THE AAO
# JOURNAL
A Publication of the American Academy of Osteopathy

TRADITION SHAPES THE FUTURE • VOLUME 12 NUMBER 1 SPRING 2002

## Osteopathy: A Noun, Not Just An Adjective

Thomas L. Northup Memorial Lecture 2001

*See page 15.*

# 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 it's conclusions.

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

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

3. Include a caption for each figure.

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

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

**Editorial Processing**
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THE AAO
# JOURNAL
A Publication of the American Academy of Osteopathy

TRADITION SHAPES THE FUTURE

**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.**

## Editorial Section



## Peer-Reviewed Section



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# 2002 CME Calendar

**April 20-21**
*Fulford's Percussion Technique(Basic)*
Richard Koss, DO, Program Chairperson
Renton, WA
Hours: 14 Category 1A

**May 3-5**
*Prolotherapy / Above the Diaphragm*
Mark Cantieri, DO, FAAO
Program Chairperson
UNECOM in Biddeford, ME
Hours: 20 Category 1A

**May 10-12**
*Still Technique*
Richard Van Buskirk, DO, FAAO
Program Chairperson
AZCOM
Hours: 20 Category 1A

**May 31-June 2**
*Greenman's Exercise Prescription featuring Philip Greenman, DO, FAAO*
Brad Sandler, DO
Program Chairperson
Indianapolis, IN
Hours: 20 Category 1A

**July 26-28**
*Visceral /Structural Integrated*
Kenneth Lossing, DO
Program Chairperson
Indianapolis, IN
Hours: 24 Category 1A

**August 15-18**
*OMT Update at WDW®*
Ann Habenicht, DO, FAAO
Program Chairperson
Lake Buena Vista, FL
Hours: 23 Category 1A

**September 20-22**
*Myofascial Release*
Judith O'Connell, DO, FAAO
Program Chairperson
Indianapolis, IN
Hours: 20 Category 1A

**October 6**
*One-day Course on ENT Problems*
Ann Habenicht, DO, FAAO
Program Chairperson
Las Vegas, NV
Hours: 8 Category 1A

**October 7-11**
*AOA Convention (AAO Program)*
George Pasquarello, DO
Program Chairperson
Las Vegas, NV

**November 8-10**
*Prolotherapy: Below the Diaphragm*
Mark Cantieri, DO, FAAO
Program Chairperson
UNECOM in Biddeford, ME
Hours: 20 Category 1A

**December 6-8**
*Basic Concepts of Muscle Energy*
*Walter Ehrenfeuchter, DO, FAAO*
Program Chairperson
Mesa, AZ
Hours: 20 Category 1A

## Sutherland Cranial Teaching Foundation

COURSES:

**Intermediate Face Course, Doug Vick, DO, *Course Director***
**April 26-28, 2002, Cincinnati, Ohio**
**16 hrs. 1-A CME anticipated**
**Prerequisites: 2 Basic Courses one being SCTF, and 3 years Clinical Practice**
***Contact:* Judy Staser – phone and fax: 817/926-7705**

**Osteopathic Contributions to the Health of Perception**
**Joseph Fields, DO, *Course Director***
**May 15-18, 2002, Kennebunkport, Maine**
**32 hrs. 1-A CME anticipated**
***Contact:* Joseph Fields, DO – 207/967-3311**

*View from the Pyramids*

# What's In A Name

The Thomas L. Northup Memorial Lecturer, 2001, was Ann L. Habenicht, DO, FAAO. Dr. Habenicht, a past president of the American Academy of Osteopathy, discussed many of her observations in the course of learning about Osteopathy during the past 20 years. In applying her learning to her observations about the contemporary osteopathic professional scene, she chose to emphasize that the noun Osteopathy appears to be increasingly used as an adjective. Her challenge is for "US to turn up the flame of Osteopathy for OUR future".

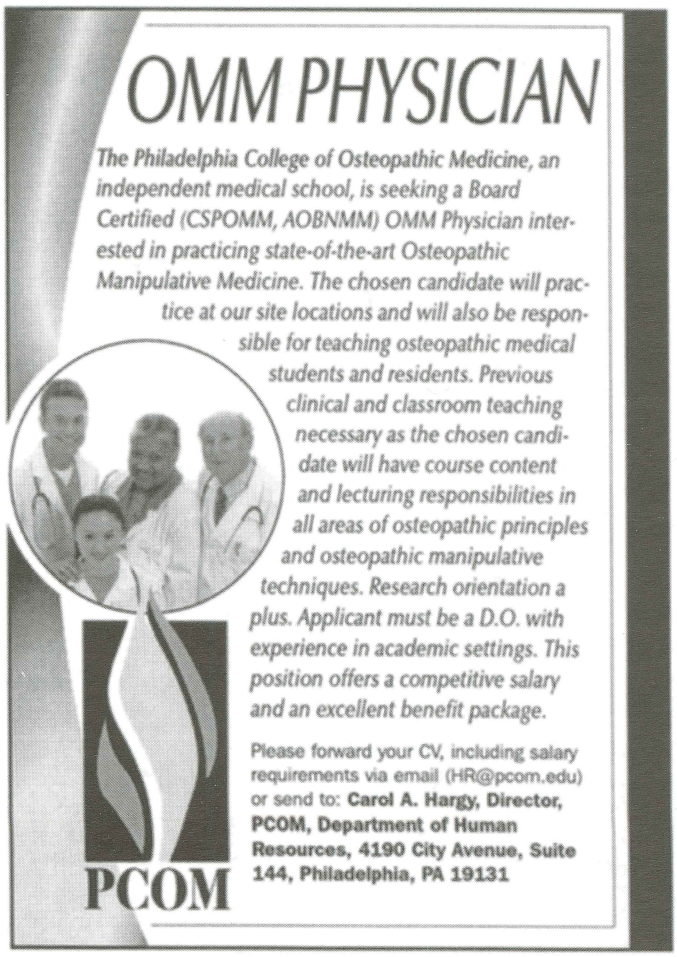
The House of Delegates of the American Osteopathic Association (1960) approved a policy mandating that all written and verbal communications issued by the AOA use the term osteopathic medicine instead of osteopathy and the term osteopathic physician and surgeon instead of osteopath.

Following approval of the policy, AOA publications began to restrict use of the terms osteopath and osteopathy to historical, sentimental or informal discussions. The period of time in which this occurred surrounded the years of the California merger and the changes in names from colleges of osteopathy to colleges of osteopathic medicine. In 1994, the American Academy of Osteopathy submitted a resolution to the AOA House of Delegates requesting revision of the 1960 policy to permit interchangeable use of the terms osteopathy and osteopathic medicine. This resolution passed. In 1999, the AOA Committee on Health Related Policies submitted a resolution to the AOA House of Delegates requesting amendment of the 1994 policy. Action was delayed on this resolution in order to seek a legal opinion. In the interval, the AAO proposed amendments urging the AOA House of Delegates to maintain the interchangeability of terms. In 2000, the AOA House of Delegates voted in favor of the AAO amendments.

The issue, "What's in a name?" Received extensive coverage in *The DO* (July 2001, pp. 26-30). Readers of that article will find many articulate proponents on both sides of the discussion. Through the balance of the year 2001, various letters about the issue continued to be received for publication in *The DO*. Of all of the views that were presented, the one that I found most interesting was penned by Alexander S. Nicholas, DO, FAAO and published in *The DO* (October 2001, p. 21): "However, what my learned colleagues omitted and for which I must - in good spirit - castigate them was that in choosing a name for his new profession, Andrew Taylor Still, MD, DO, chose Hellenic roots. In doing so, he chose osteon, osseous and pathologia, the last referring to the study of emotions, or pathos. Therefore, some of us believe that the name Dr. Still actually chose defined the new profession as one that would treat people whose musculoskeletal systems were suffering, with the intent of discovering a window to what was occurring in the rest of the human system."

Osteopathy, Osteopathic Medicine, Osteopath, Osteopathic Physician have all survived into the 21st Century. Interchangeability rather than relegation was the voice of the AOA House of Delegates in 2000. While new challenges and expression regarding the profession's descriptors will no doubt occur, we would do well to remind ourselves that the same concerns were very eloquently addressed 75 years ago by Leon E. Page, DO (see From the Archives).

Anthony G. Chila D.O., FAAO



# Contributors

The feature article in this issue of *The AAO Journal* is the American Academy of Osteopathy's annual Thomas L. Northup Memorial Lecture. The 2001 Presenter of this lecture was Ann L. Habenicht, DO, FAAO. Dr. Habenicht addresses her concerns about rekindling the flame for distinctive osteopathic education and provides several recommendations for serious consideration. The lecture is titled Osteopathy: A Noun, Not Just An Adjective (p.15).

From the City of New York comes a Special Communication. Jerry Cammarata, PhD is Commissioner of the NYC Department of Youth and Community Development. He is the father of Michelle Cammarata, DO. His article, The Anatomy Professor That Ate New York: Some Dinosaurs Are Teachers, And Some Teach About Dinosaurs explores the background and qualifications of faculty teaching Anatomy in medical schools (p. 13 ).

## Regular Features:

Message from the President (p. 7) and Message from the Executive Director (p. 8) are columns making their final appearance in this issue of *The AAO Journal*. In the future, these messages will appear in The *AAO Newsletter*.

Dig On reviews an original article published in Australia's *Journal of Osteopathic Medicine*, 2001 (p. 10). The authors, Anthony P. Phillips and Deirdre M. Cobbin, discuss their experience with on-line search of electronic data bases seeking published osteopathic research articles.

From the Archives offers a historical perspective from the year 1927 to complement the 2001 Thomas L. Northup Memorial Lecture (p. 11).

## Peer-Reviewed Section:

Martyn E. Richardson, DO, FACOP offers insights about Edgar Cayce and Osteopathy: Can we learn more about osteopathic philosophy from Cayce? In preparing this article, Dr. Richardson was assisted by Jeanette Thomas of the Edgar Cayce Foundation. Dr. Richardson's interest in Cayce began during his childhood in Norfolk, VA. His father, Martyn L. Richardson (PCO '08) was the recipient of patients as recommended by Cayce, and provided care for Cayce family members and staff (p. 18).

Isabelle A. Chapello, DO, FAAO and Mark A. Templin, PhD present and discuss epigastric pain in Unrelenting Abdominal Pain of Elusive Origin: A Case Study (p. 21).

James A. Lipton, DO, FAAO et al. discuss Improved Pain Score Outcomes Achieved Through The Cooperative And Cost-Effective Use Of Physical (Osteopathic Manipulative) Medicine In The Treatment Of Outpatient Musculoskeletal Complaints. Case studies utilizing retrospective controls form the basis of this paper. 141 patients were studied across 363 patient visits (p. 26).

G. Bradley Klock, DO, FAAO discusses The Impact Of Osteopathic Manipulative Medicine On Inpatient Outcomes (p. 33). This paper was submitted in partial fulfillment of requirements for Fellowship in the American Academy of Osteopathy. Dr. Klock was conferred status as Fellow in 2001.


**Chairperson,**
**Department of Osteopathic Manipulative Medicine**
**College of Osteopathic Medicine, Michigan State University**

The College of Osteopathic Medicine of has initiated a national search for Chair of the Department of Osteopathic Manipulative Medicine (OMM) at the Professor level. This is a tenure system, annual year appointment. Specific qualifications for the position include: Osteopathic physician licensable in the state of Michigan, board certification in a specialty recognized by the American Osteopathic Association and board eligibility or certification in Osteopathic Manipulative Medicine. The Chair oversees all educational, clinical, research and residency programs of the Department. COM is a nationally recognized Osteopathic Medical School that integrates the resources of a major university with the assets of a Statewide Campus System. The Department of OMM is located in Lansing, MI. There is a strong tradition of commitment to medical student education and clinical care. With the arrival of Dr. Malcolm Pope as the Patenge Research Chair for the College of Osteopathic Medicine, the Department is well positioned to expand its research portfolio in OMM. Candidates should have an outstanding record of academic achievement and clinical skills. MSU is strongly committed to achieving excellence through cultural diversity. The University actively encourages applications and nominations of women and minorities.

