

THE AAO

# JOURNAL



 A Publication of the American Academy of Osteopathy

TRADITION SHAPES THE FUTURE • VOLUME 10 NUMBER 4 WINTER 2000

A Journey  
into the new Millennium

# AAO's CME Calendar

2001

## January

11-14

*Introduction to OMT/Counterstrain*

Marriott Savannah

Savannah, GA

Hours: 23 Category 1A

## 31-February 2

*Myofascial Release:*

*A new osteopathic model*

St. Vincent Marten House Hotel

Indianapolis, IN

Hours: 20 Category 1A

## February

2-4

*Ligamentous Articular Strain*

St. Vincent Marten House Hotel

Indianapolis, IN

Hours: 20 Category 1A

## March

19-21

*Visceral Manipulation Workshop*

*(Emotional/Trauma)*

The Broadmoor

Colorado Springs, CO

Hours: 24 Category 1A

22-25

*AAO Convocation*

The Broadmoor

Colorado Springs, CO

Hours: 28-31 Category 1A

## May

4-6

*Prolotherapy/Above the Diaphragm*

UNECOM

Biddeford, ME

Hours: 20 Category 1A

18-20

*New Advances in HVLA*

Midwestern University/CCOM

Chicago, IL

Hours: 20 Category 1A

19-20

*Fulford Percussion Technique (Basic)*

Renton, WA

Hours: 14 Category 1A

## June

1-3

*Introduction to OMT/Muscle Energy*

St. Vincent Marten House Hotel

Indianapolis, IN

Hours: 20 Category 1A

## July

6-8

*Osteopathic Considerations*

*in Systemic Dysfunction*

UNTHSC at Fort Worth/TCOM

Fort Worth, TX

Hours: 20 Category 1A

28-29

*Alleviation of Common, Chronic Pain*

*by Optimization of Normal Posture*

Chicago Marriott Downtown

Chicago, IL

Hours: 16 Category 1A

## August

16-19

*OMT Update at WDW®*

Contemporary Hotel

Buena Vista, FL

Hours: 23 Category 1A

## September

13-16

*Introduction to HVLA Basic*

Nugget Hotel

Reno, NV

Hours: 23 Category 1A

*The Still Technique: A Manipulative*

*Method of Andrew Taylor Still, MD*

Nugget Hotel

Reno, NV

Hours: 23 Category 1A

## October

5-7

*Prolotherapy/Below the Diaphragm*

UNECOM

Biddeford, ME

Hours: 20 Category 1A

21-25

*AOA/AAO Convention*

San Diego, CA

## November

30-December 2

*Visceral Manipulation (Abdominal/GI)*

St. Vincent Marten House Hotel

Indianapolis, IN

Hours: 24 Category 1A

## A Word to the Wise



### Hotel Reservations for The Broadmoor

*Please be sure your reservation reaches the hotel by the cut-off date of February 23, 2001. Otherwise, accommodations will be on a space available basis only and higher rates may apply. The sooner the better applies.*

For more information, contact:

**American Academy of Osteopathy®**

**3500 DePauw Boulevard, Suite 1080**

**Indianapolis, IN 46268-1136**

**Phone: (317) 879-1881 or**

**Fax: (317)879-0563**

**E-mail:**

**dfinley@academyofosteopathy.org**

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**The mission of the American Academy of Osteopathy is to teach, 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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# 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 Anthony G. Chila, DO, FAAO, Editor-in-Chief, Ohio University, College of Osteopathic Medicine (OUCOM), Grosvenor Hall, Athens, OH 45701.

## **Editorial Review**

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

## **Requirements for manuscript submission:**

### **Manuscript**

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

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

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

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

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

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

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

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

### **Computer Disks**

We encourage and welcome computer disks containing the material submitted in hard copy form. Though we prefer Macintosh 3-

1/2" disks, MS-DOS formats using either 3-1/2" or 5-1/4" discs are equally acceptable.

### **Abstract**

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

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

### **References**

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

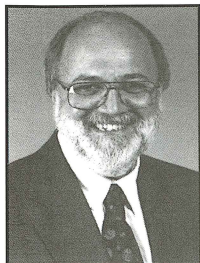
2. For journals, include the names of all authors, complete title of the article, name of the journal, volume number, date and inclusive page numbers. For books, include the name(s) of the editor(s), name and location of publisher and year of publication. Give page numbers for exact quotations.

### **Editorial Processing**

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## From the Editor

by Anthony G. Chila, DO, FAAO



## 2000-2001 (II)

As this issue is released, our society is preparing to enter the 21<sup>st</sup> Century. When a culture approaches a date which is regarded as being significant, sharp swings occur in the popular mood. The need to accomplish is heightened by the sense that time is going faster. What is the sense of the American Academy of Osteopathy's need to accomplish as it prepares to enter the next century, A New Millennium? How will our contribution to osteopathic medicine's reformation role manifest itself?

As an affiliate body of the American Osteopathic Association, the AAO Mission Statement seeks "... to teach, 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." Our contributors address these considerations.

From the Archives is given more than usual length in this issue. Following the selected remarks of Dr. Still presented in Volume 10, Number 3 (Fall 2000), the organizational development of the American Osteopathic Association is well worth noting. The years 1897-1902 are presented from *History of Osteopathy and Twentieth-Century Medical*

*Practice*; E.R. Booth, PhD, DO (1924)). A meeting of students and nearby practitioners began to take the steps toward national organization in 1897. The formulation of a plan of organization consisted of a committee of 16, four students from each class. Student membership in the new association was permitted for the first two years. Subsequently, graduation from one of the Associated Colleges of Osteopathy became a requirement for membership. During the recent AOA presidential term of Eugene A. Oliveri, DO, a student representative voting position on the AOA Board of Trustees was implemented. Not only in the pages of this journal, but in the structure of the American Osteopathic Association, the voice of the student body continues to be heard. Dr. Booth's presentation of meetings, dates, and papers read all provide a flavor of excitement of the time of the new organization's birth.

Dig On reviews selected predictive comments by various presenters of the *Scott Memorial Lecture*. Nominees for this lecture are submitted to the Kirksville College of Osteopathic Medicine by the American Academy of Osteopathy. The lecture is presented during the KCOM Founder's Day Program.

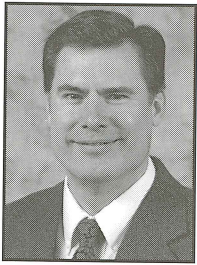
The past 35 years of the 20th Cen-

tury have witnessed increasing challenge to the delivery of health care in the United States and the preparation of future physicians. The osteopathic profession has had to respond in many ways to social demands. Issues of utilization of the profession's philosophy of manipulation and cost effectiveness have more sharply focused societal criticism. The use of osteopathic manipulative treatment (OMT) was surveyed by Sang Ho Song during his student years at UMDNJ-SOM. The cost and treatment of low back pain was the subject of a thesis for the degree Master of Science in Administration by William J. Swords, DO, MSA. Spirituality in Osteopathic Medicine was presented by R. Paul Lee, DO, CSPOMM during the 1999 AAO Convocation Program, ("Bridging the Gap"). Hugh M. Ettlinger, DO, FAAO presents a discussion of shortness of breath and hypoxia following exploratory laparotomy.

Having been responsible for challenging an existing paradigm as the 20th Century began, the osteopathic profession has no less an obligation to continue its work in the 21<sup>st</sup> Century, the era of emerging complementary and alternative medicine. Tradition Shapes the Future. □

## Message from the President

by John M. Jones, III, DO



The osteopathic philosophy was developed 126 years ago in the 19th century. In order to survive, it must stay true to its basic principles, yet dynamically evolve to integrate newly discovered knowledge. Is osteopathic philosophy still relevant at the dawn of the 21st century?

Humanity finds itself in a new world in the year 2000, very much unlike the one which existed at the end of the 19th century, or during the evolution of the human race. We have literally remade the environment to suit ourselves. Unfortunately, most environmental changes have been by-products of individual or small group efforts seeking short-term, materialistic goals. We have not changed the environment to benefit the human race or our ecosystem overall.

Some differences between the conditions during human development and the year 2000 include:

- \* More species are being eliminated now than at any time since the death of the dinosaurs.

- \* Pollution threatens the biosystem.

- \* The ozone layer is being depleted.

- \* Petroleum products are ubiquitous.

- \* Radioactive isotopes are more widely spread.

- \* Electromagnetic fields of our own creation surround us.

- \* Nutrition in the US is no longer primarily provided by organically grown crops.

- \* We are beginning to experimentally work with our own genetics.

- \* Bioweapons are now possible.

- \* Many of us are sleeping counter to our natural cycle.

- \* Medicines and inoculations have changed the microorganism balance and forced their evolution.

- \* Sanitation and water purity have increased in some places, but retain vulnerability.

- \* Information exchange technology and transportation improvements have linked isolated geographical regions to form the global village.

- \* Nanorobotics technology is beginning.

These changes affect every patient's health, and will present many challenges in the 21st century—not the least of which is seeing if we as the human race will survive to the 22nd.

How does osteopathic philosophy help us to meet these challenges? We tend to think of osteopathic philosophy as a universal philosophy, with applications to human health and implications for everything that affects human health. And everything in the world affects human health.

Traditionally, we have focused on the health of individual patients; however, the condition of our planet and civilization mandate that we now focus also on the environmental/social gestalt that affects each human being.

Our goal is to seek health. Recognizing that in the patient most of health comes from within, we work with the body of the patient (as well as the mind and spirit) so that the body's homeostatic mechanisms are better able to handle the insults which come to it from the world outside the body. We try to work with nature, enhancing natural function, not against nature.

In the body, the arteries channel information and materials to the cells. In the world at large, mass communication systems such as telecommunications, the internet and transportation systems fill the same roles. Communication, or lack of it, and the arteries of commerce reign supreme.

The unity of an individual patient's

homeostatic systems is continuous with intimate connection to the entire environment, including the social network and spiritual factors. There is continual exchange of material going on between our bodies and the environment. Any poisoning of these resources affects our health. Socially and spiritually, we have many opportunities to create more healthful conditions for all of the one, single human race.

Natural, self-regulatory forces in the biosphere tend to be self-sustaining (self-healing) when they are not overloaded. We must become more conscious of them, and support efforts to learn about and work with them more successfully.

Structure and function play a role in all of the material world. Unfortunately, small-group interests of the human race have functioned to negatively affect the structure of the planet's ecosystem. Examples are the destruction of the rainforest, oceanic plankton and the ozone layer. We must be more conscious, and choose to function in a supportive manner.

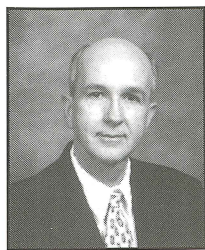
Naturally, all of the above thoughts must be integrated for humanity to interact favorably with our planet/the universe.

Well-planned osteopathic manipulation has the goal of the facilitating effective transfer of information and materials to and from the body's cells. In the same way, we need to be sure that we are planning our interaction with Nature to facilitate environmental efficiency, not destroying it through short-sightedness. This would be working with the homeostatic mechanisms of the body of Nature. To work with the mind and spirit aspects would be to recognize that we are one human race, interactive with all of Earth's life forms, and to cooperate with each other. A daunt-

→  
*continued on page 16*

## Message from the Executive Director

by Stephen J. Noone, CAE



### Promoting Networks in the New Millennium: Increasing the Value of AAO Membership

When I recently read *New Rules for the New Economy* by Kevin Kelly (Penguin Books 1999), I was struck by how many of his strategies for the connected world might apply to membership value in the American Academy of Osteopathy. For example, Kelly describes how the value of a network can increase exponentially.

“Take 4 acquaintances; there are 12 distinct one-to-one friendships among them. If we add a fifth friend to the group, the friendship value increases to 20 different relations; 6 friends makes 30 connections; 7 makes 42. As the number of members goes beyond 10, the total number of relationships among friends escalates rapidly. When the number of people ( $n$ ) involved is large, the total number of connections can be approximated as simply  $n \times n$ , or  $n^2$ . Thus a thousand members can have a million friendships. The magic of  $n^2$  is that when you annex one more new member, you add many more connections; you get more value than you add.” (pp.23-24)

In my column in the Summer 2000 issue of *The AAO Journal*, I suggested that “the AAO’s continuing medical education programs enable physician registrants to increase their ‘connectivity’ to some aspect of the profession and apply it in their own distinctive practice upon their return home.” After reading Kelly’s book, I again marveled at the tremendous opportunity AAO members have available to reinforce their integration of osteopathic principles and practice by association with increasing numbers of like-minded

physicians. I thought again about the values which AAO members hold in common with their colleagues, e.g. a passion for OPP/OMT in patient care (expressed in both primary care and the broad range of specialties. Note: while 50% of AAO members are family physicians, and while osteopathic manipulative medicine and/or neuromusculoskeletal medicine and OMM represents the largest single specialty among AAO members, many other specialists are represented in the Academy, including OB/GYN, pediatrics, neurology, internal medicine, emergency medicine, etc.)

AAO members also highly value hands-on teaching and learning and seek to accentuate the distinctiveness of osteopathic medical practice. They have a keen interest in research on clinical efficacy and outcomes of osteopathic manipulative treatment. They are intense in their advocacy for the integration of OPP/OMT in the seamless curriculum of osteopathic medicine. AAO members also are highly receptive to the exportation of osteopathic philosophy and practice internationally.

What are the networks to be tapped for membership expansion? Since only approximately five percent of this nation’s osteopathic physicians are AAO members, we should continue to recruit our fellow DOs and emphasize the value of AAO membership. I suggest that the AAO’s leadership has already laid the foundation in a variety of networks. At the 2000 AOA Convention in Orlando, the Academy’s didactic program provided an outstand-

ing opportunity for conventioners from all 13 participating specialty colleges to enhance their osteopathic care of women and children. The AAO also provided a coding/reimbursement workshop to assist DOs in obtaining appropriate payment for their unique services.

The Academy is responding to the profession’s call to improve the distinctiveness of osteopathic postdoctoral training. On the day prior to the AOA Convention, the Education Committee conducted a one-day pilot CME program for directors of medical education which could be replicated in any osteopathic postdoctoral training program. The Academy’s OPTI Liaison Committee presented a long range plan to the Educational Council on Osteopathic Principles (ECOP) to integrate OPP/OMT more effectively into Osteopathic Postdoctoral Training Institutions (OPTI).

The AAO’s Louisa Burns Osteopathic Research Committee has proven to be a major player in advancing the profession’s research agenda. With the development of the osteopathic electronic medical record and accompanying patient database, researchers will soon have available more than enough data to conduct projects which document the clinical outcomes of osteopathic medicine. All osteopathic physicians should consider participation, either by conducting research or contributing to the patient database.

