a specific "diagnosis" that satisfactorily explains the whole illness in the majority of patients. Classifications can also be problematic, since they often are restrictive, and used for descriptive, heuristic, research and communication purposes, while their meaning shifts accordingly to indicate a certain pathophysiologic insight (Barbour AB).

"Nonspecific" low back pain is a frequently used description indicating that a structural defect has not been identified. Recent advances in disk-imaging and refinement of injection techniques have further helped delineate specific subcategories of back pain, yet and again, a large proportion of back pain sufferers remains at this time without an anatomically identifiable diagnosis. At this time, it would take a leap of faith to agree with J. Fortin's assurance that "only the needle knows."⁶

Common problems encountered in clinical practice often involve faulty postures and abnormal movements in activities of daily living. Mechanical factors are very frequently involved, and thus has been coined the term "mechanical back pain." Pain of mechanical origin is distinguished from other entities by its relationships to static or dynamic posture and motion.

Long term chronic low back pain or frequently recurring backache, for that matter, represents a complex biopsychosocial entity (Engel GL). Recently, another dimension has been added by using a "spiritual" descriptor (Riley BB, et al.).

Against this backdrop of an all encompassing spectrum of human illness, with relative lack of anatomically identifiable causes on one end and the psychosocial aspects on the other, conservative management of low back pain remains a complex and complicated endeavor rather than a one-shot deal. Nonetheless, a rational approach that is based on a detailed medical and itemized pain history, a careful neuro-orthopedic examination augmented by a structural manual medicine examination, and judicious selection of adjunct studies will form the best basis from which treatment over time can be intelligently initiated. Functional follow-along of the patient with objective measures and individually projected functional goals will help track a patient's progress or lack thereof. One of the present day challenges remains the construction of an appropriate time frame and what constitutes a "medical endpoint" or appropriate maintenance therapy.

Conservative treatment of low back pain – where are we?

With the increasing capacity of using computers as comprehensive data bases, there has been a deluge of published systematic reviews (many being "meta-analyses") in the recent years. A comprehensive and impressive re-

view is that presented by vanTulder, Koes and Bouter.¹⁶ This group evaluated the effectiveness of the most common conservative types of treatment for patient with acute and chronic nonspecific low back pain.

Even though the randomized controlled trial (RCT) is felt to be the strongest scientific proof of the effectiveness of an intervention (Quebec Task Force - Spitzer WO, et al.), the review presented by van Tulder and his group demonstrates the generally poor quality of the trials reviewed and once more underscores the methodological shortcomings intrinsic to many past studies. Below follows a brief summary of vanTulder et al's article.

Acute Low Back Pain

There is strong evidence for the effectiveness of muscle relaxants, and nonsteroidal anti-inflammatory drugs are more effective than a placebo for acute low back pain but not for acute sciatica (non-steroidals). There is strong evidence that bed rest beyond a few days is not an effective treatment option for acute low back pain (LBP). Exercise therapy is judged to be not more effective than other conservative treatments, including no intervention, for acute LBP.

The detailed review of the contradictory studies on manipulation indicates that there exists only limited evidence that manipulation is more effective than a placebo treatment, but that it is not more effective than other physiotherapeutic applications. TENS (transcutaneous electrical nerve stimulation) were not felt to be more effective for acute low back pain due to the contradictory results.

Chronic Low Back Pain

For chronic low back pain, however, analgesics and muscle relaxants are of limited effectiveness. Antidepressants appear not effective whereas NSAIDs appear (moderate evidence) at least somewhat effective. There is moderate evidence that epidural steroid injections are more effective than a placebo in the short-term for chronic low back pain. Manipulative therapy for chronic low back pain is reported to be more effective than a placebo, as is an intensive back school program in an occupational setting and therapeutic exercises. There is no evidence that TENS is an effective treatment for chronic LBP. Acupuncture treatment was reported to be not an effective treatment for chronic LBP.

In general, passive physical therapeutic modalities have not been shown to be of long-lasting benefit nor are they restorative. As palliative measures they may be helpful in initial or periodic pain attenuation, but heat and cold applications can be applied by the patient her/himself.

Prolotherapy, by using a dextrose-glycerin-phenol solution, intends to bring about ligamentous hypertrophy and may thus lead to possible stabilization of the involved

structure. The controlled studies by Ongley et al. and Klein et al. indicate improvement in disability scores, visual analog scale, and pain diagrams at 6-month follow-up.

Trigger point injections into muscles (or the myotendinous junction, tendons, etc.) have also experienced an ever increasing popularity, even though controlled, large scale studies regarding specific indications, contraindications, candidacy-criteria are still lacking. The existence and role of muscular trigger points remains as controversial today as it did when first reported over forty years ago. We are still waiting for confirmatory EMG studies. Nonetheless, if trigger points are as common as they are reported, then a trial of limited injection series (for instance not more than three times into same trigger) may determine the clinical (practical) relevance.