**Applications are being accepted until an acceptable candidate is found.**

**Please forward nominations or curriculum vita to:**
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c/o Pauline Thomas
College of Osteopathic Medicine
Michigan State University
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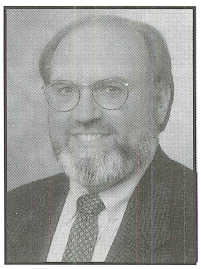
## Message from the President

John C. Glover, DO



# Where has the year gone?

Where has the year gone? The year has been filled with a variety of activities. Many meetings, telephone calls, e-mails, discussions with individuals and groups, lectures, teaching, writing and many miles of travel. The osteopathic concept is alive in many forms throughout the United States and the World.

Within the American Academy of Osteopathy are many dedicated osteopathic physicians who give their time to serve on committees that make this organization run and grow. They are not paid for their time and talent. It is the belief in the Academy and the profession that provides the drive to do the hard work that most people never have the opportunity to appreciate. I have been fortunate to be able to nominate people to these committees and work with them in pursuit of their goals.

Outside of the Academy I have had the opportunity to meet with the leadership of the osteopathic profession and promote the mission of the Academy. AOA President James Zini, Executive Director John Crosby and the members of the AOA Board of Trustees work hard to represent and promote the profession. Although the methods and ideas may differ on how to accomplish these goals, everyone I have worked with is genuinely interested in the growth and survival of the osteopathic profession.

When the opportunity has presented itself, I have promoted the uniqueness of Osteopathy within medicine and suggested how OPP/OMT can be integrated into training programs and into patient management. I have seen a respect for the Academy grow because of the hard work and dedication provided by many AAO members. An appreciation for the Academy is demonstrated when individuals and organizations within the AOA ask for input on issues facing the profession and members to serve on committees. The AAO is having an impact on the profession as a whole.

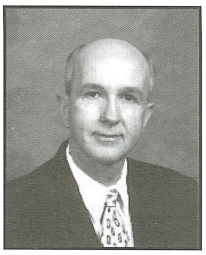
Throughout the world, osteopathy is taking root in many countries and continues to grow in others. In some cases political barriers and traditional views provide frustration to the development of osteopathy. In other cases small numbers make it difficult to provide educational opportunities for students and professionals alike. The unifying force that keeps individuals and organizations focused is the osteopathic concept. Andrew Taylor Still provided a philosophical foundation and a clinical knowledge base that still attracts people of many different cultures and backgrounds. The desire to understand and learn how to apply osteopathic concepts to the great variety of patient complaints attracts individuals to the Academy. They seek to share their clinical experience and learn from others in the Academy. We are rich in clinical knowledge and diverse in the variety ways this knowledge is utilized.

My highest respect and gratitude goes to the staff of the American Academy of Osteopathy. It is a group of very talented and dedicated people who work tirelessly to facilitate the work of committees and allow the diverse talent of its membership to formulate and develop new ideas. I have been very fortunate to be able to work with the academy staff and they have helped me greatly throughout the year.

Thank you all for giving me the opportunity as president to give back to the Academy some of what it has given to me.

## Message from the Executive Director

Stephen J. Noone, CAE



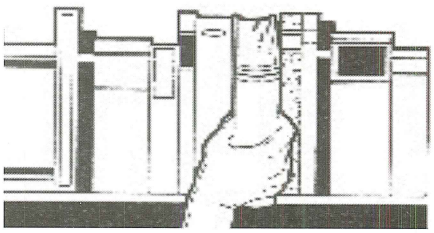
# Final "Journal" Musings from Your CEO

As I begin my 10th year at the chief executive officer of the Academy, I write my 41st and final executive director's message being published in *The AAO Journal*. The vision of inaugural editor, Raymond J. Hruby, DO, FAAO and continuing with current editor, Anthony G. Chila, DO, FAAO, is to place this periodical among major scientific publications that eventually will be included in the National Library of Medicine's *Index Medicus*. Thus, potential authors and researchers will easily access the *AAOJ*'s scholarly articles to support their works. I applaud Drs. Hruby and Chila for their leadership in advocating this goal for inclusion in the Academy's overall strategic plan. I look forward to that date in the future when I can communicate acceptance of the *AAOJ* in *Index Medicus*.

The Academy has established itself as a major publisher of works on osteopathy, with 15 AAO Yearbooks (1974 through 2001) and 15 other titles currently in print. The Academy also purchases and resells another 15 titles from its "bookstore." This investment in publishing should make a valuable contribution to the osteopathic medical profession as it expands its efforts to produce clinical and outcomes research in osteopathic medicine.

Acting on recommendations from Chairman Hollis H. King, DO, PhD, FAAO and the Publications Committee, the AAO Board of Trustees adopted an ambitious schedule of new books for 2001-2002. The reader may already aware of the CD-ROM version of 52 AAO Yearbooks, 1938-1998 – over 9,000 pages of osteopathic literature now available for purchase on one compact disk. Just last month, AAO members received their complimentary CD-ROM copies of the *Millennium Edition of the AAO Yearbook*, edited by Myron C. Beal, DO, FAAO. Last fall, the Academy published a new board review book written by Wm. Thomas Crow, DO, *The COMLEX- USA Exam: The Osteopathic Principles and Practices Review book for Levels One, Two and Three*. The AAO staff will have available for sale at the 2002 AAO Convocation the *Encyclopedia of Osteopathy* by Eileen L. DiGiovanna, DO, FAAO, the first such resource ever published within the profession. Finally, the Academy staff is preparing a CD-ROM version of a trio of historic osteopathic books that should be available by the summer 2002 – *Applied Anatomy of the Lymphatics* by F. P. Millard, DO; *Intrapelvic Technique* by Percy H. Woodall, DO; and *Osteopathic Mechanics* by Edythe F. Ashmore, DO.

As I reflect on the Academy performance in the publications field, I am simply awestruck by another significant role the AAO plays in preserving the tradition of osteopathy. However, by expressing this emotion, I recognize that some osteopathic physicians within this profession may characterize my comment as the "latest and another example of the Academy claiming to be better than others," e.g. the only ones who utilize OMT; or the ones who are better at using or integrating OMT in the practice of osteopathic medicine, etc. Nevertheless, let the facts speak for themselves. The Academy seeks to fulfill its mission, i.e. 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. With the expansion of its publication initiatives, the Academy not only fulfills its own mission, but also supports the broader osteopathic medical profession's efforts to preserve the distinctiveness of this mainstream medical profession.❐



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# TWELFTH ANNUAL OMT UPDATE

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PROGRAM CHAIRPERSON

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### COURSE OBJECTIVES:

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

- OMT Review - hands-on experience and trouble-shooting
- Integration of OMT in treatment of various cases
- Preparation for OMT practical portions of certifying boards
- Preparation for AOBNMM (American Osteopathic Board of Neuromusculoskeletal Medicine) certifying boards
- Information on CODING for manipulative procedures
- Good review with relaxation and family time

### PROGRAM TIME TABLE:

Thursday, August 22 ..... 5:00 pm - 10:00 pm
Friday, August 23 ..... 7:00 am – 1:30 pm
Saturday, August 24 ..... 7:00 am – 1:30 pm
Sunday, August 25 ..... 7:00 am – 1:30 pm

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### August 22-25, 2002

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# Dig On

Anthony G. Chila, DO, FAAO

## Search Words: Osteopath, Osteopathy, Osteopathic

From Australia comes an interesting original article, the purpose and results of which are certainly familiar to American osteopathic physicians.[1]

The authors, Anthony P. Phillips and Deirdre M. Cobbin, sought "To examine the scope and standard of osteopathic research published in English during the 12 month period, commencing February 1999".

The search of data bases included Medline, Health Star, Biological Abstracts, CINAHL, Current Contents. Examination of retrieved articles was done with attention to standard and completeness of methodology. It was reported that inclusion criteria were met by 13 articles; 7 published in osteopathic journals and 6 published in international journals of medicine or physiotherapy. Of these, 5 were clinical or experimental research articles and 8 were surveys. The surveys were noted to be from the USA.

In considering the effort expended by the authors in preparation of this article, it is appreciated that assessments of quality of the retrieved articles can well be useful to future researchers writing in both categories. Clinical or experimental research articles were found to generally employ appropriate scientific methodology and rigor. It was felt that balanced critiques of both research design and findings characterized these reports. Standards for survey methodologies were found to be lower.

Biases from sample selection and lower response rates were felt to contribute to weak conclusions as drawn by the authors of these reports.

In their discussion, the authors expressed the following:

"Database searches for osteopathic research are hampered by the several different uses of the term osteopathy. Not only does osteopathy refer to bone disorders in veterinary and medical science but in the USA it refers to a significantly different style of health care and practitioner. Thus the research focus from the USA is not necessarily relevant to osteopathy as practised elsewhere. For example, four of the eight surveys that were examined, reflected the different level of qualification and role of osteopaths in the USA, including surveys of treatment of obesity, addictions and other conditions not relevant to osteopaths outside the USA. Osteopaths in the USA are part of the medical fraternity and as such, may perform many additional functions that are typical of a general practitioner, including prescribing and family health checks".

It is in these comments that the authors appear to demonstrate a significant lack of understanding about medical licensure as regulated in the USA (DO and MD). At present, the USA remains the only country in the world where unlimited licensure for the practice of medicine can be undertaken and achieved through two philosophically different routes. This educational accomplishment extends through numerous avenues of practice in medical disciplines as well as this country's social fabric. Searching also requires pursuit and resolution of the influence of osteopathic philosophy on the body of medical thought.

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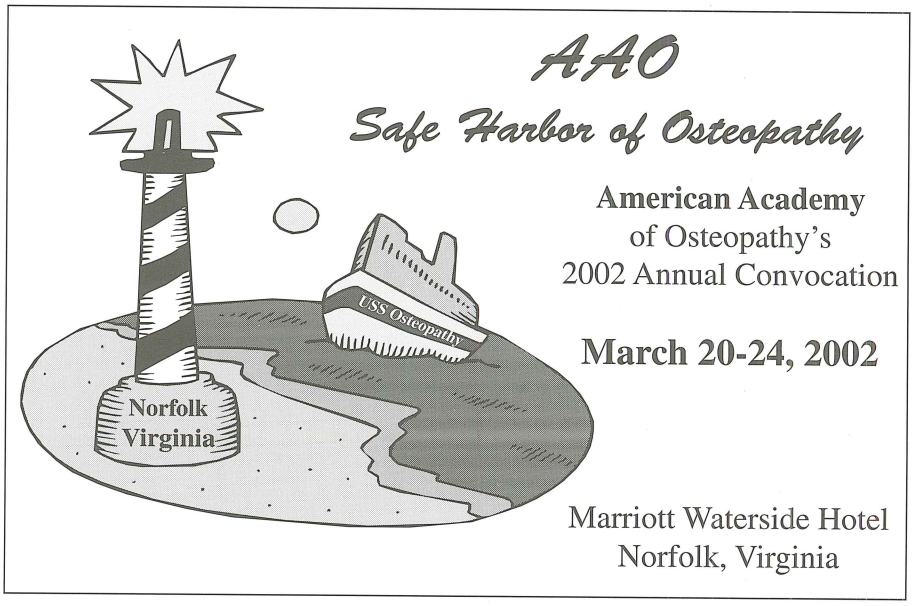
[1] Phillips, AP; Cobbin, DM: Examination of the scope and quantity of published osteopathic research (1999-2000) identified using the search words osteopath, osteopathy and osteopathic; Journal of Osteopathic Medicine, 2001: 4(2): 56-61.r

# From the Archives

Page, Leon E.: OSTEOPATHIC FUNDAMENTALS; 1927, Journal Printing Company, Kirksville, MO , pp. 181-182.