Is the Academy too small to meet these demands in the new millennium? In his book, Kelly says that “Speed and agility trump size and experience.” (p.91) Let’s take advantage of the AAO’s speed and agility to adapt to the emerging medical environment. Let’s nurture our growing networks to advance osteopathy domestically and facilitate its expansion worldwide. Let’s recruit our osteopathic colleagues to join us as AAO members and support these exciting programs and services to the profession. □

# Affiliated organization's CME calendar

## January 12-14, 2001

*The Biodynamic Force and the Somato-Visceral, Viscero-Somatic Interrelations*  
Osteopathy's Promise to Children  
San Diego, CA

Featured Speaker:

Philippe Drulle, DO, MRO, CN

Program Director:

Viola M. Frymann, DO, FAAO, FCA

Contact: Lorraine Fried, OCC  
(619) 583-7611

## January 13-16

*Biodynamics Phase II*  
James Jealous, DO, FAAO  
Franconia, NH

Hours: 23 Category 1A

Contact: Dr. Jealous  
207/778-9847

## January 18-21

*Biodynamics Phase VI*  
James Jealous, DO, FAAO  
Franconia, NH

Hours: 24 Category 1A

Contact: Dr. Jealous  
207/778-9847

## February 4-7

*Biodynamics Phase V*  
James Jealous, DO, FAAO  
Franconia, NH

Hours: 22 Category 1A

Contact: Dr. Jealous  
207/778-9847

## February 15-19

*Mid-Winter Basic Course*  
The Cranial Academy  
Phoenix, AZ

Hours: 40 Category 1A

Contact: The Cranial Academy  
(317) 594-0411

## February 22-24

*Musculoskeletal Medicine*  
*Above the Waist*  
Mark S. Cantieri, DO, FAAO  
Thomas H. Ravin, MD  
Denver, CO

Hours: 17 Category 1A

Contact: Dr. Ravin  
303/331-9339

## February 24-27

*Biodynamics Phase II*  
James Jealous, DO, FAAO  
Franconia, NH

Hours: 23 Category 1A

Contact: Dr. Jealous  
207/778-9847

## March 2-4

*Treatment of TMJ: Assisting the Clinicians Direct Patient Care*  
The Cranial Academy  
Denver, CO

Hours: 21 Category 1A

Contact: The Cranial Academy  
(317) 594-0411

## April 23-26

*79th Annual Convention*  
Arizona Osteopathic Association  
Contact: AOMA Office  
888-266-6699

## April 26-29

*Left-Brained Cranial Manipulation*  
The Cranial Academy  
Rosemont (Chicago), IL

Hours: 32 Category 1A

Contact: The Cranial Academy  
(317) 594-0411

## May 3-6

*104th Annual Convention*  
Indiana Osteopathic Association  
South Bend, IN

Hours: 30 Category 1A

Contact: IOA  
(800) 942-0501  
(317) 926-3009

## May 4-6

*46th Annual Conference*  
Florida Academy of Osteopathy

Contact: Ken Webster  
(727) 581-9069

## May 18-21

*NeuroFascial Release Conference; a new paradigm in osteopathic thought*  
Arizona Academy of Osteopathy

Contact: Stephen Davidson, DO  
(800) 359-7772

## June 16-20

*June Basic Course*  
The Cranial Academy  
Palm Springs, CA

Hours: 40 Category 1A

Contact: The Cranial Academy  
(317) 594-0411

## June 21-23

*Getting a Grip on Low Back Pain*  
Mark S. Cantieri, DO, FAAO  
Thomas H. Ravin, MD

Denver, CO  
Hours: 17 Category 1A

Contact: AAOM  
303/331-9339

## June 21-24

*2001 Annual Conference: Special Sensory Systems: Integrating Posture and Balance into the Osteopathic Cranial Concept*

The Cranial Academy

Palm Springs, CA

Hours: 21 Category 1A

Contact: The Cranial Academy  
(317) 594-0411

## August 9-11

*Musculoskeletal Medicine*  
*Below the Waist*

Mark S. Cantieri, DO, FAAO  
Thomas H. Ravin, MD  
Denver, CO

Hours: 19 Category 1A

Contact: AAOM  
303/331-9339

## September 1-3 (tentative)

*Advancing our Cranial Skills*  
The Cranial Academy

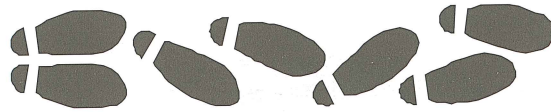
Location TBA

Hours: 24 Category 1A

Contact: The Cranial Academy  
(317) 594-0411



# Your Footprints



Everyone leaves footprints on the sands of time. Our prints are made by the imprints of our lives on others. A person is remembered for the weight of his or her character. For marks of accomplishment. For shapes of kindness. For length of compassion. For width of personal warmth. For generosity. For values.

When we leave positive impressions behind, we enhance the lives of our friends and loved ones. We give them footprints to follow.

Thoughtful estate planning is one means we have to make a print in the sand, to help others recall our priorities. For example, consider the effect of a plan that includes provision for family members and resources for charitable organizations like the American Academy of Osteopathy.

An estate gift makes a positive statement.

When you include the Academy in the final disposition of your estate, you declare to your family and friends that you believe in and care about the AAO's Mission. Your parting gift becomes a clear declaration of your values.

An estate gift provides needed funding.

Estate gifts are especially valuable, not only because they tend to be larger than annual gifts, but because they often come at critical times. They provide that extra boost to the budget that can make the difference between program advancement and program retrenchment.

Estate gifts can be designated for a specific purpose or they can be unrestricted for use where needed most. They can fund endowments that per-

petually provide an ongoing witness to your friends and loved ones that you believe in the work of the Academy.

An estate gift encourages imitation.

There's something about a well-planned estate gift that influences others to "go and do likewise." As friends and family members plan their own estates, they may recall your generosity and thoughtfulness. Your gift may unlock resources for the Academy from other estates.

AAO's executive director, Steve Noone, is available to provide you, confidentially, with the information and materials you need to include charitable giving in your overall estate plan. Please feel free to contact him to discuss your plans, or complete and return the coupon below. □

(Please complete and return this reply form.)

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

# Dig On!

Editor's Note: The American Academy of Osteopathy annually submits the names of 3 osteopathic physicians to the Kirksville College of Osteopathic Medicine. The college then selects one as presenter of the *Scott Memorial Lecture*, given during the Founders' Day Program. A memorial to the Drs. John H. B. and Katherine M. Scott, the subject of the lecture is that of osteopathic principles and concepts according to the tradition of Dr. Andrew Taylor Still. Publication of the Scott Lectures is relatively complete. In 1985, the AAO Yearbook consisted of all lectures from 1963-1984 inclusive. Beginning in 1992, *The AAO Journal* has annually published the lecture. There remains a brief period of time, 1985-1991, when the lecture was sporadically published. From my personal collection, selected excerpts of those lectures are offered, which particularly relate to the philosophical values of osteopathy.

## 1991: A return to basics

### J. Scott Heatherington, DO

"The American people today seek new leadership within the health care system. They long to hear a calm voice. They are waiting for the great silent majority of health care professionals to speak out. They are waiting for positive alternatives and solutions that will neither destroy the present system nor simply maintain

it. More than anything else, the American people are searching for leaders who can restore the old values of health care while developing new systems for its delivery. The challenge for new leadership then, is the challenge for a voice that forgoes rhetoric and political slogans and replaces them with wisdom, common sense, and understanding. We, the members of the osteopathic profession, can supply that voice. We can provide the American people with the new leadership it desperately seeks. Supplying that voice, providing that new leadership, is our summons to greatness."

## 1990: What have we learned?

### Alan R. Becker, DO

"In order to carry out my purpose, I have reread all the writings of Andrew Taylor Still in my library. I have also reread many articles by various prominent DOs and have had the privilege of knowing many of the pioneers of the profession. As I was perusing these sources, I was forcibly caught by the resemblance between A. T. Still and the writings of Michel De Nostredame, better known as Nostradamus. Nostradamus was trained in medicine in the best schools of his time in the 16th century. He is best remembered for the prophecies he wrote. In order to understand both the writings of Still and Nostradamus, it is necessary to visualize the cultural

mores of the periods in, which they lived and the thought processes of the people of those times. Although both wrote in plain language, the level of thought and understanding of the people was such that they might as well have written in a foreign tongue."

## 1989: The challenge of change

### Philip E. Greenman, DO

(*JAOA*, Vol. 90, No. 8; August 1990, 707-712)

"I submit that the future challenge to the osteopathic profession is to put itself out of business by demonstrating the basic biomedical truths that undergird the practice of osteopathic medicine to the worldwide medical community and to persuade all medical schools and medical practitioners to integrate and use the osteopathic medicine philosophy as the basis of patient care. If the osteopathic medicine philosophy is as valuable as I believe it to be and if the integration of structural diagnosis and manipulative treatment into healthcare is as valuable as I believe it to be, we have little to fear for the loss of osteopathic medicine. Osteopathic medicine will survive, but may have its name change, as the merits and strengths of osteopathic methods are discovered even as many members of the profession continue to deny their value and use to their patients. In the United States, healthcare is in an economic and organization crisis. It is

undergoing a rapid and dynamic change. In the next generation, the practice of osteopathic medicine will clearly differ from all previous practice. Challenge and change are part of progress. The challenges and the changes that occurred in Dr. Still's lifetime were quite different from ours. Dr. Still and his colleagues met the challenges of their day; they made changes; they showed us the way. Are we prepared to meet new and different challenges? I hope so."

### **1988: Osteopathic medicine – Our time is "at hand"**

**Wayne R. English, Jr., DO**

"Our time as a profession is 'at hand'. Never before has the American public been so aware of the kind of health care they need and deserve. The public is demanding 'quality health care' and that means individual 'hands-on' care and attention paid to disturbance of body, mind, and spirit, rather than only high-tech expensive diagnostic procedures aimed at chasing down 'pathological zebras' and 'way-out illnesses'. Until these things become part of the training of every future physician-philosophically, diagnostically, and therapeutically – the mission of the osteopathic profession as a medical reformation remains unfulfilled. Our destiny is not only at hand, but is actually in our hands, and our time take our stand in the clinical, political and educational health care arena is **NOW**. Yes, osteopathic medicine, our time is definitely **at hand!**"

### **1987: Parking on the other fellow's nickel**

**Stephen D. Blood, DO**

(Oklahoma DO/December 1987, 8-11)

"I believe the purpose of life can be reduced to two basic concepts, to learn and to serve. We have the opportunity to learn from our patients on a daily basis. We can learn from

their marvelous experiences without always having to live them. With the true holistic approach, the patient becomes the teacher and the doctor becomes the pupil. In a true sense, partners in the patient's health care. The second great purpose in life is to serve. Great opportunities to serve as an educated student await you, and there are multiple opportunities to learn by serving. Specifically today we recognize Dr. Andrew Taylor Still and his followers for their contribution to our existence and development. Dr. Still not only expanded the principles of Hippocrates, but he set an example of service. Dr. Still not only established a school of thought, but he lived the virtues of courage and integrity that were needed for it to succeed. Where his students have banded together to use these virtues and his principles, our profession has flourished. Now our nickel needs to be paid to develop and launch the next generation of osteopathic physicians as well as to preserve this unique approach."

### **1986: The contribution of Andrew Taylor Still to Medicine**

**Paul E. Kimberly, DO**

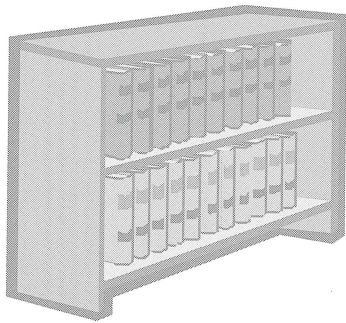
"A principle is a fundamental truth. The literature indicates that Andrew Taylor Still took three principles, which had been floating about in the medical literature but had never been consistently applied in health care. To these he added a fourth, somatic dysfunction. One definition of philosophy is '... the body of principles or general conceptions underlying a given branch of learning or major discipline'. Therefore, my conclusion is that Still took four principles, welded them into a philosophy called osteopathy and, of greatest importance, successfully applied this philosophy to patient care. The man had some very unusual insights, which some would call clairvoyance. He made

statements about body functions, which to the best of my knowledge have all been proven, the last of which is the perineural outflow of cerebrospinal fluid (1968). The contributions of Andrew Taylor Still to medicine are: (1) The development of a philosophy of medicine, which is the first and only in existence. (2) Application of the four principles of this philosophy to the prevention and treatment of disease along with patient education about nutrition and hygiene to create the only complete practice of medicine in existence today."

### **1985: Andrew Taylor Still – physician, engineer, humanitarian**

**Rollin E. Becker, DO**

"What took place at the time of his discovery is something, which has happened hundreds of times to individual who have been involved in many disciplines. It is part of a learning process in these self-taught individuals deeply seeking answers to their specific needs. It occurs at the moment of its choice, not by intention. Dr. Still gave the world the science of osteopathy and clear-cut answers to two basic principles, which can be used to serve mankind's needs: (1) The principle of health in body physiology can be used as a principle in itself. (2) The principle of cause and effect can be used in the care of disease and/or trauma in body physiology wherein any such problem is only an effect, which can be diagnosed and treated through causal sites to restore health processes. Both principles are available for use for the living physician in working with the living patient. Thus, a physician's knowledge, an engineer's applicability, and a humanitarian's response toward health are the universal keys for use in the work given to us by Andrew Taylor Still."□



# History of Osteopathy and Twentieth-Century Medical Practice

## The American Osteopathic Association (pp 251-261)

by E. R. Booth, PhD, DO

The American Osteopathic Association is the national organization of legitimate osteopaths. Till 1901, it was known as the American Association for the Advancement of Osteopathy, in short, the AAAO. Throughout this book it is designed by its later name, the American Osteopathic Association, the AOA.

A meeting of students of Osteopathy and near-by practitioners was held at the American School of Osteopathy, Kirksville, MO, February 6, 1897, to take steps towards a national organization. A committee of sixteen, four students from each class in the American School of Osteopathy, was appointed to formulate a plan of organization. March 13, the committee submitted its report and a constitution was approved, but final action upon it was deferred till the next meeting. Meantime, the proposed constitution was sent to all osteopaths and to other schools, inviting suggestions and cooperation. The next session, which was really the first annual meeting of the AOA, was held in Kirksville, MO, April 19, 1897, the one hundred and twenty-second anniversary of the battle of Lexington, at which the Americans "fired the shot heard round the world," and a permanent organization was effected, through the agency of which Americans, unitedly fighting for a principle, have already been heard beyond the confines of their own land.

The following wise words were uttered by Dr. D. B. Macauley in making the formal announcement of the completion of the organization:

"The reasons for the organization are many, are obvious, are strong; and personal protection is the least of these. No, the members of this organization have laid upon them a heavier responsibility, a greater duty, than the so-called 'first law of nature', self-preservation.

"The primary objects of the organization are, in the broadest sense, to work toward and attain all things that will truly tend to the advancement of Osteopathy, and the rounding of it into its destined proportions as the eternal truth and vital principle of therapeutic science."

The constitution also contained the following important paragraph:

"The association shall elect Dr. Andrew T. Still to the exalted dignity of honorary member by virtue of his unique position as founder of osteopathy, the A. T. Still Infirmary, and the American School of Osteopathy, located at Kirksville, MO. The association hereby records and emphasizes its appreciation of Dr. Still's original, brilliant, and permanent researches into the constitution of man, by which osteopathy, as a science, has become possible. This election is strictly 'causa honoris et magna cum laude.'"

The officers for the first year were: President, Dr. D. B. Macauley; First Vice President, Dr. Nettie H. Bolles; Second Vice President, Dr. Adeline Bell; Secretary, Dr. Irene Harwood; Assistant Secretary, Dr. C. V. Kerr; Treasurer, Dr. H. F. Goetz; Trustees, Drs. J. D. Wheeler, G. J. Helmer, C. A. Peterson, Ella Still, and A. L. Evans.

After the meeting the executive officers carried on the work already begun. Steps were at once taken to secure the revocation of the charter of the National School of Osteopathy, Kansas City, MO. The decision of the court (page 167) compelled the school to cease issuing diplomas except in accordance with law, but, on account of a technicality, the charter was not revoked. The school, however, found its patronage cut off and voluntarily closed. In this manner the profession put itself on record as unequivocally in favor of a high standard of education, and showed that it would not tolerate frauds or deceptions in the name of osteopathy, if in its power to prevent them.

The second annual meeting was held in Kirksville, MO, June 29 and 30, 1898. In the absence of both the President and Vice President, Dr. C. A. Peterson, of the board of trustees, called the meeting to order. About two hundred of the leading osteopaths from all over the United States were present.

Papers were read by Dr. N. Alden Bolles, on "One Reflex Are", and by Professor Hazzard, on "Principles of Osteopathy". Dr. Matthews spoke on "The Osteopath in the Field", and Dr. Hildreth on "Legislation". Dean C. M. T. Hulett, of the American School of Osteopathy, explained the objects of the organization to be known as the Associated Colleges of Osteopathy (ACO). Several amendments

to the constitution were presented, which came up for action at the next session.

Students were at first admitted to membership in the association but this privilege was to terminate in two years. The change making graduation from one of the Associated Colleges of Osteopathy requisite for membership was made at this meeting.

The officers elected were: President, Dr. S. C. Matthews; Vice Presidents, Dr. S. H. Morgan and Dr. G. L. Huntington; Secretary, Dr. Irene Harwood; Assistant Secretary, Dr. N. F. McMurray; Treasurer, Dr. D. L. Clark; Trustees, Drs. J. W. Henderson, T. L. Ray, Belle F. Hannah, F. E. Moore, Harry Nelson, H. J. Dann, and J. W. Banning.