A recent review of lumbar epidural steroid injections (Spacarelli) indicates that based on nine controlled studies of unilateral sciatica there is no significant difference at long-term follow-up, yet there is improvement in short term parameters, such as decreased pain, improved mobility, and earlier return to work. The work by van Tulder et al. found only one high quality RCT, rating the evidence for effectiveness of lumbar epidural steroid injections to be limited for acute back LBP with nerve root pain and radicular neurologic deficit. The seminal work by Bogduk⁴ and the work about sacroiliac joint provocation tests by Maigne¹⁰ help guide this field in the right direction.

Conservative treatment of low back pain – what's on the horizon?

Basic research, refinement of useful functional outcome studies (Granger CV. The emerging science of functional assessment: our tool for outcomes analysis; Arch Phys Med Rehabil 1998; 79, 235-240.) and a rational implementation of evidence-based-medicine support the notion that we can indeed expect dramatic innovations at the beginning of the new millennium

Based on the potential of neuronal plasticity, the search for specific molecular aberrations and selective treatment holds particular promise. Of interest are the roles of nociceptive interactions. nerve growth factor, cytokines, phenotypic regulation at the spinal cord level, and the molecular pathways in anti-nociceptive mechanisms.

This presentation will include an overview by addressing three levels of potential intervention:

- 1) the "infraspinal" level (muscles, ligaments, joint capsules, etc.),
- 2) the spinal level (presently a "hot ground" for potential pharmacologic/molecular medical approaches, and
- 3) the supraspinal level, including the perceptive system.

Summary

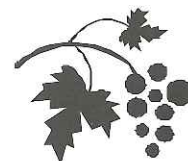
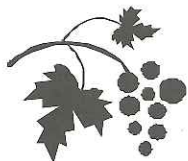
Evidence-based medicine approaches coupled with the identification of meaningful functional outcome measures and "follow-along" data-gathering should facilitate the application of findings from population studies to specific and individual patient care. Classifications based on functional abilities, rather than "diagnosis" alone will assist in identifying which particular patient with back pain complaints should be subjected to what kind of treatment and over what time course. Pharmacological approaches, especially addressing interactions at the spinal cord level, hold a particular promise. A rationale for combination of various therapies will be presented.

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Evaluation and Treatment of Low Back Pain in Sonoma, California

January 28-31, 1999



Earn 18 hours of Category 1A CME credits while attending the hands-on OMM training course

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Program:

Thursday, January 28, 1999

4:45 pm Registration
 5:00 pm Introduction to Course and Faculty
 5:15 pm Causes of Mechanical Low Back Pain (ligamentous, muscular, diskogenic, neuroreflexive), Ligamentous referral patterns
 6:30 pm Osteopathic Structural Examination, Treatment Models (Counterstrain, Facilitated Positional Release, Balanced Ligamentous Tension)
 7:30 pm Introduction to prolotherapy (history and scientific basis), Diagnosis of ligamentous instability, Patient selection, Prolotherapy solutions, Healing response

Friday, January 29, 1999

7:00 am Anatomy of the Lumbar Spine
 7:30 am Lumbar Diagnostic Models
 9:00 am Treatment of the lumbar spine using Balanced ligamentous tension, Facilitated positional release and counterstrain
 10:00 am Evaluation of the lumbar spine and ligamentous structures (facet joint capsular ligaments, lateral ligaments/fascial attachments, posterior interspinous ligaments)
 11:00 am Demonstration of injection techniques for the lumbar spine
 11:30 am Lumbar Exercises
 12:00 noon Lunch and Coding and Billing, Part 1
 1:00 pm Wine Tasting in the Napa Valley

Saturday, January 30, 1999

7:00 am Review of Pelvic Anatomy
 7:30 am Evaluation of the SI joint and ligamentous structures (sacral position and ligamentous instability, flexion tests, stress testing, palpatory testing)
 Diagnostic injection (caudal epidural, local infiltration and injection of the SI joint)
 9:00 am Evaluation of the SI joint and Treatment using Balanced using Balanced ligamentous tension, facilitated positional release, counterstrain
 11:00 am Visceral referral patterns producing low back pain
 12:00 pm Diagnosis and Treatment of visceral ligamentous structures
 12:00 noon Lunch and Discussion
 Afternoon Wine Tasting in the Sonoma Valley

Sunday, January 31, 1999

7:00 am Evaluation and Treatment of the pelvis using counterstrain/fascial-ligamentous approach. Treatment of the pelvic diaphragm, Pelvic Exercises
 8:30 am Injection techniques for the SI Joints (anatomical landmarks, location of "Hackett's" points, demonstration of injection techniques)
 10:00 am Management of low back pain in pregnancy; sciatica
 10:00 am Treatment of the sacrum - indirect
 11:00 am Coding and Billing, Part II
 12:00 noon Adjourn

Registration Form

Evaluation & Treatment of Low Back Pain: Jan. 28-31, 1999

Full Name _____

First Name for Badge _____

Street Address _____

City _____ State _____ Zip _____

Daytime Phone # _____

AOA # _____ College/Year Graduated _____

*** LIMITED TO 26 PARTICIPANTS *
 (Sorry, no discounts available)**

Registration Rate:

Prior to December 28, 1998

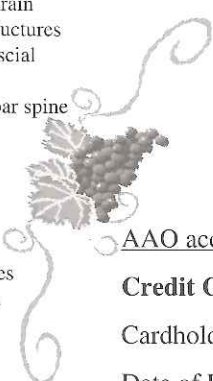
AAO Member: \$495.00

AAO Non-Member: \$595.00

After December 28, 1998

AAO Member: \$595.00

AAO Non-Member: \$695.00



AAO accepts VISA OR MASTERCARD

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Form of Payment: check credit card

Hotel Information:

Sonoma Valley Inn

550 Second Street West

Sonoma, CA 95476

Phone: (800) 334-5784

Fax: (707) 938-8878

Room Rate: \$110.00

Reservation Rate Deadline: December 11, 1998

MAKE RESERVATIONS TODAY!



Pennsylvania – NE – Join busiest Family Medicine practice in the county. In and outpatient responsibilities and optional OB. Only two hours from Philadelphia and NYC. **Contact Doug Page.**

Pennsylvania – NE – Large MSG practice with seven Family Physicians seeking new associate as practice grows. Obstetrics is not required. Close to No NJ and NY **Contact David Finney.**

Pennsylvania – NW – Family Physician needed in Erie City with small groups both with established and growing practices. Located between Cleveland, Buffalo and Pittsburgh. **Contact Doug Page.**

Pennsylvania – Central – Busy 100% office based Family Medicine group needs a new associate to transition with retiring partner. Suburb of Harrisburg. **Contact Doug Page.**

Pennsylvania – Central – Group of 5 FP's looking for 2 to transition w/retiring physicians. Mostly, or all, outpatient practice. Salary, incentive and full benefits. **Contact Doug Page.**

Pennsylvania – S Central – FP needed to join hospital sponsored MSG in historic community. Located 1 hr from Harrisburg/less than 2 hrs from Baltimore and DC **Contact David Finney.**

Ohio – NW – FP needed to take over for retiring physician with all the administrative hassles taken care of for you. Hospital owned Family Practice with in and outpatient work. OBG with shared call is an option. Near the OH-IN border, easy access to Detroit and Columbus. Call is light with unique Emergency Room Department group backup. **Contact Doug Page.**

Rhode Island – Providence suburb – Hospital supported FP opportunity with in/outpatient practice. 1 :4 call, commutable distance from Providence and BA. **Contact Doug Page.**

Maine – Down East – Interested in OMT and women's health. Be assured of being busy by joining this well established private practice. New office located near the well equipped hospital. Close to Portland, Bangor, Sugarloaf Ski Resort and the Atlantic Ocean. **Contact Doug Page.**

Pennsylvania – NW – General Surgeon with established practice in Erie County. Take advantage of what retired physicians have left behind. Located between Pittsburgh, Cleveland and Buffalo with easy access to Lake Erie. **Contact David Finney.**

Ohio – General Surgeon – Financially strong, community hospital in NW OH needs a full time Surgeon to take over for retiring physician. **Call Doug Page.**

Southern MD/Metro DC – Obstetrics/Gynecology - Private practice needs a 4th ASAP. 30 miles from DC, the Chesapeake Bay or the Potomac River Basin in a very desirable, fast growing area with all the necessary amenities. **Contact Doug Page.**

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January 15-18, 1999 while attending the hands-on OMM training course ...

"An Introduction to Osteopathic Manipulative Treatment"

sponsored by the American Academy of Osteopathy



FULL Name _____

Street Address _____

City _____ State _____ Zip _____

Daytime Phone # _____

Course Fees:

Prior to: December 15, 1998

AAO Member: \$575.00

AAO Non-Member: \$675.00

After: December 15, 1998

AAO Member: \$675.00

AAO Non-Member: \$775.00

About the Course

This course is appropriate for physicians (MD) who have had no prior training in osteopathic manipulative treatment, as well as a refresher/review course for DOs. This is a detailed introductory course, and should have significant applicability to your practice.

Objective of Course

Learn to diagnose and treat motion restriction of the somatic (body framework) system.

The Island of O'ahu "The gathering place"

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O'ahu landmarks include Pearl Harbor; Bishop Museum, foremost cultural history institution of the Pacific; Hanauma Bay, a marine preserve in a sunken crater popular with snorkelers; Iolani Palace, former home of island royalty; and Aloha Tower on the Honolulu harborfront.

From tourist mementos to fine Hawaiian handicrafts, Asian imports and European boutiques. O'ahu is a shopper's dream. Its multicultural heritage as the crossroads of the Pacific is reflected in its wide variety of goods, festivals, points of interests cuisine and activities.

Hotel Accommodations

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1-800-HILTONS

Turtle Bay Hilton Reservation
1-808-293-8811

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Indianapolis, IN 46268-1136

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Fax to: (317) 879-0563

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Form of Payment

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**FINAL PAYMENT DUE
DECEMBER 15, 1998**