*[**Editor's Note**. Dr. Page was, at the time of this publication, Associate Professor of Surgery and Professor of Osteopathic Principles, Kirksville College of Osteopathy and Surgery. He was also the author of* Manual of Clinical Anatomy. *Andrew Taylor Still had passed on in 1917. In 1927, the President of the American Osteopathic Association was George V. Webster, DO; the first issue of* The Forum of Osteopathy, *appeared in April (name changed to* The DO *in 1960); the American Osteopathic Foundation was founded to support research, publications, and educational facilities, as well as a variety of other philanthropic activities; the state of Florida passed an unlimited practice law for osteopaths.]*

"A census of physicians shows that the general practitioner is declining in numbers. The question is largely economical. The cost of a modern medical education is such that a graduate naturally wishes to seek the city and specialization. His education has been such that he is less well equipped for a general practice than was the physician of twenty or thirty years ago whose training, if less scientific, was more practical. The result is a death of general practitioners. This is a situation which osteopathy is prepared to meet. Osteopathic education has reached a point where it is adequate to train competent general practitioners. A limited number can secure additional training in the various specialties. The majority however are best fitted to take the place of the disappearing family physician.

This is a field of endeavor worthy of anyone who wishes to fill the capacity of a physician in the widest sense.

The future of the osteopathic profession cannot be predicted with certainty.

The fundamental principles which underlie osteopathic practice are of course permanent and will endure under whatever name they are practiced. The osteopathic profession must maintain its independence until the principles which it represents receive universal recognition by the therapeutical world. The fear is sometimes expressed that osteopathy will be absorbed by medicine. This cannot be so, since osteopathy is a part of medicine and consists of a set of principles which are true. As long as the profession of osteopathy maintains its own institutions and abides by its principles it will maintain its identity. When the principles of osteopathy are identical with the principles of medical practice, the profession of osteopathy will have fulfilled its mission. The question as to whether the healing art will adopt the name osteopathy is a minor matter. The history of the osteopathic profession at any such time will speak for itself and the contribution of Andrew Taylor Still will be recognized for its true worth.

Present indications do not point to such a happy consummation in the near future. Half a century is an insufficient time to overthrow the accumulations of centuries of tradition and custom. The task of the osteopathic profession to establish the principles of Dr. Still as the foundation of practice is but begun. In the meanwhile growing public opinion, more adequate educational advantages, well financed institutions, and scientific investigation will continue to stimulate the growth of the greatest contribution to the healing art in recent times.❐


## Visceral Manipulation/ Structural Integration

**July 26-28, 2002**
**Indianapolis, IN**

**Kenneth Lossing, DO, Program Chairperson**

***COURSE DESCRIPTION*:**
This course is designed to instruct participants in the visceral-musculoskeletal interactions. The principles and techniques of Drs. Still, McConnel, Sutherland, Jones, and Barral will be examined. The course material will be beneficial to any physician practicing manipulation that sees patients with pain and dysfunction.

***LEARNING OBJECTIVE*:**
At the end of the course, participants should: • be able to find and treat dysfunctions of the visceral thorax in relation to the thoracic spine, ribcage, fascia, and diaphragm. • be able to find and treat dysfunctions of the visceral abdomen in relation to the thoracic and lumbar spine, ribcage, fascia, and diaphragm. • be able to find and treat dysfunctions of the visceral pelvis in relation to the thoracic and lumbar spine, sacrum, and pubis.

***PROGRAM TIME TABLE***
Friday, May 3 ..... 8:00 am –5:30 pm
Saturday, May 4 ..... 8:00 am –5:30 pm
Sunday, May 5 .. 8:00 am – 12:30 noon

**Contact:**
**American Academy of Osteopathy**
3500 DePauw Blvd., Suite 1080
Indianapolis, IN 46268
Phone: (317) 879-1881
Fax: (317) 879-0563

**Web site:**
**www.academyofosteopathy.org**
(register on line)

# Component Societies' CME Calendar and other Osteopathic Affiliated Organizations

**April 26-28, 2002**
*Intermediate Face Course*
Sutherland Cranial Teaching Foundation
Doug Vick, DO, Course Director
Cincinnati, OH
Hours: 16 Category 1A
Contact: Judy Staser
(817) 926-7705

**April 26-27, 2002**
*An Introduction to Visceral Manipulation*
New England Academy of Osteopathy
UNECOM
Biddeford, ME
Hours: 8 Category 1A
Contact: Parise Skoczenski
(207) 283-0171

**May 2-5, 2002**
*105th Annual Convention*
Indiana Osteopathic Association
Adam's Mark Downtown
Indianapolis, IN
Hours: 30 Category 1A
Contact: I.O.A.
(800) 942-0501 or
(317) 926-3009

**May 3-6, 2002**
*Biodynamics Phase III*
James Jealous, DO
Farmington, ME
Hours: 22 Category 1A
Contact: James Jealous, DO
(602) 823-7733

**May 4-5, 2002**
*Using the Powers within the Patients Body VII: The Midline Ligamentous Articular Mechanism and Transverse Fascial Planes*
A Still Sutherland Study Group
Sharon, CT
Hours: 14 Category 1A
Contact: Andrew Goldman, DO
(860) 364-5990

**May 13-15, 2002**
*The 11th Annual "Getting a Grip on Low Back Pain"*
American Academy
of Musculo-Skeletal Medicine
Denver, CO
Hours: 23 Category 1A
Contact: Thomas Ravin, MD
(303) 331-9338

**May 15-18, 2002**
*Osteopathic Considerations to the Health of Perception*
Sutherland Cranial Teaching Foundation
Joseph Field, DO / Eve Burman, DO
Kennebunkport, ME
Hours: 32 Category 1A
Contact: Judy Staser
(817) 926-7705

**May 15-18, 2002**
*Biodynamics Phase IV*
James Jealous, DO
Farmington, ME
Hours: 24.5 Category 1A
Contact: James Jealous, DO
(602) 823-7733

**May 20-23, 2002**
*Biodynamics Phase V*
James Jealous, DO
Farmington, ME
Hours: 22 Category 1A
Contact: James Jealous, DO
(602) 823-7733

**June 3-6, 2002**
*Biodynamics Phase I*
James Jealous, DO
Farmington, ME
Hours: 26 Category 1A
Contact: James Jealous, DO
(602) 823-7733

**June 9-12, 2002**
*Biodynamics Phase III*
James Jealous, DO
Farmington, ME
Hours: 22 Category 1A
Contact: James Jealous, DO
(602) 823-7733

**June 15-19, 2002**
*June Basic Course*
The Cranial Academy
Des Moines University Osteopathic
Medical Center (DMUOMC)
Des Moines, IA
Hours: 40 Category 1A
Contact: The Cranial Academy
(317) 594-0411

**June 16-23, 2002**
*CounterStrain Cruise to Alaska*
Edward Goering, DO
OMM Dept. Eastmoreland Hospital
Portland, OR
Hours: 20 Category 1A
Contact: Al Turner, DO
(503) 230-2501 or
OMMDOC@imagina.com

**June 20-23, 2002**
*Annual Conference*
The Cranial Academy
Des Moines Marriott Hotel
Des Moines, IA
Hours: 40 Category 1A
Contact: The Cranial Academy
(317) 594-0411

**July 29- August 2, 2002**
*J. Scott Heatherington, DO Memorial Basic Cranial Course with Viola Frymann, DO, FAAO*
OMM Dept. Eastmoreland Hospital
Portland, OR
Hours: 40 Category 1A
Contact: Al Turner, DO
(503) 230-2501
OMMDOC@imagina.com

**August 1-4, 2002**
2002 Annual Meeting
Manor Vail Lodge
Vail, CO
Hours: 20 Category 1A
Contact: CSOM
(303) 322-1752
(800) 527-4578

*Special Communication:*

# The Anatomy Professor That Ate New York: Some Dinosaurs Are Teachers, And Some Teach About Dinosaurs

Jerry Cammarata, Ph.D., Sc.D., L.H.D., CSE

As an Aphasiologist and, perhaps more importantly, as the father of Michelle Cammarata, DO, I took more than a passing interest in the qualifications and background of the faculty when my daughter started medical school.

I had expected that the faculty directory of the New York College of Osteopathic Medicine would be replete with MDs and DOs, Anatomists, Human Biologists, with, perhaps, a "PharmD" thrown in here and there.

To my surprise, I discovered that the first course my daughter would take would be in Anatomy and would be taught by one Desmond Maxwell, PhD - a paleontologist and, it turns out, the only one in the nation who also teaches Gross Anatomy, Human Histology, and Neuroscience.

Now, I had never met a paleontologist, but I know what they are and what they do, and in my mind they all look the same: a slouchy hat, a pair of surveyor's boots, a pistol at their side, chiseled features and wind-bitten cheeks. You know: Roy Chapman Andrews, fighting sandstorms and snakes as he prowled the Gobi Desert for prehistoric bones, and provided the raw material for those Saturday matinee serials that would later inspire the Indiana Jones movies.

Well, I thought, I had better keep my mouth shut about my surprise that such a fellow was not digging among rocks but among neurons, or I will sound like a rube trespassing in the Groves of Academe.

So, when my daughter invited Dr. Maxwell to our home for an Italian meal of sausage and pasta, I casually asked, "Say, Des, what is your clinical background?"

"Oh," he said, "I dig for dinosaurs."

As it turned out, Des Maxwell really is like Andrews, or Jones - or pretty nearly: he hunts for dinosaurs in Montana, though, not Mongolia.

So why was this fellow teaching Anatomy to future physicians? This was not veterinary school, and even a DVM would not be called upon to set the broken thigh of an Allosaurus or a Triceratops.

Being stuck on research, I too did a little digging (in the books) and I found that this is remarkably common, and has been for quite a long time. Of the 1,700-or-so professors of Anatomy in American medical schools, less than one tenth hold a medical degree - many of the rest have spent much of their careers examining rocks that have nothing to do with gallstones.

I was shocked to discover for instance that Paul Sereno, a paleontologist who discovered one of the oldest dinosaurs now known, Eoraptor ("dawn raptor") in the Andes, and a huge 36-foot-long sailbacked crocodile-type dinosaur in Africa, Suchornimus tenerensis, teaches human anatomy to students at the University of Chicago Medical School.

Paleontologists were not the only surprises I found in my own dig. More and more anthropologists, particularly biological anthropologists, are joining medical school faculties, as what was once a specialty that studied only cultural habits has expanded to include surveys of adaptive genetics', public health issues, and has even spawned the science of forensic anthropology.

Then I spotted an article recently republished in the *Journal of the American Medical Association*. In it, Dr. Charles Wardell Stiles, PhD, not MD and a zoologist to boot, argues that zoology (and, incidentally, chemistry and botany) ought to be part of the

standard medical school curriculum. I should say that Dr. Stiles had argued that: the article was reprinted from 1901, around the same time that a man named Walter Scott Adkins, a geologist who both worked for Shell Oil Company and figured out a way to solve geological enigmas through biostratigraphy, was teaching anatomy at Baylor Medical School in Dallas, Texas.