The new officers had a strenuous year's work before the third annual meeting. Vigorous action was taken in many places by medical boards against osteopathy in attempts at prosecutions and prohibitive legislation. The association assumed the defensive and appropriated the greater part of the funds at its disposal for this purpose. The results were very satisfactory in most cases; and osteopathy was established beyond cavil as a complete and independent system by judicial decisions and legislative enactments. The necessity for such an organization was recognized and the best methods of carrying out its purposes were conceived at this time, and have since been put into execution. Dr. C. M. T. Hulett says of the work in 1898-9:

"Three phases of the matter have been passed upon: It is established, first, that the practice of osteopathy does not come under the jurisdiction of existing medical boards; second, that independent osteopathic legislation is just and necessary; and third (in the South Dakota case), that state executive officials shall not by artificial or forced interpretations contravene the intent of the legislature and therefore refuse osteopaths their legal rights."

The third annual meeting was held in Indianapolis, July 5, 6, and 7, 1899. A very full program was presented and a number of strong papers were read. Three of them bore directly upon the subject of osteopathic education. A closer affinity was established between the American Osteopathic Association and the Associated Colleges of Osteopathy. A reputable College of Osteopathy was defined as "one, which is a member in good standing of the ACO." The annual dues were increased from one dollar to five dollars. The number of trustees was changed from five elected each year to nine, three of whom were to be elected each year. The complete minutes of this meeting, and all the papers read, appear in *The American Osteopath* for September, 1899.

The officers chosen for the next year were: President, Dr. A. G. Hildreth; First Vice President, Dr. F. W. Hannah; Second Vice President, Dr. Arthur Burgess; Secretary, Dr.

Irene Harwood; Assistant Secretary, Dr. C. T. Kyle; Treasurer, Dr. C.M.T. Hulett; Trustees for three years, Drs. E. W. Goetz, A. L. Evans, and L. A. Liffing; two years, Drs. D. Ella McNicoll, N. W. Plummer, and J. R. Shackelford; one year, Drs. A. T. Hunt, J. D. Wheeler, and H. A. Rogers.

The original constitution made those connected with schools ineligible to offices. Dr. Hildreth resumed his connection with the American School of Osteopathy, so the duties of President devolved upon the First Vice-President, Dr. Hannah.

The American Osteopathic Association took a high position from its organization with reference to education. Many of the earlier graduates, recognizing the fact that their education was inadequate, returned to school and spent months, and even years, more thoroughly preparing themselves for practice. They, of course, joined hands with the more cultured members of the profession and have constantly demanded a high standard. The standard taken in 1899 is shown by the following resolution passed at the Indianapolis meeting:

"Inasmuch as some impressions have gone forth that there is a disposition on the part of osteopathic institutions and educators to favor an inferior standard of qualification in our practitioners, we, therefore, desire to give emphatic expression to the following positions:

"1) That the standard as at present projected by the Associated Colleges of Osteopathy is indorsed by the statutory enactments of the several states legalizing Osteopathy, and that this standard compares favorably with that of the medical colleges of those states thus favoring osteopathy.

"2) that it is our conviction that the highest limit of this standard be maintained by all osteopathic schools and colleges, and that every department in the recognized curriculum be developed to its fullest extent.

"3) That we formally record our determination to raise this standard, as the emergencies of our practice may require, until it shall include every department of therapeutic equipment, with the exception of *Materia Medica*.

"4) that we hold as our ideal such qualifications as will enable us to meet and master such emergencies as may arise in the general practice of the therapeutic professions."

Owing to at least an apparent failure of the Associated Colleges of Osteopathy to maintain the standards laid down for itself, the relation existing between that organization and the American Osteopathic Association was not altogether satisfactory, and a committee of three was appointed to work in conjunction with the Associated Colleges of Osteopathy on all questions pertaining to the standard of requirements for membership in the American Osteopathic Association.

The fourth annual meeting was held in Chattanooga, TN, July 5-7, 1900, Dr. F. W. Hannah presiding. A number of interesting papers were read and much important routine business was transacted. The association put itself on record in favor of maintaining high standards of conduct and education. In this connection, a grievance committee consisting of Drs. A. L. Evans, J. R. Shackelford, Wm. Hartford, and L. A. Liffing, made the following report, which was adopted:

“1. WHEREAS, The present conditions necessitate a declaration of policy for the guidance of the Board of Trustees in dealing with members who may give instructions in osteopathy in violation of the standard set by this association; therefore, be it

“RESOLVED, that it is the sense of this association that any member who undertakes to instruct persons in the practice of osteopathy, with the view that the recipient of such instruction may become a practitioner of osteopathy, be deemed unworthy of membership in this association, and that due notice shall be given to such offender when charges will be heard, and upon proof of such charges, the member shall be suspended, whether such member appears before the Grievance committee or not.

“Provided, that the above shall not apply to members who may without compensation, given information on osteopathic points to students in regular and legitimate schools of osteopathy, nor to teachers in such schools in giving instructions in their classes.

“2. We, your Grievance Committee, to whom has been referred charges of unprofessional conduct on the part of Dr. (John Doe), Cincinnati, OH, in attempting to teach or in offering to teach osteopathy in a manner contrary to the standard set by this association, have found, according to the evidence submitted, and which is hereby appended, that the charges are true. Therefore, be it

RESOLVED, that Dr. (John Doe) be hereby suspended from and deprived of all rights and privileges in the AAOO, pending a full investigation and decision upon the matter of the Board of Trustees.”

Along the same line the following adopted resolution is worthy of attention:

“RESOLVED, that it is the sense of this meeting that any practitioner who advertises any one as assistant in his practice who has not graduated from a reputable school of osteopathy, is not working to the best interest of the science of osteopathy, and hence, such action is condemned as it gives the public a wrong impression as to the qualifications necessary to the practice of osteopathy. It is further

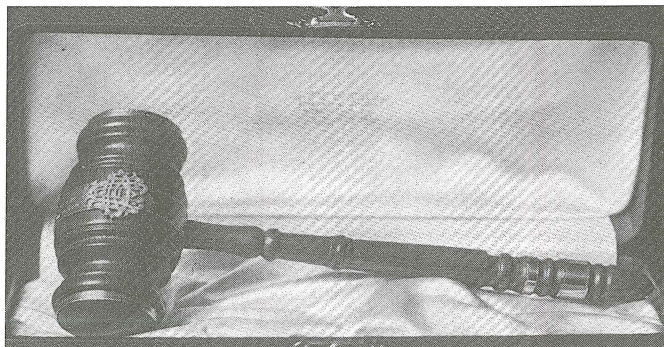
RESOLVED, that such member be deemed unworthy of membership in the association.”

An interesting feature of the meeting was the presentation of a gavel to the association by Drs. C. E. Still and A. G. Hildreth, a cut of which appears opposite page 73 [also

pictured below]. It is composed of nine pieces of wood, — eight in the body and one in the handle. All are oak and came from objects closely allied with the early history of osteopathy. The handle is made from an oak walking stick, or staff, which Dr. Still used for years. Beginning with the piece in the body just beyond the handle, as shown in the cut, and passing around the distant side, the pieces are as follows: (1) From a little house in which Dr. Still lived in the southeast part of Kirksville, MO; (2) From his second and much more comfortable residence in the west part of town. (3) From the small residence near his house used as office and treating rooms when his practice grew so large he could not handle it at his residence. (4) From the first osteopathic college, 14 by 28 feet, in which the first seventeen pupils of the first chartered school of osteopathy were taught. (5) From the central section of the present college building, built in 1895. (6) From the first addition to the original building. (7) From the second addition to the enlarged building. (8) From Dr. Still’s present residence. The gavel is gold mounted and bears the following inscriptions: on the central band: “Osteopathy, discovered 1874, by Andrew Taylor Still. First school chartered, Kirksville, MO., May 10, 1892. Presented by A. G. Hildreth and C. E. Still, Chattanooga, TN, July 5, 1900”; on the lower band: “Organized at Kirksville, MO, May 1, 1897”. Dr. Hildreth made the following comment concerning the gavel:

“This gavel, made of so many separate pieces of wood yet so perfectly united by the mechanic who made it, representing as it does the structures in which and from which the foundation of osteopathy has been built, was presented to the Association with the hope that it might be the instrument in the hands of men of wisdom who would ever wield it in an honest endeavor to create for the future of our profession a superstructure that would prove worthy of the splendid foundation laid by our illustrious discoverer, and that as years go by it might prove *emblematical* of the close union of our good men and women who give their lives to our grand work.”

The following report, which was adopted, is also of importance as showing the close relation existing between the association and the Associated Colleges of Osteopathy (ACO):



“Your committee appointed to confer with the Associated Colleges of Osteopathy, begs leave to report:

“That we have attended two meetings of the ACO, and have observed mode of procedure in the matter of applications for membership in their body.

“As far as we have able to observe, their requirements for admission and methods of examination of colleges seem to be satisfactory.

“By virtue of the close relations existing between the AAAO and the ACO, particularly relating to membership in our association, we would recommend that a standing committee of three (3) be appointed by the President to meet with the ACO.

“And, we further recommend that the ACO be requested to accord to members of this Committee all the rights and privileges of membership on all questions pertaining to standard of requirements for membership in our association. Henry E. Patterson, DO, Chairman; H. E. Nelson, W. L. Riggs, S. D. Barnes.”

The officers elected for 1900-1 were: President, Dr. C.M.T. Hulett; First Vice-President, Dr. Alice Patterson; Second Vice President, Dr. S. D. Barnes; Secretary, Dr. Irene Harwood; Assistant Secretary, Dr. T. M. King; Treasurer, Dr. M. F. Hulett; Trustees, Drs. H. E. Nelson, W. L. Riggs, and H. E. Patterson.

The Association returned to the birthplace of osteopathy, Kirksville, MO, for its fifth annual meeting, July 2, 3 and 4, 1901. Mayor T. J. Dockery delivered the address of welcome, and Dr. A. T. Still was present at almost every session and participated freely in the exercises.

The report of the Board of Trustees was elaborate and specific. In the case of Dr. (John Doe), of Cincinnati, which was referred to the board at the last annual meeting, the following was adopted:

“The formal vote of censure above provided for operates to terminate his period of suspension from the rights and privileges of membership in the association, but in view of his unprofessional conduct, we recommend that the association deprive him of membership on the Board of Trustees, and that the place be declared vacant and be filled by election at this meeting.”

The decision referred to settled the questions as to whether those professing to be legitimate osteopaths could ignore the standards of conduct and education established by the profession.

Many valuable papers were presented and several clinics were conducted, all of which were practical and presented the most scientific views of the profession. The Committee of Revision of the Constitution made its report, and, after much discussion and mature deliberation, the constitution still in force was adopted. The most important changes were the adoption of the name, the American Osteopathic Association (AOA), instead of the cumber-

some name, the American Association for the Advancement of Osteopathy; and provisions for Standing Committees of Publication, Education, and Legislation, consisting of three members each.

Probably the most important act of this meeting was the launching of an osteopathic journal, to be published by the association as its official organ. The committee, consisting of Drs. C.M.T. Hulett, G. A. Wheeler, W. B. Davis, W. F. Link, and E. R. Booth, was appointed to consider plans for such a journal and report recommendations. The report of the committee was as follows:

“The name of the magazine shall be the *Journal of the American Osteopathic Association*.

“It shall be a bi-monthly of about 48 pages, the pages to be about 7 x 10 inches.

“It is recommended that there be one managing editor and six associate editors, selected primarily for qualification, and for location as much as possible, to be distributed in different parts of the country.

“Contents – Proceedings of the AOA. Papers read before association and discussions thereon. Official communications of all kinds. Articles prepared by corps of editors. Articles contributed by other members of profession. Directory of members in good standing in each number. General news of interest to members of association. Reports of legislative work in various states from time to time. Judicial matters, etc., etc. Reports of state associations.

“Subscription price to non-members shall be \$3.00 per annum. Membership carries with it subscription to Journal at \$5.00 per annum, provided the same is paid in advance.

“Estimated cost to be about \$60.00 per issue of 500 copies, exclusive of editorial and clerical work.”

The report was adopted, after careful consideration. The work was placed in the hands of the Committee on Publication, which chose Dr. A. L. Evans, Editor-in-chief, and the first number appeared in September, 1901. It contained an historical sketch of the association, the minutes of the fifth annual meeting, reports of officers, trustees, committees, etc., the new constitution, several papers of professional subjects, a directory of members, and other items of interest to the profession. Subsequent issues contained the other papers presented at the annual meeting. The Journal was published bi-monthly the first year, monthly thereafter.

The following officers for 1901-02 were unanimously elected: President, Dr. E. R. Booth; First Vice President, Dr. J. H. Sullivan; Second Vice President, Dr. W. B. Davis; Secretary, Dr. Irene Harwood; Assistant Secretary, Dr. T. M. King; Treasurer, Dr. M. F. Hulett; Trustees, Drs. George F. Nason, Charles H. Whitcomb, Nettie H. Bolles, three

→

years; Dr. S. A. Ellis, one year.

The following committees provided for by the new constitution were chosen by the trustees: Committee on Publication, W. F. Link, H. E. Patterson, D. Ella McNicoll; Committee on Education, C. M. T. Hulett, W. B. Davis, C. C. Teall; Committee on Legislation, A. G. Hildreth, M. F. Hulett, Louise P. Crow.

The work for the suppression of so-called correspondence schools, begun by President C.M.T. Hulett, was continued by the Committee on Education during the year. A number of reputable magazines were found to be carrying the advertisements of such professed schools. The chairman of the committee sent a communication to each of those magazines, in which he stated the main facts relating to preparation necessary to become an osteopath. Among other things, he said:

"This communication is addressed to you in the hope that the matter to which it refers is the result of inadvertence or of incomplete information of your part.

"You are carrying the advertisement of a correspondence school which proposes to fit persons for the practice of osteopathy. Would you accept the advertisement of an institution which offered to fit persons for the practice of medicine by a correspondence course of study, or which offered to fit them for the practice of surgery in the same way? Yet, it is just as impossible to fit a person by mail for the practice of osteopathy as it would be to make a qualified surgeon.

"In the name of a profession which is possessed of a unity and a solidarity based on a definite formulated standard by which its growth has been determined; in the name of two thousand regular practitioners of osteopathy; in the name of the Associated Colleges of Osteopathy, with twelve members; in the name of one thousand students who are spending one thousand to two thousand dollars each and two years of their time in these colleges to properly qualify themselves for entry into this profession; in the name of the twenty-five state societies, and in the name of the American Osteopathic Association, we ask that your influence for a high standard of professional ethics be rightly exerted in this instance."

As reputable magazines no longer carry such advertisements, and the correspondence school business has lapsed into desuetude, it is reasonable to conclude that the work of the committee was effective. The committee also sent a long letter to all the reputable schools in which it gave an outline of its proposed plans for formulating a standard. This met with the hearty approval of nearly all of the schools. Then the committee embodied its suggestions in the form of a report, which was presented at the Milwaukee meeting. □

## Sutherland Cranial Teaching Foundation, Inc.

### COURSES

### Osteopathy in the Cranial Field, Basic Course

**Course Director:**  
**Michael P. Burruano, DO**

**June 7-11, 2001**  
**NYCOM, Old Westbury, NY**

Contact Judy Staser (817) 926-7705

*continued from page 6*  
*President's Message*

ing task, which remains to be achieved.

This cooperation will need to be on an international scale. We have begun forming friendships with both physicians and registry osteopaths throughout the world. Our concerns cannot be limited to developing our personal skills, applying them in our care of patients, educating the next osteopathic generation, dealing with remuneration and politics. If we are to apply osteopathic principles to the survival of the human race to the 22nd century, we need to broaden our horizons. Our scientific background assures us that these environmental issues go beyond political issues, and are crucial to the health of the ecosystem which supports our patients' health. As health care professionals, we need to cooperate with others to see that our civilization takes the necessary steps to insure human survival. What good, after all, will it be if our individual patients can only survive to the point where civilization self-terminates because of lack of intelligent self-direction of human potential?

Thus the evolution of osteopathic philosophy expands to a broader view, with logical extension to international public health issues. Osteopathic philosophy is even more relevant now, as we look at its global implications at the beginning of the third millennium (CE). □



# A practitioner survey of osteopathic manipulative treatment (OMT) techniques for specific body regions

by Sang Ho Song, OMS-IV, University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine

[**Editor's Note:** *The author is a 2000 graduate of UMDNJ-SOM and is currently serving his internship at Long Island Hospital in New York.*]

## Abstract

The goal of this survey is to identify which general categories of osteopathic manipulative treatment (OMT) are believed to be most important for inclusion in the medical school curriculum by practicing osteopathic physicians. A survey was mailed out to 162 randomly selected members of the American Academy of Osteopathy (AAO) and 25 Osteoscience Department Chairpersons and/or faculty advisors to the Undergraduate American Academy of Osteopathy (UAAO). Ninety-one respondents, 71 AAO members, and 20 department chairpersons replied. Based on a scale of 1-5 (1=not at all important and 5=extremely important, the mean ratings for the following OMT techniques were: muscle energy (4.4), myofascial (4.2), high velocity/low amplitude (4.1), strain/counterstrain (4.1), and osteopathic in the cranial field (3.3). The mean ratings of those techniques for specific body areas were: head/cervical (4.2), sacrum, innominate & pelvis (4.1), whole body (4.1), lumbar (4.1), thorax & ribs (4.1) and extremities (3.9)

## Introduction

The need to reform osteopathic medicine with respect to the use of OMT has been identified. The change from "osteopathy", characterized by the frequent use of OMT, to "osteopathic medicine", in which OMT is replaced by more allopathic methods is apparent.<sup>1</sup> In fact, it has been

found that 73% of practicing DOs use OMT with less than 25% of their patients.<sup>2</sup> Miller reports that students are strongly committed to the osteopathic profession and intend to maintain a high level of behavioral commitment to its central tenets.<sup>3</sup> However, between medical school and practice, the majority of DOs gradually use less OMT. A number of DOs enter residencies in which OMT is rarely used, and residents are even discouraged from using OMT in hospital settings.<sup>4</sup>

The 19 osteopathic medical schools have not agreed upon a standard osteopathic principles and practice (OPP) curriculum. The methods of OMT, a component of OPP, are difficult for osteopathic medical students to learn in part because its tenets often include abstract terms like "Potency...Tide...Breath of life."<sup>5</sup> There is no standardized system of nomenclature for the numerous techniques that DOs use in practice. This lack of standardization may help explain why OMT is not well documented in the literature.

The present survey is an attempt to help in developing standards with respect to teaching students OMT techniques. The goals of this project include: 1) identifying which general categories of osteopathic techniques should be emphasized in school curricula, 2) identifying schools that tend to favor practical modalities, and 3) promote the standardization of OMT in osteopathic medical schools.

## Methods Survey procedure

A total of 187 physicians were requested to participate in the present survey. A random sample of 10% of the 1,625 osteopathic physicians listed in the *1996-1997 Membership Directory* of the American Academy of Osteopa<sup>→</sup>

thy<sup>6</sup> was drawn to represent physicians who were mostly likely to be using OMT in their practices. These 162 physicians were mailed survey questionnaires (see Appendix A) during June of 1997, and requested to return the completed questionnaires by July 15, 1997. In addition, 25 "chairpersons" (15 osteoscience chairpersons and 10 faculty advisors to the Undergraduate American Academy of Osteopathy (UAAO) were also sent copies of the same questionnaire. Any randomly selected physician from the AAO membership directory who was currently a chairperson was skipped until the goal of 10% (162 physicians) was reached. A covering letter explaining the reasons for the survey and encouraging the recipient's participation in the survey was enclosed with the survey instrument along with a self-addressed envelope to facilitate the completed survey's return.

In order to control for potential biases for respondents being more likely to practice OMT than nonrespondents, all of the chairpersons and 25% of the physicians who had not returned completed questionnaires by August 1, 1997, were contacted by telephone and encouraged by the first author to send in completed questionnaires. These "nonrespondents" were also given the option of returning their questions by facsimile or reading aloud their answers to the first author over the telephone. Nineteen of these 25 nonrespondents faxed their responses, whereas 6 used the telephone. Only 25% of the non-responding physicians were chosen for follow-up because these were the physicians who had listed telephone numbers in the AAO membership directory.

### Respondents

Of the 187 questionnaires mailed,

there were a total of 91 (49%) respondents, 20 (80%) of the 25 chairpersons and 71 of the 162 (44%) physicians in general, who mailed, faxed, or telephonically completed questionnaires. However, the overall return rate of 49% is spuriously high. Only 82 (44%) of the respondents had completed the section of the questionnaire about the importance of various OMT techniques. Therefore, the final sample was restricted to these 82 respondents of whom 20 (24%) were chairpersons and 62 (76%) were practitioners. The percentage of respondents returning survey questionnaires with OMT importance ratings was thus 44%.

Fourteen osteopathic medical schools were represented in the final sample of 82 respondents, and 19 (23%) had graduated from Kirksville College of Osteopathic Medicine, followed by 10 (12%) from the Chicago College of Osteopathic Medi-

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cine, and 9 (11%) from the Philadelphia College of Osteopathic Medicine. Less than 10% of the respondents was represented by any one of the remaining 11 schools. It is important to note that graduates of the Arizona College of Osteopathic Medicine, the Lake Erie College of Osteopathic Medicine, and the New Jersey School of Osteopathic Medicine were not represented in the sample because graduates from these three schools had by chance not been randomly chosen to be sent survey questionnaires.

The mean number of years that the 82 respondents had been practicing medicine since graduation was 16.74 (SD = 14.18). Forty-one (50%) described themselves as primary care physicians, and 56 (68%) were board certified. Sixty-three percent of the doctors specialized in some field. The specialties represented include anesthesiology, emergency medicine, internal medicine, osteopathic manipulative medicine, orthopaedics, pediatrics, physical medicine & rehabilitation, radiology, and sports Medicine. With respect to certification of Special Proficiency in Osteopathic Manipulative Medicine, 26 (32%) were certified. Notably, 60 (73%) were actively involved in teaching OMT; 55 (67%) taught medical students; 40 (49%) taught interns; 40 (49%) taught residents; and 45 (55%) taught colleagues. Eighty-nine percent of the respondents have attended postgraduate OMT courses.

The physicians surveyed used OMT with 0 to 115 patients per week (mean = 40, SD = 28.80), and this represents 0 to 100% of their practice (median=70%). Thirty-one percent indicated that they used OMT with 100% of their patients. Finally, 48% of the respondents offered comments.

Data from respondents and nonrespondents were combined in the Table 1, which lists mean scores for the general technique categories among the individual schools.

**Table 1 Ratings of OMT Techniques by Schools**

<u>School</u>	<u>N</u>	<u>MYO</u>	<u>ME</u>	<u>HVLA</u>	<u>Strain/CS</u>	<u>Cranial</u>
UHSCOM	5	3.9	3.7	3.2	3.8	3
KCOM	20	4.1	4.2	3.8	3.9	3.8
UNECOM	5	4.8	4.2	4.7	4.4	4.4
MSUCOM	7	4.1	4.3	3.5	3.8	3.5
CCOM	14	4.2	4.3	4.4	4.4	3.3
PCOM	12	4.5	4.4	4.9	3.7	2.8
WVSOM	4	4.5	4.5	4.4	4.4	4.3
COMP	8	4.5	4.5	4.1	4.2	4.4
OSUCOM	7	3.6	4.6	4.2	4.3	3.2
OUCOM	4	4.1	4.6	3.9	4.2	3.3
UOMHS	5	3.5	4.7	4.5	3.7	3.4
TCOM	4	4.8	4.7	4.3	4.4	4.8
NSUCOM	3	3.7	4.8	3.3	4.4	2.8
NYCOM	6	4.8	4.8	4.6	4.5	3.9

Note. N=91

## Data analysis

Because each physician was asked to rate 30 combinations of 5 types of technique (myofascial, muscle energy, high velocity/low amplitude, and strain/counterstrain categories and six body areas [head/cervical, thorax & ribs, lumbar, sacrum, innominates & pelvis, extremities, and whole body/neuromuscular integration]), the overall design of the study was considered to reflect a two factor multiple analysis of variance (MANOVA) with repeated measures for both factors, type of technique and body area. The SAS GLM (SAS Institute, 1990) procedure was used to conduct the repeated measures MANOVA, and paired (correlated) *t* tests were employed to determine if there were any significant *post hoc* mean differences. It is important to note that all of the paired *t* test comparisons employed Bonferroni adjustments to control for the family-wise error rate, i.e., to guard against finding mean differences that might have arisen by chance. The Bonferroni adjustment was calculated by dividing the alpha level by the number of comparisons being made, and the minimum alpha level was set at the .05 level, two-tailed test, for all of mean comparisons that are presented below.

Because the 20 Chairpersons

might be expected to attribute more importance to OMT than the other 62 physicians, we decided to ascertain whether the Chairpersons had indeed attributed more overall importance to such techniques than the practitioners had before combining the Chairpersons' and practitioner ratings together for analysis purposes. The mean overall OMT importance rating for each respondent was calculated by summing all 30 of Technique by Body Area ratings and then dividing by 30. The mean overall OMT importance ratings for the 20 Chairpersons and 62 practitioners were, respectively, 4.39 (SD = .54) and 3.97 (SD = .80). As expected, the Chairpersons had generally rated OMT as more important than the practitioners did, *t*(80) = 2.21, *p* < .05. However, the effect size of this mean difference was .24 and small (Cohen, 1988). Therefore, we decided to pool the chairpersons' and practitioners' responses together for analysis purposes because the overall effects size of the mean difference was so small.

A number of independent *t* tests and correlational analyses were also conducted to ascertain whether the 82 respondents' overall mean importance ratings were significantly associated with being a primary care physician, being board certified, teach-

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ing OMT, length of practice (years), and the number patients being treated with OMT each week. None of these background characteristics of the respondents was significantly correlated with the overall importance attributed to OMT. Therefore, none of these characteristics was controlled for in the repeated measures MANOVA.

## Results

The mean overall importance rating of the 82 respondents for the teaching of OMT was 4.07 ( $SD = .76$ ). Therefore, the respondents generally believed that it was “very important” to teach OMT. The Cronbach coefficient alpha for the rating of overall importance was .96, and such a high value indicates that the mean ratings were extremely consistent.

The two-factor repeated-measures MANOVA indicated that the main effects for both type of technique [MANOVA  $F(4, 78) = 4.93, p < .01$ , Wilks' lambda = .80] and Body Area [MANOVA  $F(5, 77) = 6.31, p < .001$ , Wilks' lambda = .71] were significant, as well as the type of technique X body area interaction [MANOVA  $F(20, 62) = 3.21, p < .001$ , Wilks' lambda = .49]. Table 2 shows the means and standard deviations of the importance ratings not only for the 30 combinations of type of technique by body area, but also the total mean importance ratings for the 5 types of techniques and 6 body areas. A series of 10 *post hoc* paired  $t$  tests using a Bonferroni adjustment of alpha / 10 was used with the 5 mean total ratings for type of technique given in Table 2. The respondents considered the cranial technique as the least important technique to stress as opposed to the other techniques. Muscle energy techniques were also considered to be more important than high velocity and strain/counterstrain techniques were. With the exception of the cranial techniques, myofascial techniques were rated as comparable

Table 2: Mean and Standard Deviations of Important Ratings

Body Area	MYO		ME		HVLA		S/CS		Cranial		Total	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Head/Cervical	4.28	0.95	4.46	0.85	4.06	1.16	3.93	1.20	4.07	1.13	4.16	0.77
Thorax & Ribs	4.27	0.99	4.38	0.96	4.24	1.15	4.09	1.07	3.34	1.41	4.06	0.78
Lumbar	4.29	1.01	4.48	0.92	4.30	1.13	4.02	1.08	3.40	1.35	4.10	0.77
Sacrum	4.20	1.02	4.48	0.89	4.12	1.17	4.07	1.07	3.78	1.35	4.13	0.77
Innominate and Pelvis												
Extremities	4.06	1.11	4.30	0.96	3.74	1.28	4.09	1.06	3.29	1.41	3.90	0.87
Whole Body	<u>4.28</u>	<u>1.03</u>	<u>4.28</u>	<u>1.02</u>	<u>4.00</u>	<u>1.24</u>	<u>4.10</u>	<u>1.10</u>	<u>3.93</u>	<u>1.30</u>	<u>4.12</u>	<u>0.88</u>
Total	4.23	0.92	4.40	0.85	4.08	1.08	4.07	0.97	3.61	1.23	4.08	0.76

Note. -  $N = 82$

to those based on muscle energy, high velocity, and strain/counterstrain techniques.

With respect to the six different areas of the body, Table 2 indicates that the extremities were rated as less important than the other 5 areas of the body were. The paired  $t$  tests used in these mean comparisons was based on a Bonferroni adjustment of alpha / 15. The head area was rated as more important for OMT than the thorax was, but the mean importance ratings for the head, the lumbar, the sacrum, and whole body areas were all comparable.

Rather than calculate paired  $t$  tests for all of the possible combinations of the 5 techniques and 6 body areas to identify where the significant mean differences represented by the significant MANOVA type of technique X body area interaction, we decided to focus on the importance of OMT techniques within the teaching of treatments for each of the specific body areas. The Bonferroni adjustment for all of the following comparisons was set at .05 / 10 within each body area. As Table 2 demonstrates, muscle energy techniques were rated as more important than high velocity, strain/counterstrain, and cranial techniques were when the body area was the head. For the thorax and ribs, cranial techniques were considered to be less important than the other four techniques. Muscle energy and strain/counterstrain techniques were more

important than cranial techniques were in the lumbar region, and muscle energy techniques were, in turn, more important than strain/counterstrain techniques were. In the sacrum, muscle energy and strain/counterstrain, and myofascial techniques were more important than cranial techniques were, and muscle energy techniques were again rated as more important than strain/counterstrain techniques were. As Table 2 indicates, myofascial and muscle energy techniques were considered to be more important than cranial techniques were when the extremities were involved, and muscle energy techniques were rated as more important than high velocity techniques were. With respect to the whole body, no technique was preferred more than another was.

The respondents who taught OMT showed a trend of rating the techniques higher than those who did not teach any OMT. We divided the respondents into three categories: those who do not teach OMT at all, those who teach OMT to some extent, and those who teach it as OMM chairpersons. A  $t$  test of the overall mean ratings between OMM chairpersons and the rest of the pool did reveal a significant difference ( $p < .05$ ). It should be noted that whether the respondent taught OMT showed a trend toward a significant difference ( $p < .10$ ). Using regression analysis, a  $t$  test be-

tween those who teach OMT and OMM Chairpersons also showed a trend ( $p < .10$ ).

## Nonrespondents

The overall ratings for the nonrespondents were very similar to the respondent data. The mean and standard deviations (M, SD) for the techniques were: Muscle energy (4.2, .70), myofascial (4.4, .68), high velocity/low amplitude (4.0, .85), strain/counterstrain (4.2, .76), and osteopathy in the cranial field (3.5, 1.2).

## Discussion

The overall pattern of results suggests that a major factor influencing the overall ratings of the OMT technique categories was whether or not the respondent taught OMT. Respondents who taught OMT ranked the techniques higher than those who did not teach OMT. Chairpersons rated the usefulness of these techniques even higher than those who taught OMT. It may be that chairpersons have the most experience teaching OMT of the three groups. However, it did not matter whether the respondents were Board Certified, Board Eligible, Certified in Special Proficiency in Osteopathic Manipulative Medicine, or had attended postgraduate OMT programs.

Neither the number of patients with which OMT was used per week, nor the percentage of patients in the practice, on which OMT was used, differentiated the overall ratings. It was expected that those who practice more OMT on patients would rate the techniques higher than those who did not. Apparently, the physicians who practice less OMT also feel that OMT techniques are important to learn.

In contrast to Fry's study about the use of OMT by DOs,<sup>2</sup> we found that 89% of our respondents used OMT on at least 5% of their patients compared to Fry's finding of 71%. Forty-

three percent of our doctors said that they use OMT on at least 50% of their patients (compared to Fry's 14%), and 31% of them said they use it on 100% of their patients. Fry found that 73% of his respondents used OMT on less than 25% of their patients compared to our 30% finding. The average surveyed doctor uses OMT on a large number of patients per week (median=35 patients/week). One important difference between Fry's study and the present one is that he selected doctors from the *1990 Yearbook and Directory of Osteopathic Physicians* which consists of members of the American Osteopathic Association (AOA). The present study selected members from the *1996-1997 Membership Directory of the AAO*. It may be that, as a whole, the members of the AAO are more likely to practice OMT than their AOA colleagues even though the directories are by no means mutually exclusive.

The extremities as a body area were rated lowest of all body areas including the whole body. Head/cervical was rated the highest of all body areas followed by thorax & ribs. This finding is probably attributable to most OMT techniques being applied to manipulation of the spine.