"In order to get to the point where you can collect dinosaurs, do research on them, and teach human anatomy in a medical school, you need to be familiar with a lot of comparative anatomy, in addition to human anatomy," Des told me. "Being able to stand over a cadaver and explain to students how various skeletal elements have changed from amphibians to reptiles to mammals to humans, or how the course of cranial nerves can be traced in preserved dinosaur braincases and compared with those of humans, or how the heart of a sauropod had to be the size of a Buick, or how a sauropod's trachea and esophagus may have exceeded 30 feet in length, enhances the teaching process. For sure, not every student is interested, but many welcome the additional information, and ask questions.

"I remember explaining vertebral structure to a number of students in my office, using a dorsal vertebra from a specimen of Tenontosaurus. The dinosaur's vertebra is significantly larger than any human vertebra, so it made viewing and appreciation of its description a little easier. I remember explaining the structure of the neural arch - the pedicles and laminae - and explaining that a lack of fusion of the laminae leads to spina bifida occulta, with other developmental problems possible. Of course, the students immediately wanted to know what the other developmental problems were (spina bifida cystica, spinal bifida with meningocele, and spina bifida with meningomyelocele), and if they occurred in dinosaurs. Answer: No one knows. But the net effect was that the students had an extra spark to help them remember and appreciate an anatomical abnormality in humans.

"Another dino-centered discussion involved aortic aneurysm. Dissection of the thorax would involve discussions of the lungs, heart, esophagus, trachea, and major blood vessels. One of these, the aorta, is susceptible to a weakening of its wall in various regions leading to expansion and possible rupture. In order to emphasize that some of the weakening could be the result of hypertension, or blood exploiting a weakness that resulted from disease, I would ask students to imagine the force of arterial blood pressure emerging from the heart of a 60-foot-long dinosaur: imagine the pressure involved with an enormous heart, with incredibly thick, muscular walls, contracting to force blood through a relatively narrow vessel. Now apply the same thinking to humans, but on a smaller scale. Once again the question would pop up, 'Did dinosaurs suffer aneurysms?' We have no way of knowing, but that wasn't the point."

If nothing else, the eonic perspective paleontologists like Des Maxwell bring to medicine forces these budding "gods in white coats" to stand in humility before Nature.

"The major point that I would try to get across is that Homo sapiens is one version of a body plan and it certainly does not represent the pinnacle of evolution," Des said. "We are just as susceptible to disease and physical breakdown as most other organisms. This would lead to examples related to the various structures we were dissecting and discussing that day. Using evolution to provide a background to the development of the human body captivated a number of students, retained their interest in the class, and gave them a broader perspective, allowing them to place various anatomical structures, and the diseases or physical changes that affect them, in an evolutionary context."

We humans have yet to encounter anything as complex as our own bodies, any marvel of nature quite so astounding as our own flesh and blood. There is not only room for paleontologists, zoologists, anthropologists and other specialties to make a contribution to the complex study of the human, but their contributions are necessary to keep the practice of medicine from becoming too narrow, too blinkered, or, indeed, too proud. We should encourage the faculties of our medical schools to grow in diversity, because that instructional diversity will yield extraordinary doctors.

Neither I, nor my daughter, will view the Tyrannosaurus at the American Museum of Natural History again without a feeling of kinship, thanks to Des Maxwell, and I daresay that neither of us will feel a twitch in our joints without wondering whether some space cadet in a medical school a geological epoch or two from now will learn her Gross Anatomy from a bit of fossilized Me.

After all, we will, each of us, one day go the way of the dinosaurs, and perhaps, if we are lucky, we will make the same contribution to the education of future healers that they have.

And that's a lesson well worth the price.

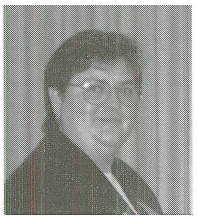
## References

1. Stiles, Ch. Wardell, PhD, Zoology in the Medical School Curriculum, *JAMA* 100 YEARS AGO - June 1, 1901; JAMA, Volume 285, Number 21, 6/6/01, Page 2690.❐

**Thomas L. Northup Memorial Lecture 2001**
**AOA Annual Meeting; San Diego, CA**
**October 22, 2001**

# Osteopathy: A Noun Not Just An Adjective

Ann L. Habenicht, DO, FAAO



Over the past several years of attending the Thomas L. Northup Memorial Lecture, I listened for words of wisdom from the chosen speakers; a true honor to be chosen by your peers. I listened as Dr. Edna Lay retold the story of our greatest loss, a valiant fight, and a great victory for Osteopathy, the California Experience. I was amazed at her dedication to the profession. Dr. Jim Jealous spoke of the Death of Osteopathy. At first, I was enraged, but now I understand his statement. Last year, Dr. Mike Kuchera gave me a perspective on the importance of this lecture and how much Osteopathy meant to him in his life.

I have spent the last 11 months thinking about what I could possibly talk about. I have not fought a great fight as Dr. Lay. I was not born into Osteopathy like Dr. Mike, and I do not see Osteopathy as dead, yet. I do see a problem that has bothered me for many years now and seems to be getting worse; that is, that Osteopathy, the noun, is more and more being used as just an adjective; osteopathic education, osteopathic medicine, osteopathic profession.

You are probably thinking, she is NUTS! Those examples are appropriate uses of the adjective "osteopathic." This is true. What I'm concerned about is the underlying reason, the driving force behind the lack of allegiance to our identity and our reluctance to embrace our heritage. Why our own AOA House of Delegates tried to remove the noun "Osteopathy" from our daily usage several years ago. Fortunately, the house was swayed not to follow "the dark side." Let me explain further.

Over 20 years ago, I was welcomed into the family of Osteopathy as a budding first year student. Knowing NOTHING about Osteopathy other than the term sounded strange– all about "bone" you know. We used to joke about telling people we were attending the Chicago College of Osteopathic Medicine in Hyde Park. My attitude changed when, during an OM class, MY postural study was "flung upon the viewbox." The doc in charge that day looked at the x-rays and told me that I had frequent low back pain, GI upset, and headaches. I WAS AMAZED!! He then pointed out something so obvious to me now, my short leg with lateral curves and crossover point. I then realized something was different about THIS medical school. Although my class never completed our History of Medicine course (our professor had an MI when we hit the Romans), as freshmen we were supposed to read a book entitled "To Teach, To Heal, To Serve", a history of CCOM (and it's motto!). As a dutiful MS1, I read the book. As I read, I gained an understanding of the school's motto, "to teach, to heal, to serve" and how I was a part of the tradition, heritage, and community of CCOM. It gave me a better appreciation of my college, myself and my chosen profession.

I actually got to interact with a very important physician in CCOM history, our dean, Dr. Robert Kistner. Because of Dr. Kistner's, and Dr. W. Don Craskes', willingness to obtain both DO and MD degrees, Chicago Osteopathic Hospital was able to legally operate on their licenses until DOs obtained full rights in Illinois. COH became a major teaching institution in Chicago. It is examples like this that demonstrate closeness of our DO family. I am certain that many of you also have fond memories of learning the significant histories of your colleges in Osteopathy's history.

As my training has continued over the past 20 years, I have grown to realize the importance of Osteopathy. We ARE different. We are Close and Protective of our profession. Why is this important?

Well, my background is in family and academic medicine; I have seen the politics of the AOA and my state legislature for several years. I have seen our colleges expand from 15 to almost 20 and I am GREATLY concerned for the future of my profession. In 30 years, hopefully when I am semi-retired, will there be a car-

ing Osteopathic colleague to care for me or just some one with a DO after their name?

My friends— we have a problem that WE must take care of or it will become worse. Our problem is our future-the training of our future colleagues, our young-our DOs. Now before you say, OK Habenicht, let's not get negative in beautiful San Diego, - let me explain why Osteopathy is not dead, but is flickering.

Our future is our young- our students and housestaff. I see colleges producing fine, young physicians-who, for the most part, during the basic sciences years, obtain a good grounding in Osteopathy- the last they will see!! We send students to externships devoid of Osteopathy, except in name, and then expect them to continue on into 11 "osteopathic training" as graduates. We tell them we are different- but where is the difference? And- what is worse- our students are losing their heritage- their roots to cling to, to give them the "warm fuzzy" feeling of the DO unity. How can this be? I will tell you. . .

1. Universities are eating up our colleges. Our names are changing. The "osteopathic" portion is being indirectly hidden. I don't believe that this is "a malicious attempt to rid the country of Osteopathy", but it stings never the less. Economics have forced our colleges to change to expand and "stay alive,"—but in the process of "indoctrinating the students to the university family", our young are losing their heritage! — their name, their identity, and NOW their degree- Doctor of Osteopathy.

2. Our clinical programs have become devoid of Osteopathy for the most part. With few exceptions, our 3rd and 4th year young never see Osteopathy at work. For too long our profession has had the "Avis" attitude-to be "just as good as" our allopathic brethren. Our young become "2nd class", and are amazed when they rotate at an allopathic institution that they are as good, if not better trained, as their counterparts. In our profession's strive to be "just as good as", we forgot what is most important-our difference-Osteopathy. We need to take the attitude of "not better, but best" and back it up with good OSTEOPATHIC medical training.

3. Our postdoctoral training programs are suffering for the LACK of Osteopathy-our difference. In the early 1980s, 99% of AOA internship programs were filled. By the 1990s that number dropped to 76%! 49% of our graduates in the early 1980s were in AOA GME programs. In the 1990s, only 36%. The factors for these changes are many-salaries, benefits, PERCEIVED superior allopathic training. But more important-NO DIFFERENCE- other than in the training documents. Our graduates feel that Osteopathy has no place in the specialties!

My friends-WE need to help change things and fast, so when WE are in need of a truly osteopathic physician, one will be there. How can we do this? -Well, first "the fix."

## Our young need the best training!!

1. The 1st and 2nd years

- We need PhDs who have experienced Osteopathy. We need to teach and treat them. Osteopathy does have significant applications to the basic sciences- consider structure -function.
- Our OMM faculty must increase in numbers and variety. We need experience and youth. PCPs and specialists to teach our young colleagues. Variety is the necessary key.
- We need state of the art facilities for our young. Too many of our colleges have inadequate skills lab space and tables for effective teaching- some colleges do not even have a permanent space! These inadequacies give a perception that OMM is NOT important. We must give our young the best opportunity to learn. "ENGAGE THE BARRIERS TO LEARNING AND THRUST THROUGH THEM." Our students and faculty need state of the art adjustable height tables and equipment for the proper learning and teaching of Osteopathy.
- Our non-DO administrators must experience the osteopathic difference. We need to educate them about the closeness of our DO family, treat them, and bring them into the family. Our alumni are very dedicated to their colleges IF they have experienced their heritage. Lose the heritage and you will lose the future alumni.
- We need research. We need to back up what we say. Many of us are not researchers, but we can help with clinical trials! Clinical Osteopathy!

2. Our 3rd and 4th years

- Our colleges MUST provide OSTEOPATHIC training. ALL rotations should have an osteopathy flare, not just a DO "running or overseeing" the program or rotation. If our colleagues are unable or uncomfortable with regaining the difference Osteopathy makes, WE must be prepared to assist and teach them. "Teaching the teachers who teach." Our colleges can also help by training the trainers.

Require OMT logs as recommended by President Glover. This will encourage our young to use their training. It will be necessary for the trainers-attendings and housestaff-to adequately reinforce to our externs how osteopathy relates to the patient's care. This must be uniform throughout the profession. The colleges MUST be encouraged to require these logs or-perhaps this requirement could

be through the NBOME via COMLEX as a requirement to sit for boards.