Muscle energy techniques are known to be both effective and safe for the patient. In comparing the individual technique categories with one another, muscle energy techniques were rated as most important in all areas of the body, whereas techniques for osteopathy in the cranial field were rated as least important. Osteopathy in the cranial field was also rated lowest overall as a technique category. It seems the average DO has not yet adopted the philosophy of this modality. This calls for an improved emphasis on the teaching of osteopathy in the cranial field in the schools and for further documentation of its benefits. A potential limitation to this conclusion is that oste-

opathy in the cranial field is not as pertinent to some body areas (e.g. thorax & ribs, lumbar, and innominates & Pubes) as are the other categories.

## Comment

Much enthusiasm for OMT was witnessed from examining our survey's many comments of support as well as constructive criticisms were received and considered. Many doctors mentioned that all of these techniques are important to learn. Most DOs use OMT in their practice regardless of whether they are in a specialty or primary care. Response rate was approximately 50%, and approximately 50% of the respondents provided comments. Eighty-nine percent attended postgraduate programs in OMT, and 73% of them taught it in some form. It is important to stress that the mean overall rating for all of the techniques was approximately 4; OMT in general was thus confirmed as being "very important" for the osteopathic medical school curriculum.

## Acknowledgments

This research would not have been possible without the help from Robert Ward, DO, MSUCOM. We would also like to thank Eleanor Masterson, DO, UMDNJ-SOM for her encouragement and suggestions.

We would like to thank all of the osteopathic physicians who responded to the surveys. A poster of the present study was presented at the 1998 AOA Convention in New Orleans, 7 October 1998.

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*continued on page 36*

# Low back pain: Cost and treatment

by William J. Swords, DO, MSA, Okemos, MI

**[Editor's Note:** *The following is a 1996 MSA 685 Project Report. Submitted in partial fulfillment of requirements for the degree of Master of Science in Administration; Dr. Swords is currently in a family and sports medicine practice in Okemos, Michigan.*]

## Abstract:

Low back pain, one of the most common reasons for a person to present to a physician's office, is a major problem as a cause of absenteeism in the industrialized world. It is estimated that 31 million Americans have low back pain with an annual estimated annual cost of \$17 billion.

With the exception of malignancies, infection and fractures acquired low back pain is of two general types. Mechanical low back pain comprising the strains, sprains, muscle spasms, and contusions constitutes the first and most common type. Second is the neurological back pain which includes those conditions where a nerve is trapped or compressed and needs surgical release. Examples of neurological back pain are ruptured disks and spinal stenosis.

This project involved treating a random group of low back patients who presented to a family physician's office with the usual type of treatment but to also include osteopathic manipulation as part of the treatment and later to survey these patients with a mail questionnaire.

It was found that osteopathic manipulation was a cost-effective treatment for low back pain and it reduced both the costs of treatment and time off work.

## Chapter I.

### Issue presentation

#### Introduction

Low back pain as a cause of absenteeism is a major problem in the industrial world. Epidemiologic studies have shown that 10 to 15 percent of all absenteeism in Europe is caused by back problems (Anderson, 1984). In the United States 25 percent of all work related injuries are related to low back pain, and 34 percent of Dutch persons receiving a pension according to the Disablement Insurance Act are classified in the category of the locomotor system (Vershoot, Rozeman, and Van Son, 1992). Thirty years ago there was little information available about the epidemiology of low back pain and almost none

regarding the cost of low back disorders (Frymoyer, and Cats-Baird, 1991). The data that did exist was limited to the epidemiology of these conditions in the United Kingdom and Sweden (Haral, 1969 and Hult, 1954). Another study was done to examine the economic impact of occupational low back pain in Quebec (Abenhain, and Suissa, 1987).

Most people have experienced some low back pain in their life. The life time incidence is reported as ranging between 60 to 80 percent depending on the study done and the author (Frymoyer, 1991). The annual incidence also varies wildly from 1 to 20 percent but is generally believed to be approximately 5 percent. Waddell, (1991) has studied the epidemic of low back pain affecting industrialized societies, mostly in the western world and came to the conclusion that low back pain has always been with us but that in underdeveloped countries it is merely accepted as part of life. It is only with the advent of social structures to care for the patient with chronic low back pain does it become worthy of complaint. That is until people are given alternatives such as state sponsored disability or worker compensation there is not much good done by complaining.

In general the term Low Back Pain refers to pain in the lumbar, lumbosacral, and sacroiliac areas. Most of these are due to strain and sprains of ligaments and tendons and to the resultant muscle spasms. Some low back pain is due to congenital maldevelopment, but these are few as compared to the whole and usually do not contribute to the body of statistical knowledge which is primarily gathered by workers compensation insurance companies and by governmental disability boards.

Until 1935 all of low back pain was simply "Lumbago", a term which generally meant a long term nagging backache. In 1935 the first laminectomy for a "ruptured disk" was performed in Boston with the aim of returning people back to full activity sooner. Today back pain is often classified as neurologic, that is back pain due to the trapping of a nerve and causing neurologic pain and deficit. Neurologic pain can be caused by a herniation of the central portion of the spinal disk through its containing annular ligaments and trapping a peripheral nerve against bone at the small foramen or opening for the nerve to exit the spinal canal. It can also be caused by a type of osteoarthritis or wear and tear arthritis in which the spinal canal itself

becomes narrow due to the accumulation of excess bone in the form of bony spurs mainly. This condition is termed spinal stenosis.

Both of these conditions, spinal stenosis and herniated, or ruptured intervertebral disks cause encroachment of the nerve roots leaving the bony spinal column to become the sciatic nerve that runs down the back of a person's leg. It is this impingement of the nerve at the neural foramen, the opening or exit for the nerve that causes the all too common pain well known as Sciatica.

With the exception of cancers, fractures, and infection most all other types of low back pain can be classified as mechanical low back pain. These are the sprains, strains, muscle spasms, lumbar strains, sacroiliac strains, and other all too common low back ailments.

There are several ways to gather information regarding the incidence and prevalence of low back pain. One is to simply do a survey and ask, "Have you ever had low back pain"? and "Do you now have low back pain"? Another is to gather information from governmental agencies responsible for paying disability claims. A third is a retrospective review of the claims made and paid from insurers who have a large market in the workman's compensation field. Younger men are much more likely to experience back injury than older men are. This is usually explained by the older men's intervertebral disks being sclerotic. Also due to seniority the older men do less heavy lifting than the young and when they do they do it with more experience and caution.

Abenhaim and Suissa (1987) studied the one-year incidence of absence from work due to occupational back pain and found the difference between men and women to be significant with means of 1.9 and 0.5 respectively. Most explain this difference by the higher population of men in occupations with a high probability of back injury.

In one study 25 percent of the cases accounted for 90 percent of the cost (Cook and Webster, 1987). In another study the 7.4 percent of cases that were absent from work for more than 6 months were responsible for 73.2 percent of the medical cost (Abenhaim and Suissa, 1987). This would seem to indicate that the generally held theory of many people being off for a few days due to back pain was the factor driving up expenses is wrong. Rather it should be assumed that a small number of cases account for the lion's share of the cost. It would seem natural to assume that these are the more serious injuries but that has not yet been proven. The above figures are from a study already cited that was done in Quebec. However, figures from Liberty Mutual Insurance Company, the largest insurance company involved in workers compensation in the U.S.A., also show a non-bell type of distribution (Abenhaim and Suissa, 1987).

## *Objective*

The Objective of this research is to compare the cost and time off from activity due to low back pain when treated with conventional care as compared to the same treatment with the addition of Osteopathic manipulation.

## *Problem statement*

Can the cost, treatment, and the time off from low back pain be reduced by the use of osteopathic manipulation? Areas researched were:

- 1.) The cost of low back pain to society,
- 2.) The conventional treatment of low back pain,
- 3.) An approach to treatment that includes spinal manipulation.

## *Assumptions*

The assumption that is being made and investigated in this project is that low back pain can be treated in a more cost effective manner by the incorporation of Osteopathic Manipulation into the usual treatment modalities currently used in its treatment.

## *Definitions of terms*

**Epidemiology:** The study of the relationships between the various factors that determine the frequency and distribution of disease in the human and other animal populations.

**Foramen:** An aperture or perforation through a bone or a membranous structure.

**Congenital:** Existing at birth, referring to certain mental or physical traits, anomalies, malformations, diseases, etc. which may be either hereditary or due to an influence occurring during gestation up to the moment of birth.

**Herniated Disk:** Protruded or ruptured disk; protrusion of a degenerated or fragmented intervertebral disk into the intervertebral foramen compressing the nerve root or into the spinal canal compressing the cauda equina in the lumbar region and the spinal cord at the higher levels.

**Hernia:** Rupture protrusion of a part or structure through the tissues normally containing it.

**Intervertebral Disk:** A layer of fibrocartilage between the bodies of adjacent vertebrae, consisting of a fibrous ring (annulus fibrosus) enclosing a pulpy center (nucleus pulposus).

**Lamina:** A thin plate or layer; that portion of the vertebrae that is the posterior bony covering of the spinal canal.

**Laminectomy:** excision of a vertebral lamina commonly used to denote removal of the posterior arch.

**Ligament:** Any tough, fibrous band, which connects bones or supports viscera. Some of the ligaments are distinct fibrous structures; others are folds of fascia or of indurated

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peritoneum; still others are the relics of fetal organs.

**Manipulation:** Skillful or dexterous treatment by the hand. The forceful passive movement of a joint beyond its active limit of motion.

**Musculoskeletal:** Pertaining to or comprising the skeleton and the muscles, as musculoskeletal system.

**Neurologic:** Pertaining to the nervous system.

**Osteopathy (osteopathic medicine):** A system of therapy founded by Andrew Taylor Still (1828-1917) and based on the theory that the body is capable of making its own remedies against disease and other toxic conditions when it is in normal structural relationship and has favorable environmental conditions and adequate nutrition. It utilizes generally accepted physical, medicinal, and surgical methods of diagnosis and therapy, while placing chief emphasis on the importance of normal body mechanics and manipulative methods of detecting and correcting faulty structure.

**Osteoporosis:** Reduction in the quantity of bone or atrophy of skeletal tissue

**Sciatica:** pain in the lower back and hip radiating down the back of the thigh into the leg, usually due to herniated lumbar disk.

**Sclerosis:** Induration of nervous and other tissue by a hyperplasia of the interstitial fibrous or glial connective tissue

**Sprain:** An injury to a ligament when the joint is carried through a range of motion greater than normal, but without dislocation or fracture.

**Stenosis:** A stricture or narrowing of any canal.

**Strain:** To injure by overuse or by improper use.

**Tendon:** A fibrous cord or band that connects a muscle to a bone or other structure; it consists of fascicles of very densely arranged, almost parallel collagenous fibers, rows of elongated tendon cells, and a minimum of ground substance.

**Traction:** The act of drawing or pulling, as by an elastic or spring force. A pulling or dragging force exerted on a limb in a distal direction.

### Summary

The general nature of low back pain has been explored and the assumption that Osteopathic Manipulation can favorably affect the outcome has been presented. Chapter two will review the available literature regarding the cost and treatment of low back pain.

## Chapter II

### Preliminary literature review

#### Cost

Musculoskeletal disorders are the leading cause of disability among individuals during their working years, 18 to 64 years of age (Hult, 1954). Musculoskeletal prob-

lems are the second most common reason for a person to seek the services of a physician in the United States (Kellgren, 1958). Back pain is very common; it is estimated that 31 million Americans have low back pain. Back pain accounts for almost \$ 17 billion in economic costs annually (Deyo et al, 1991). The mean cost of compensable back pain is approximately \$8321 per case; the median cost is \$396 (Webster and Cook 1990). The large discrepancy between the mean and the median costs indicates that the back pain costs are not normally distributed. A few high-cost cases account for most of the cost. For example one study found that 25 percent of the cases accounted for 90 percent of the costs (Kellgren, 1958).

Webster and Cook, (1990) also found that while most cases of low back pain recovered in about six weeks a few prolonged cases contributed greatly to the overall cost of low back pain. The direct cost, to the U.S. as a whole, was estimated in 1984 to be \$16 billion and in 1990 to be \$24 billion (Girolamo, 1991). Medical costs, as given above, represent 31.5 percent of the total cost. Indemnity represents another 67.2 percent. These figures have not changed in twenty years and are equivalent to other compensation cases, that is medical cost approximately one third and indemnity costing two thirds (Malmivaara et al, 1995).

It has also been found that cost vary greatly in different geographic areas. The cost of treating low back pain being two and a half times greater in Massachusetts than in Wisconsin (Snook, 1988).

Disability and its indemnity are thus a big part of the cost of the burden of low back pain. The incidence of low back pain is highest in third decade (Frymoyer and Cats-Baird, 1991). However the highest disability rate is in the sixth and seventh decade (Kellgren and Lawrence, 1958).

#### Treatment

Since low back pain is present in all societies and has been with mankind for as long as history there have been many strange and different treatments for it. Medical textbooks are replete with copies of old woodcuts showing what today could only be described as crude and unusual punishment. However certain modalities of treatment have come to the forefront and either have stood the test of time or have emerged in the past half-century with the advance in generalized as well as medical technology.

*A. Bed rest:* There is a folklore philosophy regarding low back pain that simply stated is that if you have low back pain you might as well just go home and go to bed for two weeks and that there is nothing that any one can do that is better than that. Twenty years ago it was common practice to put low back patients in the hospital at strict bed rest with traction to their pelvis while adminis-



tering physiotherapy and muscle relaxants. In more recent times there have been several studies that have shown no benefit to bed rest beyond two days.

The majority of cases of low back pain are from mechanical causes including strains, sprains and injury to muscles, tendons, ligaments and deep fascia. In these cases a precise pathoanatomic diagnosis is impossible and is not necessary since all of these causes of mechanical low back pain are treated in a similar manner (Rubin, M.1995).

In a study published Feb 9, 1995 in *The New England Journal of Medicine*, there was a comparison made of treating low back pain with either bed rest, exercise, or no treatment at all. To no one's surprise, the no treatment was the less costly but it was also the treatment that got the patient back to work the soonest (Malmiveara et al 1995).

*B. Exercise and Physiotherapy:* Those patients with low back pain who chose not to stay at home in bed but did in fact venture out to a health care provider have often been sent for physical therapy of one sort or another. Most of this therapy consists of various methods of applying heat to the affected area. This can be done by topical hot packs which feels good but is too superficial to do more than temporarily relax the person. It can also be done by a variety of technologies designed to deliver heat to the deeper tissues i.e. the deep musculature. These include diathermy, ultrasound and Electro-Muscle-Stimulation (EMS). The EMS has the added benefit of causing muscle contraction at a high rate of frequency and thus adding to muscle fatigability. Other means of physical therapy include traction and exercise.

The problem is of course is that it is not a lack of heat that is causing the problem and thus adding heat will not fix the problem. Traction merely gives the spastic muscles something to pull against, enough traction cannot be used to put traction on an intervertebral disk without pulling the patient out of bed or causing severe pain.

A more recent approach in physical therapy for non-specific mechanical low back pain involves the understanding of the pathomechanics of low back pain and stresses movement and exercise rather than rest (DeRosa, C. 1994).

*C. Surgery:* 1) Surgery for ruptured or herniated disks with nerve root impingement. This is frequently done but does not necessarily improve the outcome when compared with conservative or non-surgical therapy (Anderson, 1984). The return to work time often remains the same regardless if people have surgery and approximately fifty percent of people who have surgery for low back pain are no better off having had the surgery. The true indication for spinal surgery for a disk is a proven disk on CAT scan

or MRI and pain that cannot be relieved non-surgically. 2) Surgery for spinal stenosis is another and less well-studied area. With the population getting older, that is with more people living and staying active longer, the rate of incidence of spinal stenosis is rising and many studies are being done but it being a disease of degeneration and aging the outcome will most likely be less than perfect.

*D. Manipulation:* Spinal manipulation has been done all over the world and by every culture. It is only recently that any real studies have been done comparing outcomes of treatment with spinal manipulation to other more classical treatments. Many managed care organizations have the ability to track therapeutic outcomes and cost effectiveness due to their closed panels and computer tracking. The results indicate that spinal manipulation seems to be a cost-effective treatment for low back pain but one that lacks good statistical studies.

In a most recent study published in the *Journal of Family Practice* in May of 1995 the authors investigated the cost of treatment of low back pain including the cost of specialist referral and the cost of imaging but never considered manipulation as an alternative (Liu and Byrne' 1995). SUMMARY In chapter two the literature regarding the cost and treatment of low back pain has been discussed. In chapter three the methodology used to explore the cost effectiveness of adding osteopathic manipulation to the treatment regimen is described.

## Chapter III Methodology

### *Research Approach*

The research was of two general types. First a search of the literature to obtain some parameters regarding the conventional treatment of low back pain and second a questionnaire survey was filled out by patients previously treated for low back pain with Osteopathic manipulation. By this means a comparison of the two types of treatment was made and the problem statement was examined.

### *Data Collection*

A survey questionnaire was formulated in order to collect data from patients with low back pain who were recently treated with manipulation. One hundred and one such patients were sent a questionnaire along with a cover letter explaining the research. Sixty-one of the questionnaires were returned. This represents a 60.40 percent return rate.

In a general osteopathic family practice setting, one hundred and one consecutive low back pain patients were treated in the usual manner that they normally would be

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treated. That is, with manipulation and prescriptions for muscle relaxants and analgesics as indicated. They were later sent a survey questionnaire, which they were asked to complete and return. This questionnaire was anonymous and was sent with a stamped self-addressed return envelope. There was no way of identifying the patients from the questionnaire. Along with the questionnaire there was sent a cover letter signed by the researcher, which explained the intent of the survey and insured confidentiality. In this way people filling out the questionnaire and returning them were guaranteed to be anonymous and by simply returning the form they would be giving their implied consent to participate. The questionnaire asked some demographic data, questions regarding previous back problems and finally, times off work and need for other therapy. Inclusion criteria did include onset of low back pain with in the past two months and pain in the lumbar, lumbosacral, or sacroiliac areas. Exclusion criteria were chronic low back pain, surgical or neurological pack pain, cancer, severe osteoporosis and those with infective processes. These patients were thus randomly selected by the order of their arrival at the office.

A sixty-percent return rate was anticipated and there was a 60.40 percent return rate. These returned survey questionnaires allowed the researcher to compare the differential effect of osteopathic manipulative treatment on various groups as compared to the standard or non-manipulative treatment.

#### *Data Analysis and Synthesis*

Data are presented in tabular form comparing traditional and manipulative therapies. Data are compared to traditional therapy to find the difference if any in the cost and time lost due to low back pain if these therapies were used across the nation for an entire year. These data are presented in tabular form using measures of central tendency to demonstrate the mean in each group. Questions one through eight concern demographic data of the participants in the survey. This data is felt important to the researcher in order to 1.) Determine who gets low back pain and 2.) Compare to existing data from literature review with the data obtained in this survey. Question nine indicates who had manipulation previously to see if there is a bias to the survey. Questions ten through eighteen allow the participants to indicate their success, failure, or need for further therapy.

#### *Reliability and Validity*

Since the patients were an admixture of people normally going to osteopathic physicians (DO) and those usually going to allopathic (MD) physicians but now referred for their low back pain there should be no bias and results reported by the patients will have to be accepted as valid and reliable.

#### *Scope and Limitations*

The purpose of this project was to explore what difference, if any, addition of Osteopathic manipulation had to the standard treatment of low back pain. The study was limited to the patients presenting themselves to the office of an osteopathic family physician during the four to six weeks of this investigation.

## **Chapter IV**

#### *Data Analysis*

In the office of an osteopathic family practitioner, during the normal course of practice the first one hundred and one patients having low back pain were selected for the survey. The response rate was 60.04 percent.

#### *Demographic Analysis*

The demographics of the 62 respondents can be identified as follows:

Question #1: What is your gender?

It is usually held that males suffer more low back pain than females, however in this survey females represented 56% of those returning questionnaires.

**Table #1. Gender**

Gender	# Respondents	% Respondents
Male	27	44
Female	35	56
Total	62	100

Question #2: What is your age?

As presented previously in this paper low back pain is usually held to be a young man's disease. However in this survey the average age was 43 years and 60% of the respondents were less than 49 years old. There was a bimodal distribution of the age breakdown with 26% of respondents in each of the age groups 30-39 years old and 50-59 years old.

**Table #2. Age**

Age	# Respondents	% Respondents
20-29	10	16
30-39	16	26
40-49	11	18
50-59	16	26
60-69	8	13
70-79	1	1
Total	62	100

Question #3: What is your height.

The average height of the respondents was 65 inches, which fell within the mode of 60 to 66 inches.

**Table #3. Height**

Height	#Respondents	%Respondents
60-66 in	45	73
66-72 in	10	16
72-78 in	7	11
Total	62	100

Question #4: What is your weight?

The average weight was 176 pounds, which was within the mode of 150 - 199 a pound.

**Table #4. Weight**

Weight	#Respondents	%Respondents
100-149	16	26
150-199	33	53
200-250	10	16
250-300	3	5
Total	62	100

Question #5: What type of work do you do?

The average person with low back pain was employed in a clerical or supervisory position. The mode was found in the professional worker. People doing manual labor or factory work represented only 16% of respondents.

**Table #5. Type of Work**

Type of Work	#Respondents	%Respondents
Labor / factory	10	16
Homemaker	13	21
Supervisory	8	13
Clerical	13	21
Professional	16	26
Student	2	3
Total	62	100

Question #6: How many years of education have you had?

The average person with low back pain in this survey had 14 years of education. This figure fell within the range of 13 to 16 years of education.

**Table #6. Years of Education**

Yrs. of school	#Respondents	%Respondents
0-8	0	0
9-12	24	39
13-16	25	40
16-20	13	21
Total	62	100

Question #7: How much time off work did you have?

The average time off work was 3.06 days. The mode was less than 3 days which was reported by 51 (82%) of the respondents. The format of the questionnaire influenced the outcome in that there was no question for no time off work and those with no lost time had to answer in the less than 3 days off category.

**Table #7. Time off Work**

Days off	#Respondents	%Respondents
less than 3	51	82
3 to 7	5	8
8 to 14	0	0
15 to 30	6	10
over 30	0	0
Total	62	100

Question #8: Have you had previous back pain?

On this issue 87% of respondents said that they had prior episodes of low back pain thus confirming the common occurrence of this malady.

**Table #8. Previous Low Back Pain**

Prior Back Pain	#Respondents	%Respondents
Yes	54	87
No	8	13
Total	62	100

Question #9: Have you had previous manipulation to your low back?

Seventy four percent of the respondents had previous manipulation to their low back.

**Table #9. Previous Manipulation to Low Back**

Prior Manipulation	#Respondents	%Respondents
Yes	46	74
No	16	26
Total	62	100

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Question #10. How much relief have you had from the manipulation?

The survey showed between some and a lot of relief from their symptoms with manipulation. The mode for this response was in the category of obtaining a lot of relief from manipulation.

**Table #10. Amount of Relief from Manipulation**

Level of Relief	#Respondents	%Respondents
1 (None)	3	5
2 (Slight)	5	8
3 (Some)	13	21
4 (A lot)	32	52
5 (Complete)	9	16
Total	62	100

Question #11. Did you need other therapy after your visit?

An impressive 79% of respondents needed no other treatment for their low back pain following manipulation.

**Table #11. Need for Other Therapy**

Prior Back Pain	#Respondents	%Respondents
Yes	13	21
No	49	79
Total	62	100

Question #12. Did you need physical Therapy?

Eighty six percent of those treated with manipulation did not need physical therapy afterwards.

**Table #12. Need for Physical Therapy**

Need P.T.	#Respondents	%Respondents
Yes	10	16
No	52	86
Total	62	100

Question No. 13. If physical therapy was used was it successful?

Physical therapy was successful on 80% those 16% of respondents who had to use it.

**Table #13. Success of Physical Therapy**

P.T. Successful	#Respondents	%Respondents
Yes	8	80
No	2	20
Total	10	100

Question #14. Were muscle relaxant drugs used?

Forty four percent of respondents were given muscle relaxant prescription medication to help them with their low back pain along with manipulation.

**Table #14. Use of Muscle Relaxant Drugs**

Muscle Relaxants	#Respondents	%Respondents
Yes	27	44
No	35	56
Total	62	100

Question #15. If muscle relaxant drugs were used, were they successful?

Of those 44% of patients who were given prescriptions for muscle relaxant drugs following manipulation an impressive 93% found them to be beneficial.

**Table #15. Benefit of Muscle Relaxant Drugs**

Muscle Relaxants	#Respondents	%Respondents
Beneficial		
Yes	25	93
No	2	7
Total	27	100

Question #16. Was it necessary to use prescription pain medicine?

Only 27% of respondents stated that they had to take prescription pain medication.

**Table #16. Use of RX Pain Medication**

Pain Drugs used	#Respondents	%Respondents
Yes	17	27
No	45	73
Total	62	100

Question #17. If prescription pain drugs were used, were they beneficial?

Of the 27% of respondents who reported using prescription pain medication, 100% found them to be helpful.

**Table #17. Usefulness of RX Pain Medication**

Pain Med Helpful	#Respondents	%Respondents
Yes	17	100
No	0	0
Total	17	100

Question #18. Would you use manipulation for future low back pain?

Ninety five percent of patients who responded stated that if a future need arose they would again use manipulation.

**Table #18. Use of Manipulation in the Future**

Use manipulation in future?	#Respondents	%Respondents
Yes	59	95
No	3	5
Total	62	100

## Chapter V

### Summary Conclusions and Recommendations.

#### Summary

Low back pain is a major problem in the industrial world. It is responsible for 25% of all work-related injuries. Workers' compensation claims, as stated previously, demonstrate the average cost of compensable low back pain is \$ 6800.00 in 1986 with a median cost of \$ 391.00 (Deyo, R.A. et al, 1991). Back pain accounts for almost \$17 billion in economic costs annually (Deyo, R.A. et al, 1991). It is estimated that 31 million Americans have low back pain.

Due to the large impact of low back pain on society and a lack of data regarding the treatment of low back pain with osteopathic manipulative Treatment compared to conventional therapy a study looking at the outcome of manipulation of low back pain was done. The findings demonstrate that osteopathic manipulation is a good and cost effective treatment for low back pain.

#### Conclusions

According to the patients completing and returning the questionnaire 95% had some relief of their back pain with manipulation and 68% had what they expressed as a lot to complete relief with another 21' reporting some relief. Time off work was calculated at 3.06 days per patient as compared to an average of 6 weeks off work for standard care as found by Webster and Cook (1991). Only 16% needed physical therapy compared to 31.76% in conventional therapy as reported by Liu And Byrne in 1995 in the *Journal of Family Practice*.

#### Recommendations

Based on the analysis of survey data, the questionnaires of which were given to 101 successive patients presenting themselves to the office of a family practitioner with

the complaint of low back pain. It has been found that osteopathic manipulation of the low back was a cost effective and successful treatment of low back pain that offered advantages in time to recovery and return to work as well as savings in money spent on treatment.

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## Appendix A.

William J. Swords, DO  
4265 Okemos Road  
Okemos, Michigan 48864

You were recently treated at my office for low back pain and I am interested in the outcome of that treatment. The reason for this interest is that I am gathering data on the outcome of treatment of low back pain with the intent of writing a report that will be used in partial completion of a master degree from Central Michigan University. Your response is strictly voluntary and there will be no compensation for responding beyond a big thank you in advance. Since this is a survey there are no risks and the only benefit is that you will be helping me greatly and perhaps contributing to the body of medical knowledge in some small fashion.

If you would take a few moments and fill out the enclosed questionnaire it would be greatly appreciated. A self addressed stamped envelope is enclosed for return of the completed questionnaire. Please do not write your name or any identifying information on the questionnaire.

Should you desire to read the finished paper please contact me in July of 1997. If you have any questions please do not hesitate to call at 517-349-3449.

## Appendix B.

William J. Swords, DO, FAAGP  
**Questionnaire**

1. Gender: 1.  male 2.  female
2. Age: 1.  20-29 2.  30-39  
3.  40-49 4.  50-59  
5.  60-69 6.  70-79
3. Height: 1.  5ft – 5ft 6in  
2.  5ft 6in – 6ft  
3.  6ft – 6ft. 6in
4. Weight: 1.  100–149 lbs. 2.  150–199 lbs.  
3.  200–250lbs. 4.  over 250 lbs.

5. Type of work:  
1.  Manual labor or factory production  
2.  Supervisory, clerical, professional, student  
3.  homemaker
6. Education: 1.  0 – 8 years,  
2.  9 – 12 years,  
3.  13 – 16 years,  
4.  > 16 years
7. Time off work: 1.  less than 3 days,  
2.  3 days – 7 days,  
3.  8 days – 14 days,  
4.  15 days – 1 month  
5.  > one month
8. Previous low back pain? yes  no
9. Previous manipulation to low back ? yes  no
10. Amount of relief from manipulation: please circle one  
[1] [2] [3] [4] [5]  
None slight some a lot complete
11. Need for other therapy after your visit for manipulation? example seen by another health care practitioner, physiotherapy 1.  yes, 2.  no
- If your answer to question 11 was no, stop here; if the answer to question 11 was yes, please continue.*
12. Need for physical therapy 1.  yes 2.  no
13. If physical therapy was needed was it:  
1.  successful 2.  unsuccessful
14. Were muscle relaxant drugs used? 1.  yes 2.  no
15. If muscle relaxant drugs were used were they beneficial? 1.  yes 2.  no
16. Was it necessary to take prescription pain medication?  
1.  yes 2.  no
17. If prescription pain drugs were used, were they helpful? 1.  yes 2.  no
18. Would you use manipulation as a treatment for future low back pain? 1.  yes 2.  no

□

# Spirituality in Osteopathic Medicine

by R. Paul Lee, DO, CSPOMM

[**Editor's Note:** *This lecture was presented by Dr. Lee during the 1999 AAO Convocation program, "Bridging the Gap".*]

## Introduction

Ordinarily we think of spirituality as dealing with religion or prayer. Larry Dossy, MD has shown that prayer has a significant impact upon the outcome of medical conditions. Increasingly, there is recognition inside and outside the medical community that spirituality plays an important role in the state of the health of the individual. One of the means we, as osteopathic physicians can use to "bridge the gap" between unconventional and conventional medicine is to address this vital issue, which is fundamental to osteopathic medicine, and which is gaining wider and wider acceptance among our osteopathic and medical colleagues and our patients.

This paper explores the unique osteopathic approach to spirituality as it comes from Andrew Taylor Still, MD. After addressing the writings of Dr. Still on the matter of spirituality, other philosophies will be discussed, which enrich, compare to, and contract with Still's. Then, evidence will be presented for the existence of spirituality in the everyday work of the osteopathic physician. This paper intends to avoid any reference to a particular religion, dogma, ritual, belief system, or recommendation for any therapy or cure. Rather, it intends to discuss these aforementioned philosophies and how they relate to osteopathy.

To quote from the new document

from the American Osteopathic Association on "Basic Standards for Residency Training in Neuromusculoskeletal Medicine", "Osteopathic philosophy recognizes the interrelationship of body, mind, and spirit in health and disease." It is not often that a professional organization recognizes spirit in its official documents of policy and procedure. It is not often that one has the opportunity to publish about spiritual issues outside of a religious context. It is an honor and a challenge to do so.

## Spirituality defined

The dictionary defines spirituality as "having to do with spirit". Spirit is defined as "the life principle". If we, as humans are essentially *spiritual beings* having an experience in *dense physical form*, then it follows that we must consider the prospect that *spirit and the physical interact*. It is the nature of this interaction of the life force with the material structure that this paper explores.

According to the dictionary definition of spirit, evidence of spirit in nature and in the human, can be detected by its 1) design, 2) beauty, 3) complexity, 4) movement, 5) change, 6) destruction and regeneration, and 7) interdependence. We see beauty in the design of the human body from chemical to gross structural levels of organization. It is also exceedingly complex. Movement and change, destruction and regeneration are all signals of life. The unity of all aspects of nature is an important revelation of spirit.

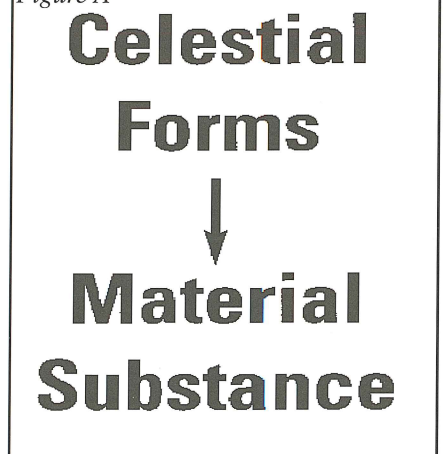
## Still and spirituality

Dr. Still had some very interesting things to say about spirituality. In his autobiography, he said, "I do not understand a preacher's business, I have not made a study of the Bible, but the knowledge I have gained of the construction of man convinces me of the supreme wisdom of the Deity." In the first line of his first book, *The Philosophy and Mechanical Principles of Osteopathy* (PMPO), he writes, "I quote no authors but God and experience." This lets the reader know of his sources of information implying inspiration and diligent observation.