- Require an OM rotation in the 3rd and 4th year. Not only should osteopathy be integrated in all rotations, but structural medicine is ALSO a significant difference. We, academy members, need to provide assistance. Teach with your school or adopt a school. Become a preceptor for our young! Make a difference! And finally,

3. Our housestaff

- The resident trainers must provide the teaching of Osteopathy. This can be accomplished through the OPTIs. All AOA GME residency documents mention a requirement of the Osteopathic component. The regulatory bodies MUST enforce this. Make the residency trainers accountable for the osteopathy flare of their specialty-the DO difference.
- Provide competitive salaries and benefits for our housestaff
- Be concerned for our housestaff's well being. Their mental and physical health. The phrase "DOs eat their young" is often used. Let's try not to eat our young.

## How do we do all this? SIMPLE!

1. **Take back our schools!!**
   - ✔ Help our schools with monetary donations, **but** make the administrators accountable for our young's tools for learning; courses, physical sites, etc. **Get involved.**
   - ✔ Volunteer your time as a preceptor.
   - ✔ Help with teaching.
   - ✔ Help our administrators and staff to experience Osteopathy-treat them.
   - ✔ Teach them.
   - ✔ Encourage our administrators to come to our convocation to experience the camaraderie of Osteopathy.
   - ✔ Return to our roots! Insist on ALL students receiving a History of Osteopathy COURSE-where we came from, why A.T. Still brought forth Osteopathy, his foresight of medicine, the profession's struggles and accomplishments, our research and where we are today.
   - ✔ Return our rightful diploma "Doctor of Osteopathy." This was changed approximately 8 years ago. "With time comes wisdom." So many people worldwide want OUR degree-we need it back! It's history and heritage! Teach and precept students and housestaff. Take one student 2-3 times per year.
   - ✔ Make OMT logs mandatory for 3rd and 4th years AND into residencies. This will demonstrate the result of a difference in the teaching in our programs. This can also then overflow into a requirement for DOs wishing to "return to the fold" with ACGME training- produce logs!
   - ✔ Make our residency programs accountable for osteopathy in the training. WE need to assist trainers if they feel inadequate. They need to teach their own; WE can help them accomplish this.

## How long will this take?

Probably an "act of God" but, realistically this could be accomplished in 5-10 years. It's up to US to "turn up the flame of Osteopathy" for OUR future. We must become voices and hands!! We, as alumni to our schools, must insist on the BEST TRAINING AND FACILITIES for our young.

We need to put Osteopathy back where it belongs, a noun -not just an adjective.❐

# Prolotherapy: Above the Diaphragm

### 20 Hours Category 1A

## May 3-5, 2002

**UNECOM**
**Biddeford, ME**

**Program Chairperson**
**Mark Cantieri, DO, FAAO**

### *Course Description*:

This is a course designed to instruct participants in the physiology of wound repair using cadavers and prosections. Participants will review the anatomical relationships of tendon and ligament structures and gain insight into the referred pain patterns of tendons and ligaments. Also, participants will learn diagnostic and injection techniques for tendon and ligament instability. This is not a course on coding and billing for prolotherapy or other related prolotherapy issues because of the intensity of instruction relative to injections and anatomy.

### *Learning Objectives*:

At the end of each session, participants should:

- Readily evaluate for joint instability
- Readily diagnose tendon instability
- Know how to inject unstable tendons and joints

### *Program Time Table*

Friday, May 3 ..... 8:00 am –5:30 pm
Saturday, May 4 ..... 8:00 am –5:30 pm
Sunday, May 5 ..... 8:00 am – 12:30 noon

### Contact:

**American Academy of Osteopathy**
3500 DePauw Blvd., Suite 1080
Indianapolis, IN 46268
Phone: (317) 879-1881
Fax: (317) 879-0563
**Web site:**
**www.academyofosteopathy.org**
(register on line)

# Edgar Cayce and Osteopathy:
## Can we learn more about osteopathic philosophy from Cayce?

Martyn E. Richardson, DO, FACOP
with assistance from Jeanette Thomas of the Edgar Cayce Foundation

My interest in Edgar Cayce began as a child growing up in Norfolk, VA. Cayce had moved to Virginia Beach in 1925 and, when requested to do so, would suggest one of the several DOs in the area which the local individual might like to see. My father was frequently sent patients with many different problems. ( My father also cared for many of Cayce's family and staff).

But, in addition, my father (Martyn L. Richardson, DO, PCO 1908) had studied the techniques for restoration of hearing and elimination of tinnitus developed by Curtis Muncie, DO (ASO-1910). This technique was based on finger crushing the adenoids in the fossa of Rosenmuller, and finger dilatation and mobilization of the Eustachian tube under $NO_2$ anesthesia. Cayce suggested that people with hearing problems see my father and some came from hundreds of miles away.

Cayce was a regular topic of conversation with the wives and friends of the DOs and their patients, so I was aware of him. My father mentioned Cayce only in passing, but indicated that he did believe that some individuals had unusual psychic powers which I interpreted to mean that Cayce had psychic powers.

How would you feel if a new patient came to your office with a printed page of instructions for the patient, suggesting to them what foods they should eat and what medications to take? Even more surprising would be the instructions for osteopathic manipulative treatment including the specific areas of the spine to have specific attention. When you ask the patient where this came from, they indicate it is from a person who is not a physician, who lives hundreds of miles away and, whom they have never seen. They also indicate that you are the doctor recommended to give the manipulative treatment.

After you have treated the patient, they may come back with another reading indicating you did not treat correct area or it was "stimulating" rather than "relaxing".

This is the experience of many healthcare providers, most DOs in the first half of the 20th century. It was from the "readings" of an individual by the name of Edgar Cayce, while in an "altered state" or trance.

I was aware of Cayce while growing up in Norfolk, near Virginia beach, VA. He was mentioned frequently in conversations and our family visited the A.R.E. building on several occasions. Cayce's family and many of the staff were patients of my father.

Most people may have read about Cayce in the grocery store tabloids, or read one of the more than 400 books written about him, or publications in 17 languages.

Others may have seen the PBS special which included Cayce along with Nostradomus and others as great psychics in history. But that is not in which Cayce was most interested. He spent much of his time doing "readings" for people about their health. He did this whether or not they could pay him (he went into bankruptcy twice) and his readings emphasized the principles of the nerve control of the organs, circulation and function of the body very similar to A. T. Still's philosophy.

Hundreds of letters arrived daily from people who wanted to know about their health. After the reading, Cayce would give the name of a "qualified" physician in their area, if requested. Of the physicians recommended over half were DOs, the others were MDs, naturopaths, homeopaths, eclectics, physiotherapists, psychiatrists, and others.

Cayce would be given the name and address of the person who had written, and occasionally had come to his house in Virginia Beach, then Cayce would describe the condition.

"Yes, we have the body. There are tendencies which need to be taken into consideration or may cause a great deal of trouble primarily in the glandular forces of the system, sugar in too great a quantity for . . . between liver and spleen-muscle and tendon forces hindered will effect heart, liver, and kidneys . . . and a subluxation of 6th, 7th, and 9th dorsal."

Cayce never made a medical diagnosis. He described the problems as disturbed circulation, lymphatic failure, disturbed nerve balance, glandular imbalance, accumulation of waste, or other functional terms.

After that, Cayce would describe management, usually including manipulation, hydrotherapy, massage, dietary changes, various electrotherapies, some "natural" drugs, and psychological and attitudinal advice. He also mentioned that surgery might be

necessary in a case, others he said "no surgery," penicillin in a few cases. He frequently mentioned colonic cleansing, peanut oil massage, olive oil packs, luminal, digitalis, bromides, glyco-thymolene pack, etc.

For the DO, Cayce felt the balance between the sympathetic and cerebrospinal spinal systems was important.

"In making corrections, it is well that they be made by one who is trained in such lines"

"Do not over treat"

"Relaxing of pressures for proper reactions in cerebrospinal system"

"Use abdominal massage"

"Gently over upper dorsals or you may produce an even greater disturbance from irritation"

"3rd and 4th coccygeal segments for 'athlete's foot' (plus ointment)"

"In the organs of the sensory system there needs to be connection . . . to eliminate weakness and make more normal . . . correction in the cerebrospinal system from 3rd and 4th dorsal to the head, neck, and all cervical areas . . . we would have 15 to 20 manipulations that would be osteopathically given"

So what was the validity of Cayce's "readings"? As I reviewed 40 cases in my father's files, I was impressed with what appeared to be good correlation between Cayce's readings and my father's exams. Sherwood Eddy, MD, interviewing physicians found 90 percent accuracy by Cayce.

(John P. Callan, MD, AMA March 16.79 - "The roots of present day holism probably go back to the birth of Edgar Cayce.)

The physicians who carefully read his advice and understood the principles he was describing appeared to be successful (if the patient followed their directions).

Academic health centers had declared Cayce a quack and missed the chance to do some real studies.

Osteopathic medicine received publicity and many new patients as a result of the suggestions by Mr. Cayce. Those who carefully read and understood what had been said broadened their own approach to therapy and had success with their patients. The value of correcting the "imbalances" in the body and normalizing function by correcting the structure agrees with the osteopathic philosophy and is of merit even in this "high tech" era. There are ideas in the readings of Mr. Cayce which might be of interest for "alternative approaches" to health.

Did Cayce understand the philosophy of A. T. Still better than most DOs or did Cayce provide more emphasis on the total body than anyone else had realized?

The emphasis on non-articulating as well as corrective osteopathic manipulation to balance the sympathetic and cerebrospinal nervous systems could be a re-awakening for all Dos. "We may wish to reach, by treating the centers along the spine, the viscera to which these nerves run." (Hazzard 1899)

All of this should be of interest to all DOs, generalists, and specialists.

Cayce said, "Then the Science of Osteopathy is not merely the punching in a certain segment (of the spine) or the cracking of the bones, but it is the keeping of a 'Balance by the touch' between the sympathetic and cerebrospinal system! This is real Osteopathy!" (1158-24) E. Cayce

Edgar Cayce was born on March 18, 1877 near Hopkinsville, Kentucky, one of seven children. Their physician, Martha Beard, DO was a graduate of the Southern School of Osteopathy.

Even as a child, he displayed powers of perception, which seemed to extend beyond the range of five senses. (On one occasion while half asleep, he described a town in Europe. Another time when his father expressed concerns about his grades at school, he went to sleep with his spelling book under his head, and from then on did extremely well. As a teenager, he experienced an angelic vision asking what he wanted most in his life, he responded that he wanted to help sick people.)

Even though he was doing well, he left school after 7th grade to go to work and to take a photographic course in Louisville. He opened a photo shop and would spend evenings giving "readings" about health to friends. Eventually as his reputation spread, he would give "readings" to people from a distance.

He traveled to New York several times. On one occasion, he met with a committee of experts who attempted to analyze his work. In 1910, the New York Times had a headline "Illiterate man becomes doctor in a trance". Other publications touted, "the Sleeping Prophet" resulting in widespread interest any many letters for the rest of his life.

During this time, he gave readings about business, dreams, scientific projects, world affairs, spiritual matters, history, mysteries, and other subjects. For the health reading, he was accused of "practicing medicine without a license" and was jailed, twice.

He also communicated with a number of osteopathic physicians, the Southern School of Osteopathy, and received several very supportive letters from A. G. Hildreth, DO of Still Hildreth Sanitarium.

By 1923, Cayce decided to dedicate the rest of his life to the health of people, giving up the photographic business, and, in 1925, moved to Virginia Beach where with the help of supporters, he established the Association for Research and Enlightenment (A.R.E.). Since then all readings have been retained, classified, and studied; 14,000 in number.