Later in PMPO (p. 251-2), he writes, "The celestial worlds of space or ether-life give forms wisely constructed in exchange for the use of the material substances. Reciprocity through the governments of the celestial and terrestrial worlds is ever the same, and human life, in form and motion, is the result of conception by the terrestrial mother from the celestial father. Thus, we have the union of mind, matter, and life, or man." See Figure A.

On page 16-17 in the same book, he says, ". . . after all our explorā-

Figure A



tions, we have to decide that man is triune when complete. First, there is the material body; second, the spiritual being; third, a being of mind which is far superior to all vital motions and material forms, whose duty is to manage this great engine of life.” In this statement, Still equates motion with spirit or life. These ideas are very reminiscent of “vitalism”, defined as spirit in-action; a doctrine that ascribes the living condition of a being to a “life force”, which animates and vitalizes the being.

## Osteopathy and acupuncture

The Chinese consider nature and the human to be one and the same; created from the same source and the same substance; animated by the same energy; interdependent; one being a microcosm of the latter and the other a macrocosm of the former.

The drawing in Figure B depicts the human standing between Heaven and earth, light and dark, heat and cold, yang and yin. The circle represents man’s head, the vertical line, his body, and the curved lines, the arms reaching toward heaven and the legs descending towards earth.

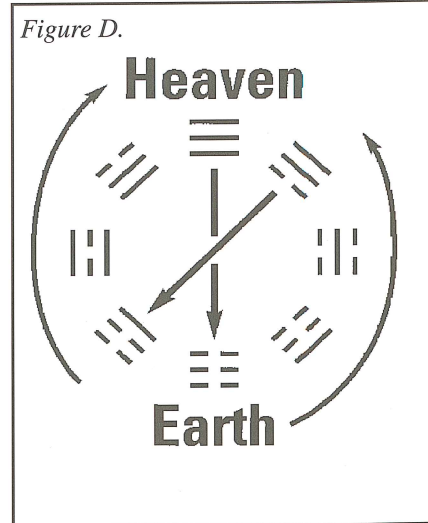
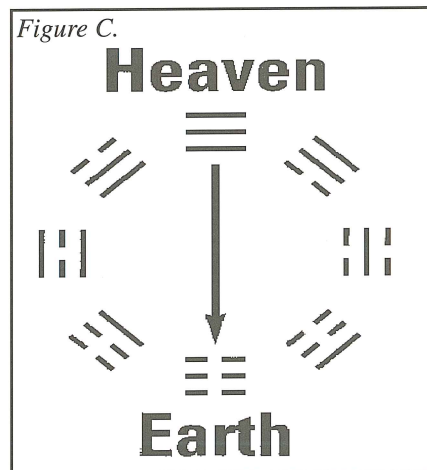
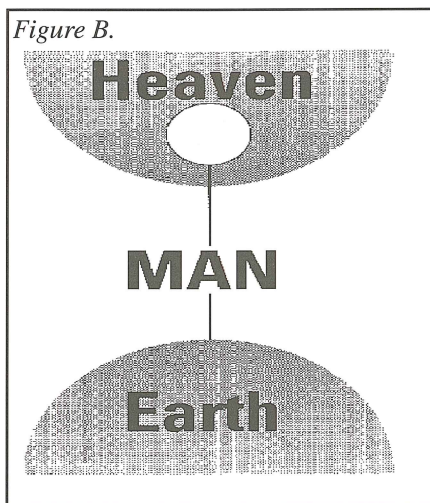
According to the Chinese, man is animated by “qi”, poorly translated into English as “energy”. Qi descends from heaven in the yang direction. Qi ascends from earth in the yin direc-

tion. Qi flows through channels through the physical form, from the hands to the feet in the yang direction and from the feet to the hands in the yin direction. Qi vivifies all of creation, but it is more organized in material substance containing life.

There is one principle action of qi, that is movement: gross movement such as walking, running, talking laughing, and societal activities; subtle movement such as heat, Brownian movement, and ionic flows; organ activities such as cardiac contraction, pulmonary respiration, and gastrointestinal motility. In traditional Chinese medicine (TCM), movement is healthy; stagnation is unhealthy.

Traditional Chinese medicine says creation occurs by heaven fecundating earth to create life. See Figure C. **Heaven** is translated into English to mean the “concept of creation”, what is referred to as “pre-heaven” or “yang”. **Earth** is “matter”, “material substance”, “post-heaven” or “yin”. **Life** is “activity”, “evolution” or “qi”. In Figure D, the arrow points from heaven to earth indicating the direction of the movement of qi. Then, we see the arrows indicating the movement of qi from earth through the trigrams of all of creation. Crossing the circle, the energy proceeds back to heaven.

The concept of **pre-heaven** is the “idea of creation” in the mind of cre-



ator, the “pattern” or “energetic form” of creation, the “archetype” of reality. **Post-heaven** is “material substance”, the “physical structure” of material reality. **Evolution** is the “animation” of the material, the “vivification” of life forms, “movement and change” related to everyday “life”.

If one observes this movement in Figure D, continue from heaven to earth and around the totality of creation, in this graphic representation of reality, it forms a Mobius Loop, that which proceeds through time. This is the derivation of the diagram of the Tao relating yin and yang. See how the activity of Figure D creates Figure E.

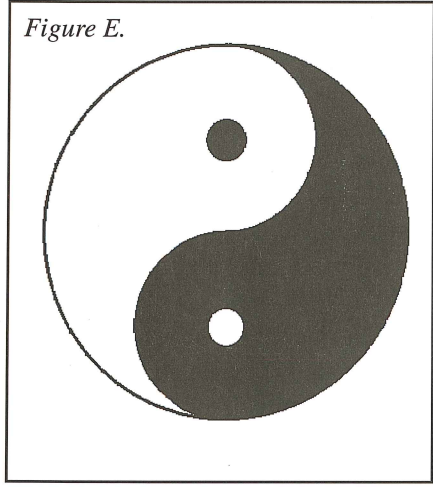
Creation is defined by Still, using the terms “mind”, “matter”, and motion”; and “celestial”, terrestrial”, and “life”. Traditional Chinese medicine (TCM) uses the terms “heaven”, “earth”, and “evolution” (“life”); and “yang”, “yin”, and “qi” (“energy”).

In representing the same principles, Einstein used the terms “energy”, “matter”, and “speed of light”:  $E=mc^2$ . See Figure F.

## Influx of spirit-Swedenborg

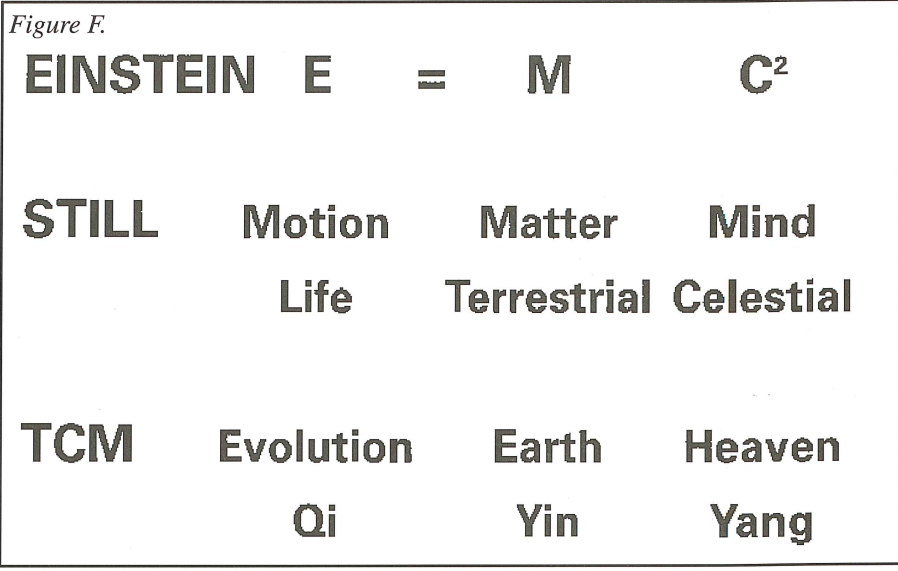
Emanuel Swedenborg, who lived in the 15<sup>th</sup> and 16<sup>th</sup> centuries, wrote on topics ranging from philosophy and medicine to spirituality. His





model of the manner by which spirit and matter interact provides insight for this discussion. He stated that he is able to comment on the relationship of the soul and the body, because he, Swedenborg was privileged to have been exposed to both the spiritual and the physical realms while living. He indicates he knows the truth of the interrelation of the soul and the body, for he has witnessed it, firsthand. It is helpful to add his explanation to those of Still and the traditional Chinese philosophers, because of the detail of his model. The following are quotes from his work. *The Intercourse of the Soul and the Body*, as translated from Latin. See Figure G.

- 1) There are two worlds: the Spiritual world, inhabited by spirits and angels, and the natural world, inhabited by men.
- 2) The spiritual world first existed and continually subsists from its own sun, and the natural world from its own sun.
- 3) The sun of the spiritual world is pure love from Jehovah God, who is in the midst of it.
- 4) From the sun proceed heat and light; the heat proceeding from it is in its essence love, and the light from it is in its essence wisdom,
- 5) Both that heat and light flow into man; the heat into his will, where it produces the good of love; and the light into his understanding, where it produces the truth of wisdom.



- 6) Those two, heat and light, or love and wisdom, flow conjointly from God into the soul of man; and through this into his mind, its affections and thoughts; and from these into senses, speech, and actions of the body.
- 7) The sun of the natural world is pure fire; and the world of nature first existed and continually subsists by means of this sun.
- 8) Therefore, everything, which proceeds from this sun, regarded in itself, is dead.
- 9) That which is spiritual clothes itself with that which is natural, as a man clothes himself with a garment.

**Influx of Spirit-Still**

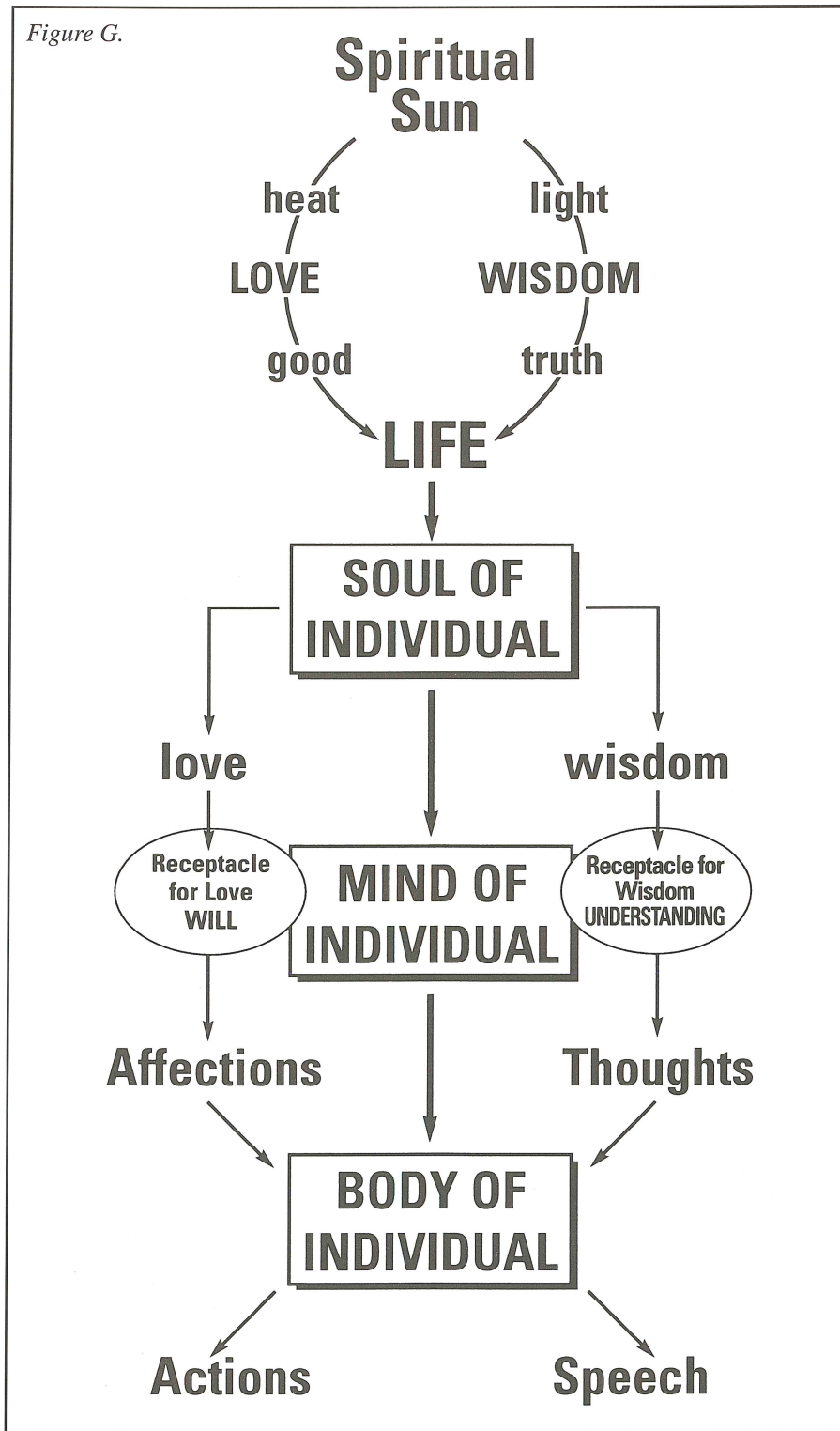
Still said, relative to the investment of the body with spirit, the following:

- 1) "Then the mind is asked to find the connection between the physical and the spiritual. By Nature you can reason that the powers of life are arranged to suite its system of motion. If life is an individualized personage, as we might express that mysterious something, it must have definite arrangements by which it can be united and act with matter. Then we should acquaint ourselves with the arrangements of those natural connections, the one

- or many, in all parts of the completed being. As motion is the first and only evidence of life, by this thought we are conducted to the machinery through which life works to accomplish the result as witnessed in 'motion'." page 249, PMPO
- 2) "All material bodies have life terrestrial and all space has life, ethereal or spiritual life. The two, when united form man. Life terrestrial has motion and power; the celestial bodies have knowledge or wisdom." page 251, PMPO
- 3) "Life surely is a very finely prepared substance, which is the all-moving force of Nature, or that force that moves all nature from worlds to atoms. It seems to be a substance that contains all the principles of construction and motion, with the power to endow that which it constructs with the attributes necessary to the object it has formulated from matter and sent forth as a living being. We think it is not unreasonable to conclude that life is matter in motion, with ability to carry its kind and impart the same to other bodies." Page 256-7, PMPO
- 4) "Life enters the forest of flesh as man." Page 258, (PMPO)



Figure G.



## Location of spirit

One of the more significant observations from Swedenborg indicates that the influx of the life force resides in the body within the fluids. He stated, "Life is found in the juices between the fibre"

Still is quoted on this topic as follows:

- 1) "When matter passes beyond the degree of being atomized farther, then it is life..." (PMPO.)
- 2) "The rule of the artery and vein is universal in all living beings..." (PMPO)
- 3) "...the cerebro-spinal fluid is one of the highest known elements that

are contained in the body... " (PMPO.)

- 4) "Thus all things else may be in place and in ample quantities and yet fail, because the power is withheld and there is no action for want of brain-fluids with their power to vivify all animated nature." Page 53, (PMPO).
- 5) "The lymphatics are closely and universally connected with the spinal cord and all the nerves, and all drink from the waters of the brain." (PMPO.)
- 6) "In every view we take of the fascia a wonder appears." (PMPO.)
- 7) "The soul of man, with all the streams of pure living water, seems to dwell in the fascia of the body." P. 61, (PMPO).
- 8) "... he has seen in the fascia the framework of life, the dwelling-place in which life sojourns..." page 61, (PMPO).