Cayce died in January, 1945 of a stroke.

Surviving him is the Association for Research and Enlightenment with members all over the world and vari-

ous publications. There is a Meridian Institute associated with A.R.E. Which researches the spirit-mind-body connection with particular reference to manual medicine (relation of structure to function).

The Edgar Cayce Foundation owns the readings and memorabilia, and conducts research in the readings published in the "Research Bulletin". There is also a related graduate college in "Transpersonal studies" called the Atlantic University and headed by Cayce's grandson.

In 1901, he gave the first of what has today become known as a "reading". The state of consciousness is described as "an altered state". Health information came from the subconscious mind of the person requesting the reading. This is why he would occasionally speak in a foreign language. If the person were Italian, he would "read" them in their native language. The conductor would then simply instruct him to speak in English. Over the course of his 44 year career, we know of 14, 306 readings.

He never gave a reading without at least one witness present. That individual functioned as the conductor who gave him the suggestions. From 1900 to 1923, he gave many readings where no copies were made, or if they were, they were not kept. It was during that period that Mr. Cayce mentions being actively associated with Howard College, Birmingham, Alabama, the southern School of Osteopathy, Franklin, Kentucky, and the American School of Osteopathy at Kirksville, Missouri, among others. It would be in this time-frame that, through the Southern School, he might have been in contact with Dr. A. T. Still. There are letters to Cayce from Dr. Hildreth of Still Hildreth Sanitarium, very complimentary.

Twice a day, Cayce would "do his thing". He gave a "reading" by lying down on a bed, couch, or even the floor. He loosened all restrictive clothing, crossed his hands over his abdomen, closed his eyes and began to breathe deeply. When his breathing became a little louder, witnesses would observe his eyelids would flutter for a second or two. During that time, the conductor needed to give him the suggestion, "you will have the body of so and so at such and such an address". When he "came out of" the altered state, his breathing would deepen a little and his eyes would open. He would sit up, put his shoes back on, tighten his tie, and have a little snack; a cookie or cracker and a glass of milk. He never gave a reading without a period of prayer before hand and if he had been working in his garden, he would come in, shower, put on clean clothes, then pray. After that, he would go into the room where his couch was and lie down.

The "reading" began with the conductor, his wife, Gertrude Cayce, giving the name and address of the person who had written and asked for Mr. Cayce to examine the body thoroughly and offer suggestions for help and relief.

After some hesitation, Mr. Cayce would acknowledge that "we have the body here". He would give a general analysis of the problem at times expressing sympathy for the person's discomfort. Then, he would analyze each system in an orderly fashion; blood supply, nervous system, functioning of organs, the anatomical areas, heart, and circulation. Next, he would summarize and suggest the treatment for immediate relief and for long-term improvement. The object was to restore balance in the system. Cayce would describe management usually including manipulation, hydrotherapy, massage, dietary changes, various electrotherapies, some "natural" drugs, and psychological and attitudinal advice. He also mentioned that surgery might be necessary in a certain case, others he might have said "no surgery". He would advise penicillin in a few cases. Mr. Cayce frequently mentioned colonic cleansing, peanut oil, massage, olive oil packs, luminal digitalis, bromides, or glyco-thymolene pack, etc. Then he might answer specific questions or recommend a physician or other source of health care if requested.

All of these might be interspersed with general philosophic comments or explanations of general health measures, even humor.

Gladys Turner, the secretary, would transcribe the readings (8-10 a day), which might consist of 5 or 6 typewritten pages each. She would send a copy to the patient. (Cayce was very specific about the areas of the body for osteopathic manipulation to include the frequency and number of treatments. He also stressed the importance of the entire spine.) Mr. Cayce never knew what he had said and, on rare occasions, when read the transcript, he seemed surprised at some of his remarks.

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# Unrelenting Abdominal Pain Of Elusive Origin: A Case Study

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## Abstract

*There are accessible and rapidly determinable clues for diagnosis and adjunctive treatment of common upper GI disorders. Beginning with the autonomic nervous system (ANS) consider: 1) the segmental sympathetic innervation located as they are anterior to the rib head, 2) their relationship to the nerve plexuses and fascia of the abdomen, 3) a parasympathetic nerve involvement, the vagus as it exits the jugular foramen between the occipital and mastoid process of the temporal cranial bones. Each of these parts of the ANS is subject to trauma. If one adds balancing the thoracic inlet with the abdominal diaphragm and promotes lymphatic flow, the result is a real live connection between the structures and functions in the human body just as the neurophysiologists claim. These are genuinely useful clues as a guide for OMT to shorten healing time, offer relief during testing, and when causal disclosure by laboratory and radiological evaluations are found. This article presents a case of relief from prolonged epigastric pain that utilized this conceptual synthesis.*

## Introduction

An 18-year-old female presented with marked unrelenting epigastric pain. Previous extensive evaluation performed by others had failed to show a cause for several months of pain. To meet this challenge, the treating physician planned to apply the dictum of "Treat what you find upon structural examination." The Osteopathic Manipulation Techniques applied included Muscle Energy, Strain Counterstrain, Percussor, Fascial Release, Chapman's Reflexes, Visceral Manipulation, and Cranial Osteopathy. Among the findings of segmental, pelvic and diaphragmatic restrictions, there was a positive Collateral Abdominal Ganglion (the Superior Mesenteric) and three Neuroendocrine indicators that focused on the pylorus and small intestine, raising a question of vagal tone. The segmental and rib dysfunctions found at thoracic vertebrae 5R, 8R, and 10R exert their influence via the paraspinal sympathetic chain ganglia. The positive Chapman's Neuroendocrine Reflexes, a sympathetic-like reflex of visceral origin (Kuchera & Kuchera, 1992), were Pyloric Stenosis, Evans Flush, and Small Intestines. A presumptive diagnosis of a gastrointestinal disturbance is consistent with her past history, the location of her pain, hypothesis of condylar compression, and a later disclosure of an abnormal X-ray finding of food in the stomach.

Patient Identification:

H. is an 18-year-old female.

Chief Complaint:

Constant mid-epigastric pain.

Family History:

H.'s father is living and well. Her mother has maturity onset Diabetes Mellitus. She has two brothers: one brother is living and well, the other brother has legal blindness and other physical handicaps that began with an Encephalocoele at the posterior fontanelle. He progressed from the quadriplegic to the hermiplegic status that is now greater on the left. This brother was 16 years old, 4 ft. 10 in. tall, and weighed 120 pounds at the time of H.'s first office call. H. also reported that a cousin has Crohn's disease.

Past History:

She was a product of a 38 week normal third pregnancy with a spontaneous cephalic delivery following a two and one half hour labor. Although the Apgar was normal, some meconium and brief jaundice were present. She was breast-fed. The patient reports having Varicella twice. When she was three years old, she was hospitalized for five days with a fever of 104 degrees Fahrenheit, following five mosquito bites. At age 4, she had a stomachache for a period of months. H. reported that her lower jaw retruded since the age of 5. At age 9, she was hospitalized five days for stomach flu. At age 13, braces were applied to correct the jaw retrusion without success and H. reports Temporomandibular Joint Dysfunction (TMJ) bilaterally. Due to the absence of menarche, a gynecologic evaluation was begun at age 16. X-rays and ultrasound were unable to identify a uterus; however, ovaries and fallopian tubes were present.

H. reported a number of traumatic injuries that occurred from time to time during early childhood and her school-age years. As an infant, she was in a motor vehicle accident when

the family automobile was struck on the driver's side. Although she was in her mother's arms, who was a front seat passenger, no injuries were reported for H. She reported a split lip when running against a storm door at age 3, jamming an umbrella into her nose at age 4, and falling from the arm of a couch and fracturing her right forearm at age 5. At age 9 she was struck in the face by a "2 by 4." For many years, she had been involved in helping to lift her disabled brother into the family van. She reported tripping on steps in November, 1998 (age 18) and bracing herself against the fall. One month prior to this fall, she had begun using a vaginal dilator with a Proventil inhaler for the Rokitansky-Kuster-Hauser Syndrome.

Social History:

H. lived at home with her family until she had recently moved away to attend college. She reported eating two meals daily, drinking about six or seven glasses of water daily, and sleeping six to eight hours each night. H. denies smoking or drinking alcoholic beverages.

History of Present Illness:

At this 18-year-old's first visit to my office, she complained of constant upper abdominal pain of 5 months duration. At this visit, she rated the mid-epigastric pain 9.5/10. Other complaints were anorexia, headache and exertional dyspnea. In helping her disabled brother for many years, she offered transfer support using her elbows against her right and left sides to assist him in getting into and out of the family van.

Medications:

H. had discontinued most medications three months prior to her initial office visit. These medications consisted of; Bentyl, Dicyclomine, Axid, Tigan, Librax, Pepcid, Percocet and Macrobid.

**Systems Review**

| System | Symptoms | Dominance |
|---|---|---|
| Gastrointestinal | Epigastric pain[1] (prolonged[2]), Anorexia, a lot of nausea[3], emesis[3] due to Fleets/X-ray preparation, two bowel movements daily, but recently fewer, absence of belching, flatulence, clay colored stools, hematochezia melena, and diarrhea. | [1]Sympathetic Parasympathetic Lymphatic Congestion [2]Facilitation |
| Cardiovascular Respiratory | Absence of chest pain. Admits shortness of breath[3] and cough[4]. | [3]Fascial Dysfunction, Lympathic Congestion [4]Parasympathetic |
| Genitourinary | Cystitis for 2 weeks post pelvic laproscopy 4 weeks prior to first office call. | |
| Neuromuscular | Frontal headache[5]; occasional dizziness since 12/98 absence of tremors and convulsions. | [5]Parasympathetic |

**Assessments:**

**I. Regarding Absent Menarche**

| Test date/Type | Clinical Information | Findings |
|---|---|---|
| 3/6/97 Ultrasound of Pelvis | amenorrhea | 1) A normal uterus/vagina is not identified. In its place, a small amount of soft tissue was noted. A genesis or hypoplasia of the uterus. There is increased incidence of renal anomalies with congenital uterine anomaly. 2) Both ovaries are normal. |
| 3/21/97 MRI of Pelvis | Amenorrhea/ A genesis/ hyperplasia of uterus | The uterus was not identified in its usual position. Only a minimal fluid signal intensity was seen between rectum and urinary bladder. No other significant abnormality was seen. |
| 4/1/97 IVP/X-ray | Possible renal anomaly. | No calcifications: kidney nor ureters. Symmetrical excretion of contrast /kidney$_B$. Normal exam. |

Physical Examination:

No additional technical or laboratory examinations were performed on this well-nourished female with complaint of prolonged severe epigastric pain.

Structural Examination and Integral OMT:

The plan of treatment was to rearrange bony components, release muscle spasm and fascial strain patterns, influence neural function, and reduce unnatural fluid retention. Osteopathic Manipulation Treatment (OMT), was to be given in three office calls at three to four week intervals and then as needed. OMT applied is integral to the structural examination and extended over 10 body areas. The findings were: H.'s walk was free and foot flare was absent. Her left shoulder was lower than her right when standing. Scoliosis with thoracic spine convex$_R$, lumbar spine convex$_L$. The height of pelvic crests and trochanters were equal. Standing and sitting flexion tests were both positive on the right side. Retrolisthesis was palpable at T-12 and L-2. The anterior superior iliac spine was anterior$_R$, pelvis rigid$_L$, unilateral flexion of sacrum$_R$; segmental dysfunctions of L2, T10, T8, T-5, C-7, C-5, C-3 AA, and OA.