## Sutherland and CSF

A student of Still, W. G. Sutherland discovered a previously unrecognized physiological mechanism, which he called the primary respiratory mechanism. He claimed the cerebrospinal fluid (CSF) contains "the breath of life". This term referred to the statement in the book of Genesis of the Bible, "And God breathed into the nostrils of man the breath of life." Sutherland also said that the CSF has characteristics of a "fluid within a fluid", and that it moves like a "Tide" as it fluctuates. He believed that the fluid of the brain behaved like "liquid light", possessing an "unerring potency", and "innate intelligence", or an "infinite wisdom".

## Embryology

Embryological research in Germany within the last several years has revealed some very interesting findings about the formation of the human embryo. See Blechs Schmidt, Biokinetics and Biodynamics of Human

Differentiation. Once it implants into the endometrium, the blastocyst develops an equator, created within the fluid-filled sphere. A flash of light precedes this. The equator exists as fluid plane within a fluid medium. Another flash of light occurs, and then a line, also made of fluid, develops within the fluid, on this equator. This line becomes the primitive streak, when cells from the surface of the blastocyst migrate toward it to begin the process of producing the material embryo. These cells form the notochord, at the primitive streak, around which the entire embryo orients its further development.

This research shows how the fluid is an intermediary between the light (energy) and the cellular conformation (matter). In these events, one can see evidence for fluid mediating the development of the material form from the energetic pattern, as Still pronounced 100 years earlier (see the earlier quote, under "Still and Spirituality", in this paper). This same function persists throughout life; that function of the fluid serving to mediate between the energy pattern and the material body during regeneration and healing. By directing the fluid fluctuation, the osteopathic physician facilitates the body's inherent ability to heal itself.

These concepts also meld with those of Rupert Sheldrake, who proposed the idea of "morphogenetic fields" in his book, *A New Science of Life*, (Tarcher, Los Angeles, 1981), in which patterns for life forms precede and sustain material living forms.

## Palpatory evidence of spirit

Inherent motility of organs is evidenced by palpation. The brain squeezes and expands like a sponge. The liver rocks back and forth in its inherent motility. One can feel the lungs, intestines and all the organs moving in what Jean-Pierre Barral

refers to as "inspir" and "expir" in the context of the discipline he calls visceral manipulation. The entire body lengthens and shortens, and internally and externally rotates in cycles. Inelastic tissues such as bone, dura, and fascia limit and control this motion. This motion is the body's inherent vibration, its resonance. It is a subtle respiratory motion, following the same pattern that pulmonary inhalation and exhalation take, but on a cellular level. It is a cellular respiratory motion, driven by spirit.

## Extracellular matrix and spirit

Spirit moving through the flesh creates fluid fluctuation, organ motility, and tissue motion. It creates conditions for cells to imbibe and then to expel water cyclically. It creates potency of the fluid, transfer of information, and movement of energy. Spirit moving through the flesh delivers nutrients from capillaries to parenchymal cells; removes waste products from cells to the extracellular space; and opens and closes lymphatic endothelial fenestrations rhythmically. It triggers oscillations of cellular activity by rhythmically changing the concentration of calcium ions in the extracellular space, at the cell membrane and within the cell. Furthermore, it triggers pulmonary respiration by affecting the vital centers in the brain stem. With all these attributes, one can understand why Sutherland named this activity the primary respiratory mechanism. He could have also called it an essential metabolic mechanism, or the basic motion of life, or the breath of life.

The model for this activity comes from Bernard Gabarel and Michel Roques, who theorized in their book, *Les Fasciae en Medicine Osteopathique* (Maloine, Paris, 1985), that fluctuating concentrations of 1) electrolytes, 2) hydrogen ion, and 3) enzymes cyclically depolymerize and

repolymerize the glucoaminoglycans and hyaluronic acid of the extracellular matrix. The extracellular matrix is composed of connective tissue components such as cells, fibers and these macromolecules, which are constructed from a backbone of hyaluronic acid and great numbers of branches off of the backbone made from glucoaminoglycans. The sulfated glucoaminoglycans create an intense field of negative charge that binds large volumes of water.

The polymerized extracellular matrix is what Gabarel and Roques refer to as the "gel" phase. This is characterized by the following:

- 1) enzyme activity being at a minimum;
- 2) a negative electromagnetic charge being relatively fixed within the matrix;
- 3) large amounts of water being bound to the matrix;
- 4) cations being attracted to the extracellular fluid/matrix;
- 5) the parenchymal cells shrinking as water leaves them to go to the extracellular fluid with the cations (Calcium);
- 6) the lymphatic endothelial fenestrations being closed, as a result of fibers being relatively more polymerized;
- 7) the plasma proteins resting in the extracellular fluid;
- 8) the coincidence of the exhalation phase of the primary respiratory mechanism, in which the tide moves out from the central nervous system.

As the fluctuation of the tide flows back towards the central nervous system, the "sol" phase ensues. This is characterized by 1) an increase in the concentration of electrolytes; 2) an increase in the activity of depolymerizing enzymes; 3) depolymerization of hyaluronic acid and glucoaminoglycans of the matrix; 4) an increase

in unbound (free) water; 5) an increase in the mobility and therefore a relative decrease in the intensity of the electronegative charge of the matrix; 6) a movement of cations and water into the parenchymal cells, causing them to swell; 7) an opening of fenestrations between the lymphatic endothelial cells, permitting plasma proteins to enter the lymphatic capillaries; 8) the inhalation phase of prm.

This activity takes place in the extracellular compartment, bounded by fascia, which behaves like an insulator for all of the electromagnetic fluxes within its boundaries. Fascia serves two simultaneous and contradictory functions on a structural level: that is, it segments and unifies. On the one hand, fascia isolates one muscle group from another, or a neurovascular bundle from other structures. On the other hand, fascia also brings all these various compartments together as a unified whole.

Similar contradictory functions

happen electrochemically. Comparing connective tissue to a coaxial cable, as Sutherland did in lectures referenced in *Teachings in the Science of Osteopathy*, edited by Wales, (SCTF, 1990), we can see that one compartment holding one set of information can be isolated from other streams of metabolic information, since the fascia is an insulator. But the surface of the fascia provides an avenue for the flow of charges longitudinally into unity by this same insulating effect. Therefore, fluxes of energy flow with these electrochemical bags. Such fascial divisions define the channels for the flow of qi. These channels are what we think of as acupuncture meridians.

## Conclusion

Thus, we have come full circle, from the celestial fecundating the terrestrial, the evolution of the human by the vivification of the material with the life force, to the flow of energy in the tissues.

We can postulate that this flow of energy is the breath of life that it creates fluctuating cellular respiration, and provides for the activities that we call healing.

Sutherland described, at the stillpoint, transmutation occurs as a rhythmic balanced interchange with the breath of life, among all the fluids of the body.

This "breath of life" is seen in other paradigms as "heat and light" (Swedenborg), as "qi" (TCM), and as a "very finely prepared substance...of life" (Still). It comes from "morphogenetic fields" (Sheldrake), from the "spiritual sun" (Swedenborg), from "heaven and earth" (TCM), and from the "celestial fecundating the terrestrial" (Still).

Such a transmutation, as an interchange with the breath of life, is evidence of spirit in action. To work with the breath of life is to facilitate the health of the organism. In doing so, we work directly with spirit. □

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by Sang Ho Song

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**Table 3: Significant Mean Contrasts**

<u>Technique categories</u>	<u>Body Areas</u>
MYO vs. CR	Head vs. Thorax
ME vs. HV	Head vs. Extremities
ME vs. SC	Lumbar vs/ Extremities
ME vs. CR	Sacrum vs. Extremities
HV vs. CR	Whole Body vs. Extremities
SC vs. CR	

Note. All of the mean contrasts are significant beyond the .01 level.

<u>Body Area</u>	<u>Technique Categories compared</u>
Head/Cervical	ME vs. HV ME vs. SC ME vs. CR
Thorax & Ribs	MYO vs. CR ME vs. CR HV vs. CR SC vs. CR
Lumbar	ME vs. SC ME vs. CR SC vs. CR
Sacrum, Innominates, Pelvis	ME vs. SC ME vs. CR
Extremities	MYO vs. CR ME vs. HV ME vs. CR

Note. All of the mean contrasts are significant beyond the .01 level.

## Case History:

# Shortness of breath and hypoxia following exploratory laparotomy

by Hugh M. Ettlinger, DO, FAAO

[**Editor's Note:** Submitted in partial fulfillment of requirements for fellowship in the American Academy of Osteopathy. Dr. Ettlinger was conferred status as Fellow in 1999.]

## Identification

C.C. is a 51-year-old female CHIEF COMPLAINT Shortness of breath and hypoxia following exploratory laparotomy.

## History of present illness

C.C. presented to the emergency room with crampy abdominal pain, nausea and vomiting, and loss of appetite. Past medical history was significant for rheumatic fever as a child with resulting mitral regurgitation, asthma/COPD, and prior surgery for a ruptured ovarian cyst. Physical exam revealed increased bowel sounds and rebound tenderness throughout her abdomen; KUB showed dilated loops of small bowel. The patient was taken for exploratory laparotomy several hours after admission, which revealed abdominal adhesions with numerous areas of strangulated and gangrenous small bowel. She underwent lysis of adhesions and resections of ischemic and necrotic bowel. On the second day post-operatively, she developed acute shortness of breath with hypoxia; ABG at that time showed pH 7.45, pCO<sub>2</sub> 38.6, pO<sub>2</sub> 46.2, O<sub>2</sub> saturation 84%. MI was ruled out by EKG and cardiac enzymes, pulmonary embolism was ruled out by VQ scan and pulmonary angiogram. Chest x-ray showed possible right lower lobe infiltrate. With

a working diagnosis of exacerbation of asthma, she was transferred to the ICU and started on solumedrol, proventil, atrovent MDI, and 3 liters O<sub>2</sub> via nasal canula, which improved her condition. Her pO<sub>2</sub> rose to 90 and remained steady. She was transferred back to the general medical floor after 2 days.

On postoperative day 5, a wound infection developed with drainage in the lower part of the wound. After culturing the wound and blood x 3, she was started on ciprofloxacin, vancomycin, and flagyl. The wound culture grew enterobacter and klebsiella pneumonia; the blood cultures were negative. C.C. had several episodes of shortness of breath over the next week, the worst occurring over the night of post-op day 12, when her pO<sub>2</sub> dropped to 60, O<sub>2</sub> sat 92%. OMT consult was called the next day.

## Past Medical History

Asthma since childhood, developing into COPD Rheumatic fever resulting in mitral regurgitation

## Past Surgical History

Ruptured ovarian cyst

## Medications

Ciprofloxacin 400 mg IVPB q12hrs  
Vancomycin 1 gram IVPB q12hrs  
Flagyl 500 IVPB mg q6hrs  
Solumedrol 80 mg IVPB q6hrs  
Atrovent 2 puffs qid  
Proventil 2 puffs qid  
Demerol 75mg Vistaril 50 mg IM q4hrs prn pain

## Social

30 pack year smoking history, quit recently, no alcohol or drug use

## Physical Exam

General: Alert and oriented, labored breathing on 3 liters O<sub>2</sub> via nasal canula

Vital signs: T 98.2, P 92, R 24, BP 110/70

Heart: regular rate and rhythm, gr III/VI systolic murmur ~ L sternal border

Lungs: crackles and decreased breath sounds bilaterally, greater on the right. Scattered expiratory wheezes.

Breathing pattern: generally reduced respiratory excursion with weak inspiratory effort and noticeable expiratory effort (abdominal contraction). Mild intercostal retractions and accessory muscle use noted. Poor excursion of the diaphragm and abdomen during inhalation. No paradoxical motion of ribs or diaphragm noted.

Abdomen: soft, tender around wound, bowel sounds positive. Wound dressed, dressing clean.

Extremities: no pretibial or pedal edema.

Structural exam (supine position only):

Pelvis: torsion with right ilium posterior

Sacrum: Bilateral restriction, greater on the right

Lumbar: Paravertebral spasm L1-L3, right > left. L2 FSrR, L3 FSrR.

Thoracic: Paravertebral spasm T6-

→

T12, right > left, lower thoracic spine restricted to movement generally. T4 ESrRr

Ribs: Generally reduced compliance throughout thorax, greatest in the right lower ribs. Entire thorax reduced excursion to exhalation. Diaphragm reduced excursion to inhalation and exhalation with increased tone and weak contraction during inhalation. The lower ribs were restricted to both inhalation and exhalation, right > left.

Cervical: C] ESrRr, C4 ESrRr, with increased paravertebral tone C3-5 right. Increased tone sternocleidomastoid and scalenes bilaterally.

Cranium: Right condylar compression

## Assessment

1. SIP small bowel resection with wound infection
2. Post-operative exacerbation of asthma
3. Somatic dysfunction reducing compliance and excursion of the thorax, with significant dysfunction and fatigue of the respiratory musculature, including the diaphragm. There is also a dysfunction pattern reflecting segmental facilitation secondary to large abdominal wound and diaphragm.

## Initial Treatment

C.C. was treated with osteopathic manipulation as follows: lateral traction of the ilia for sacroiliac decompression. Balanced ligamentous tension to the sacrum and lumbar spine with gentle anterior pressure. Paraspinal inhibition thoracic and lumbar musculature. Release of the lumbocostal arches via twelfth rib traction. Rib raising via lateral traction. Indirect release of the diaphragm via bilateral mid-axillary contact. Balanced ligamentous tension to cervical spine. Facilitated positional release, passive stretch, and inhibition to SCM and scalenes.

## Course of Treatment

C.C. was seen the following day. She was breathing comfortably of room air for the first time since her surgery. The diaphragm and ribs had better excursion and much better force of contraction during inhalation. Exhalation was less effort dependent, and there were no intercostal retractions. Lungs were without wheezes, and there was improved airflow to the bases<sup>7</sup>, which still had crackles. She was treated daily for the next two days with continued improvement in excursion and compliance of the thorax and improved respiratory muscle function. There was also reduction of segmental facilitation in the thoracic, lumbar, and cervical areas. On the third day, her wound dehiscd, presumably from the infection and a violent cough while walking to the bathroom. She was transferred to the ICU and prepped for surgery, which took place the following day. The surgeon called and asked us to see her immediately following surgery, in the ICU. On exam, there was recurrence of the diaphragm restriction<sup>7</sup>, which was found to be tense and displaced inferiorly, with restricted excursion to inhalation and exhalation. She also had extremely boggy tension bilaterally throughout her entire thoracic and lumbar spine. Her pulse was 104 and respiratory rate 26-28 (by monitor). She was treated at this time with release of the lumbocostal arches, attempt at paravertebral inhibition and rib raising to which there was a very limited response. A CV-4 was done, during which her respiratory rate reduced to 17 and remained there. The following day, she had improved clinically and was transferred back to the medical floors. Her diaphragm had improved excursion and the massive boggy tension was resolved<sup>7</sup> replaced with the previous T6-L3 facilitation. Her condition improved steadily and she was discharged home 7 days following the second surgery

## Discussion

C.C. demonstrated the classic pattern of respiratory muscle fatigue, which can progress to respiratory failure. The combination of reduced compliance of the thorax and inefficient respiratory muscle function significantly increases the work of breathing. The work of breathing in COPD can be 15 times normal. This placed an unmanageable load on the diaphragm and accessory muscles of respiration, which can fatigue and eventually fail. The compliance of C.C.'s thorax was already reduced due to her preexisting illness. Added to this was the reflex tension and dysfunction created bilaterally throughout the lower thorax by the surgery. Tense, shortened respiratory musculature contracts less efficiently because of Starling's law regarding the length/tension relationship in skeletal musculature. The increased resting tone in the diaphragm and accessory muscles also reduces oxygen supply in the face of increased oxygen demand in these muscles. The flattening of the diaphragm also greatly reduces the capacity for lateral excursion of the lower ribs, which depend on the vertical orientation of the diaphragm for proper leverage. When sufficiently flattened, the diaphragm can actually draw the lower ribs medially during inhalation. All of these mechanical problems are treatable with osteopathic manipulation. C.C. had an excellent response to treatment, demonstrating the importance of these factors in her case.

The paravertebral tissue reaction found following the second surgery had never been seen by me previously. It did not conform to levels related to the surgery or her respiratory disease. I believe the response was central, related to the hypothalamus and its control of the autonomic nervous system. I theorize it may have reflected an acutely overwhelmed stress response mechanism. This would explain the lack of response by the tissues to direct treatment, and her impressive response to the CV-4. □

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