**II. Regarding Abdominal Pain**

| Test date/Type | Clinical Information | Findings |
|---|---|---|
| 12/22/98<br>US/gallbladder<br>US/pancreas | Abdominal pain. Rule out cholelithiasis and pancreatic mass. | Sonogram of gall bladder negative. Sonogram of pancreas negative. |
| 12/23/98<br>LGI/X-ray | Right lower quadrant pain, cramping and diarrhea. Rule out inflammatory bowel disease and Crohn's disease. | Barium enema – the flow was free with reflux into terminal ileum. No polyps, constriction nor obstruction. Haustral pattern preserved. Normal barium enema. |
| 1/5/99<br>X-ray/Small Bowel Series | Abdominal pain, some nausea and vomiting. | Negative for hiatal hernia, negative for gastroesophageal reflux and ulcer. There was considerable food residue within the stomach. Patient affirms fasting since midnight preceding X-ray. However, there is no evidence of gastric outlet obstruction. Some food passed into duodenum with the barium. The food residue obscures determination with accuracy for small mucosal defects or polyps of the stomach. |
| 1/5/99<br>X-ray/Small Bowel Series | Abdominal pain, some nausea and vomiting. | There was no mass, obstruction nor inflammatory changes with normal transit of barium through the small bowel. Negative small bowel series. |
| 1/26/99<br>Pelvic Sonography | Lower left quadrant pain. Possible pelvic mass. | Small 1 cm diameter (R) ovarian cyst. Absence of solid adnexal mass or free fluid in the Cul-de-Sac. |
| 3/8/99<br>X-ray/KUB | Abdominal pain, etiology unknown. | The bowel gas pattern was within normal limits without evidence for obstruction. No soft tissue mass nor abnormal calcification. The study is unremarkable, except for mild levo-scoliosis. |

**III. Regarding Continuing Pain**

| Test date/Type | Clinical Information | Findings |
|---|---|---|
| 3/29/99<br>Diagnostic Pelvic Laproscopy | Malaria, rule out uterine horn, anatomic etiology of pain | Vagina 1 cm in depth. Normal ovaries and tubes bilaterally. Appendix normal. Absent uterus, uterine horn, endometriosis and adhesions. CBC, sed. rate and complete metabolic panel are within normal limits (2/16/99, 4/9/99). Gluten-sensitive IgA within normal limits. Biopsies of Duodenum, Stomach, and Esophagus – no abnormalities seen, histopathologic diagnosis pending. |
| 3/29/99<br>Upper Endoscopy | chronic abdominal pain | Descending Duodenum, Stomach and Esophagus appeared normal. |

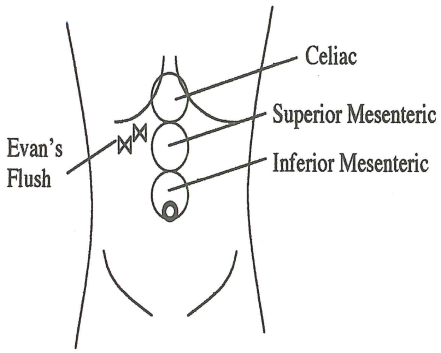
Counterstrain: Psoas spasm (bilateral), $A_1L_R$, inguinal ligament$_R$ and high ilium$_R$. Rib cage and diaphragm restrictions - lower$_L$, mid$_L$ and upper$_R$. Visceral Manipulation: Anterior scalenes$_L$ Cranial OMT: occiput compressed on the right, sphenobasilar symphysis in left torsion, and lack of resilience at the condylar area. The short labor and delivery plus any or all of her seven traumatic events may have produced condylar compression affecting the vagus nerve.

Of special interest were the following positive findings: 1) the Chapman's Neuroendocrine Reflexes (NER) - Pyloric Stenosis, Small Intestines, and Evans Flush, 2) An Abdominal Collateral Ganglion – the Superior Mesenteric (SMP), and 3) condylar compression. After OMT, her body movements were observed to be freer. A back care book was dispensed to get the patient involved in maintaining her health.

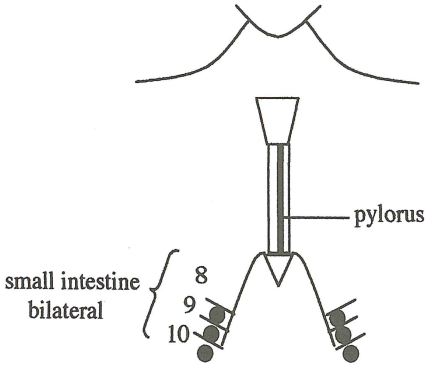
H. received OMT again in 3 weeks. At that time, she presented with Epigastric pain, rated at only 4/10, although she was not sure she was better without the aid of medication. OMT was performed again to 10 body areas according to structural examination findings. Interestingly, only 2 of the previous NER's, small intestine and Evans Flush, the same Abdominal Collateral Ganglion (SMP), and condylar compression were found. An additional NER, the Pancreas, was positive.

Four and one half weeks later, at the 3rd office call, H. acknowledged an absence of epigastric pain as a great relief. She now complained of neck and shoulder pain and some nausea and anorexia; however, her nausea and anorexia were less than that which accompanied the previous 5 months of boring epigastric pain. In addition, the structural examination disclosed a different positive Collateral Ganglion – Inferior Mesenteric Plexus (IMP), NER – Torpid Liver, Liver and Gallbladder, Spastic Con-

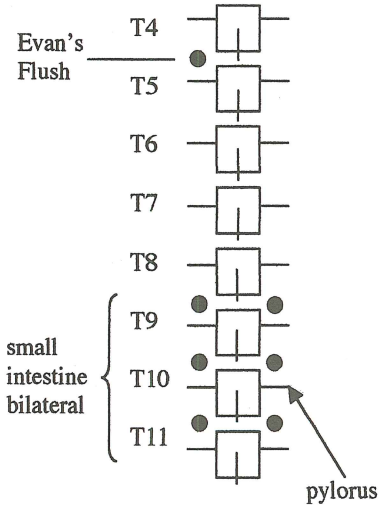
*Location of Chapman's Reflexes and Collateral Sympathetic Ganglia*




*Abdominal Collateral Sympathetic Ganglia*




*Chapman's Reflexes Anterior*




*Chapman's Posterior*

stipation and Small Intestine.[1] Post OMT, at this visit it was recommended that H. read the Back Care book (previously dispensed). It was recommended that she improve her overall posture including attention to the position of her head, with chin in and down.

Other recommendations:

1) Lie supine on hand towel folded 4 by 6 inches, across T-12 to L-2, for 3-4 minutes, once daily.

2) Hip Rolling in the supine position, rotate flexed knees from neutral to far right and then to far left, pausing at neutral, 10 sets daily.

3) Standing side bending of trunk to right and then to left pausing each time at neutral, 10 sets daily.

4) Prone, one arm down at side and face the opposite raised arm at least 5 minutes each side, daily for one week.

5) Continue drinking 9 glasses of liquid daily.

6) Walk 20 minutes, 3 times a week - swinging arms from the shoulder alternately.

## Plan

1. As a follow up on the UGI X-ray a study that addresses passage of liquids, not solids, I recommend a radionuclide gastric emptying scan.

2. X-ray of the thoracic and lumbar spine to further delineate retrolisthesis of T12 and L2.

3. Pelvic ultrasound as needed to monitor progression of the ovarian $cyst_R$.

4. Recommend avoidance of anticholinergic medications, antidepressants, and tranquilizers that can delay gastric emptying. For this patient previous medications in these categories include: Bentyl, Dicyclomine, and Librax.

5. Monitor periodically for diabetes mellitus due to family history and the pancreas NER finding.

## Discussion

This prolonged pain case was amenable to treatment with osteopathic manipulation without return of the same complaint.

H. was unable to bring radiology reports initially, because of apparently being lost at the last hospital of three hospitals. In reality they were being returned to the place of origin and not anywhere available. This point is particularly important since the UGI and other reports were not received until after the second office visit. By then, a presumptive diagnosis of pyloric stenosis had been established and the patient, being treated with OMT, was already improving.

The discovery of food in the stomach on UGI X-ray is consistent with the findings of the structural examination, but raises a question. What is the diagnosis? – Gastroparesis, Motility Disorder, Gastric Stasis, Achalasia, Pyloric Stenosis, or Pylorospasm. Disorders of gastrointestinal motility are associated with diabetics (Jaspan, McCallum, & Sninsky, 1990) and a majority of diabetics admit GI symptoms when asked. According to most investigators, the etiology of GI problems, although obscure, are based on autonomic neuropathy. Perhaps its duration and response to OMT will show the functional to structural relationship and a diagnosis.

Etiological factors to this patient's pain, in addition to her past history of trauma and repeated stomach afflictions, may have been:

a) the continued strain to her rib cage and abdomen while helping her brother.
b) her near fall when she tripped,
c) the requirements of her testing that included diagnostic laproscopy,
d) gynecological treatment, and
e) taking medications that possibly delayed stomach emptying.

Kuchera and Kuchera (1991) suggest that in modulating the overactive sympathetics, OMT to organ related segmental vertebrae do affect facilitated segments. Left untreated, Viscerosomatic pain enables soft tissue changes at related segmental levels, by hyperactive sympathetics creating facilitation or low threshold segments. The Sympathetic Chain Ganglia, anterior to the rib head, also modify sympathetic activity through visceral afferents to the cord and efferents to the soma.

Since treating H., subsequent patients have been checked for the function of the pylorus and the small intestine and they have frequently been found positive. It was the frequency of the findings of Evans Flush and/or Pyloric Stenosis Small Intestines and superior Mesenteric Plexus with or without known symptoms in my patients that led me to write this case report. How many of our patients would be further aided by the addition of these considerations when being treated for Gerd, Gastritis, Ulcers, or Hiatal Hernia?

In the future during your structural examination for other complaints, include the following survey:

1. Specific thoracic vertebral and rib restrictions from T-5 to T-11

2. Chapman's Reflexes for Pyloric Stenosis, Evans Flush, Small Intestines.

3. Collateral Ganglia, Superior Mesenteric (or Coeliac) Plexus.

4. Thoracic Inlet and abdominal diaphragm.

5. OA, Occipito Mastoid, AA, $C_2$ or $C_3$ for vagal nerve involvement.

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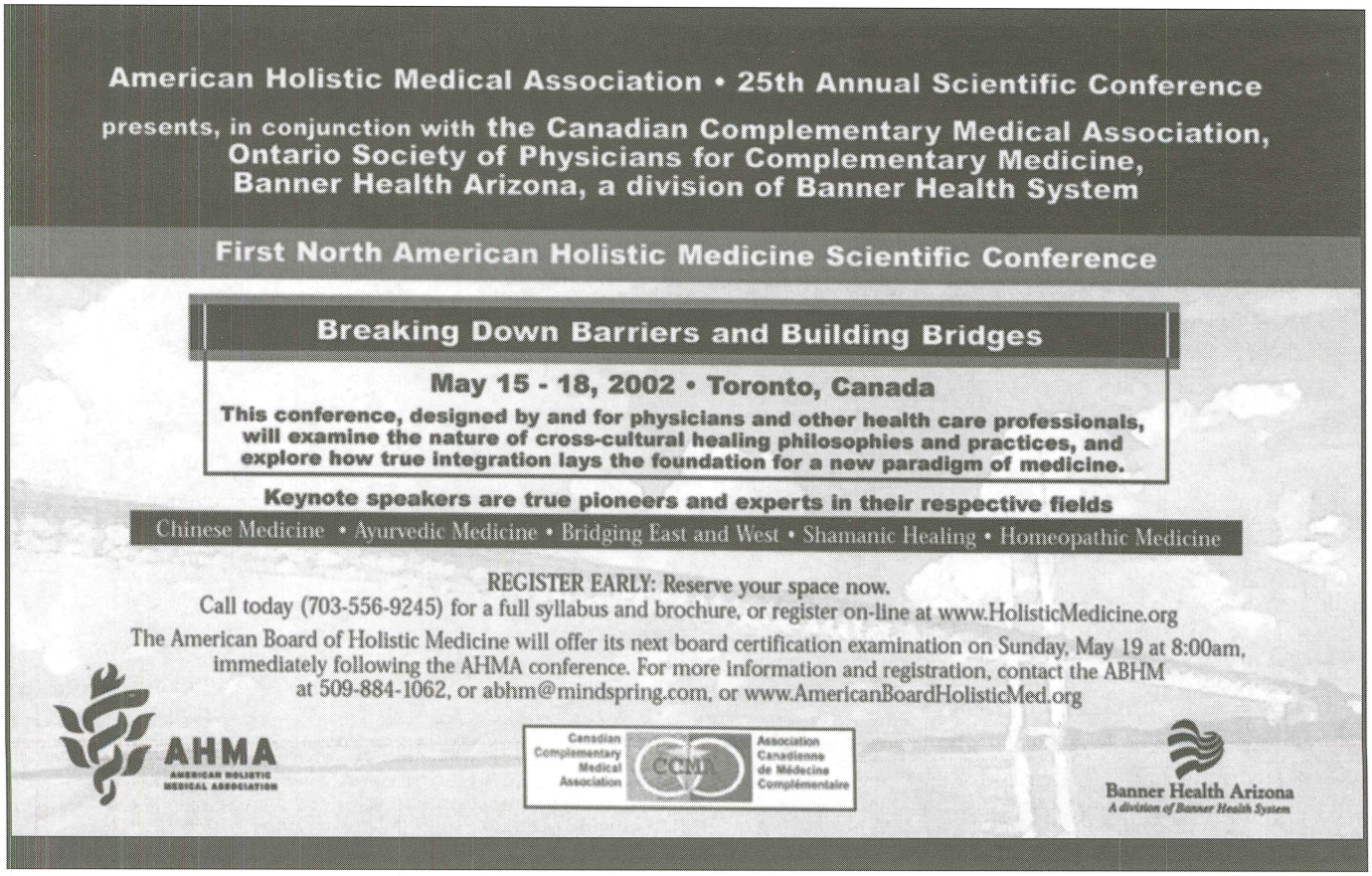

# Improved Pain Score Outcomes Achieved Through The Cooperative And Cost-Effective Use Of Physical (Osteopathic Manipulative) Medicine In The Treatment Of Outpatient Musculoskeletal Complaints[a]

James A. Lipton, DO[b], Patricio Meneses, PhD[c], Jacqueline B. Martin, CS[d], Angelique C. Mizera, DO[b], Robert Kappler, DO[b], John S. Brooks, MD[e], Chris Parr[b]

## Abstract

*The study design was case studies utilizing retrospective controls. The objective was to compare the effectiveness of the osteopathic manipulative medicine (OMM) approach as an adjunct to the medical approach in reducing subsequent self-reported pain scores of patients with various musculoskeletal complaints.*

*141 patients were studied across 363 patient visits. The average number of visits by the medicine approach was 47.56 (±6) which reduced pain scale scores from a mean of 75.01 (±1) to a mean of 48.24 (±2). This compared to an average of 2.56 (±0.1) visits to reduce pain scale scores from a mean of 38.27 (±1) to a mean of 11 (±1) by the OMM approach.*

*OMM appears to be effective in reducing musculoskeletal pain scale scores lower and in fewer visits than the previous medical approach alone in the same patient with the same complaint. (Key Words: Osteopathic, Manipulation, Outcomes, Cost Effective, Management, Pain Scale Score, Medical Management)*

## Introduction

The annual cost to society of musculoskeletal complaints, specifically low back pain (LBP), continues to be a significant and frequent problem in the civilian community[1] and in the U.S. Navy.[2] Hashemi et al reported that in 1996, the total cost of all workers' compensation claims for LBP alone was over $24 billion[3], 22.7% of all claims filed.[4] They go on to report that 60% of the 1996 claims for LBP were less than $500 while 12.3% of claims were greater than $5000.[4] Additional costs to society that were not included in the above figures include lost productivity, health care provider fees, laboratory studies, medications, surgery, and over-the-counter treatments.

Treatment modalities by health care providers fall into two major groups, the traditional medical-surgical approach and the manual manipulation approach. Manipulation refers to manual techniques that are used to decrease pain and increase joint and soft tissue range of motion. Manipulation has been used by specifically trained and qualified health care providers to alleviate LBP and other musculoskeletal complaints. These providers include osteopathic physicians, chiropractors, specifically trained allopathic physicians and physical therapists. The discussion of manipulation in the medical literature has matured to an understanding in the medical community at large.[5] Paul and Buser report that OMM should be used in the emergency department as part of the treatment of low back

[a]The views expressed in this article are those of the authors and do not reflect the official policy or position of the Department of the Navy, Department of Defense, nor the U.S. Government. No financial gain for this project was accepted. All efforts were the voluntary contributions by the authors and their institutions.

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pain, chest pain, torticollis, asthma, and sinusitis.[6]

There are well over 45 randomized clinical trials published on LBP manipulation alone. There are and have been attempts at systematic evaluations of these scientific studies, often with conflicting results as to treatment efficacy.[7-11] However, most studies agree that manipulation with acute pain, less than 6 weeks in duration, provides better short term improvement in pain and higher levels of patient satisfaction. Frymoyer noted in his study that LBP patients tended to get better without treatment in 6 weeks.[12] These observations have not proven to be applicable in our study population. The study findings by Von Korff and Saunders confirm the inadequacy of Frymoyer's line of reasoning.[13]

The Public Health Service convened a panel to study acute low back problems and one of the areas they considered was spinal manipulation. The panel's findings and recommendations stated that manipulation can be helpful with acute low back problems without a radiculopathy but efficacy is unproven if symptoms have been present greater than 1 month.[14] The panel also suggested further diagnostic assessment in patients with progressive or severe neurologic deficits or in patients who do not improve after 1 month of manipulative treatment.[14]

One interesting comparison in the literature on the cost effectiveness of various practitioner approaches to LBP cited the lack of available data to draw conclusions upon and questioned the worthiness of various methods of analysis.[15] Similarly, the authors felt that the results of their unpublished pilot study conducted from 1986 to 1990, although having produced data consistent with clinical experience, showed that better methods to obtain follow-up of routine care were needed. Therefore, this study was designed to take place in a full time clinic with a computerized database for tracking patient outcomes. This study reports on the outcomes from the use of OMM in one clinic from 1994 to 1995.

## Methods

Clearance to collect and publish anonymous routine patient care data was obtained according to U.S. Navy regulations and an institutional review board approval.[16,17] This data was collected from patients seen routinely from August 1994 through August 1995 in one physical medicine and rehabilitation clinic. Patients were initially seen by primary care or specialty providers in other clinics and then referred to a single osteopathic physiatrist for further evaluation and treatment of musculoskeletal complaints. These patients had stable or non-progressive medical conditions felt to be amenable to treatment with OMM by the treating physician. Patients served as their own control between previous medical treatments and the effectiveness of manipulation treatment in this study. Data from 141 patients and 363 patient visits to the osteopathic physician were used in this study. More patients were seen in the year than were included in the reported database. Statistics from the larger database showed a follow-up rate of 58%. This is because, at any given time, approximately half new patients and half follow-up patients were seen and thus all our statistics would eventually track for 100% follow-up. We eliminated from the report all initial patients who had not yet followed up. Originally, their data considered with the whole was even better than that included in the current report; and, therefore, the data exclusion in no way enhanced the results. Patients were also excluded from the study if they were not manipulated. Patients were excluded from manipulation for very few reasons. The reasons included having a condition not referred for manipulation or having a questionable physical examination. A questionable physical examination included all of the following: a benign physical exam along with a positive Hoover test and Waddell sign in conjunction with a negative workup and amplifying behaviors such as, moving in an exaggerated slow motion which is not usually consistent with the presenting medical complaint. Approximately 23.6% of referred patients were excluded on this basis. All patients in the study received a workup prior to referral which included a CBC, sedimentation rate, chemistry panel, x-rays and where appropriate, additional tests and imaging. 8.6% of our patients were referred without a workup and were excluded while the initial workup was completed.

No patients were seen without their complete record of previous treatments. All patients underwent a one hour initial visit with an extensive history, physical, and review of imaging studies prior to the use of OMM. Subsequent follow-up visits were one half hour in duration but assigned a value of one hour (the same as the medicine approach) so as to not accrue undue benefits to the OMM approach when costs were tabulated and compared.

Diagnostic categories were recorded in terms of somatic dysfunction[18] in the agreed upon diagnostic terminology of the American Osteopathic Association.[19] Pain scores were obtained using a verbal scale from 0 to 100[20] in the same manner and tone of voice for each patient. The pain scale score was the patient's numerical response to the question put forth by the treating physician: "On a scale of 0 to 100, with 0 being no pain and 100 being enough pain to cause you to black out, how would you rate your pain at its worst," (Premedication pain level). "On that same scale, to what number did your pain drop when you received a full course

**Table 1**

**Equations used to calculate some of the variables**

| | |
|---|---|
| Salary per Hr (salhr) | = monthly salary x 12/(52 x 40) |
| Difference in pain level scores related to medications | = ptpl-pmpl[2]. |
| Difference in pain level scores related to manipulations | = pvpl[3]-ptvpl[4]. |
| Physician in regular clinic cost (Drcost) | = pnpv[5] x 16.07. |
| Sick in quarters Hr (siqhr) | = siq[6] x 8. |
| Light duty Hr (ldhr) | = ld[7] x 8. |
| Sick in quarters cost (sqcost) | = siqhr x salhr. |
| Light duty cost (ldcost) | = ldhr x salhr. |
| Medicine clinic visit cost (pvcost) | = pnpv x salhr. |
| OMM clinic cost (omcost) | = omvisit[8] x 16.07. |
| OMM clinic visit cost (omvcost) | = omvisit x salhr. |
| Total medical cost before OMM | = sum (sqcost, ldcost, pvcost, drcost). |
| Total OMM treatment cost | = sum (omsqcost, omldcost, omcost, omvcost). |
| Total cost | = sum (omcost, sqcost, ldcost, pvcost, drcost, omvcost) |

| | |
|---|---|
| [1]ptpl | = premedication pain level |
| [2]pmpl | = postmedication pain level |
| [3]pvpl | = pre OMM treatment |
| [4]ptvpl | = post OMM treatment |
| [5]pnpv | = previous number of physician visits |
| [6]siq | = sick in quarters in days |
| [7]ld | = light duty in days |
| [8]omvisit | = number of visits for OMM |

of your medications," (Post-medication pain level). "On that same scale, how much pain are you in right now," (Pre-Manipulation pain level). After OMM at the end of the visit: "On that same scale, how much pain are you in right now," (Post-Manipulation pain level). Patients were scrupulously instructed to report their actual pain, not what they thought would please the provider. The changes in the pain scores for both the pre and post-medication and pre and post-OMM, were analyzed in the same fashion for the entire group of patients. A computerized data base was used to make follow-up documentation more precise.

The OMM techniques used by the treating physician included: cranial-sacral, counterstrain, myofascial, muscle energy, and High Velocity/ Low Amplitude (HVLA) techniques[19] as appropriate for their individual diagnosis. When appropriate, heel lift treatment was prescribed and followed, as an adjunct to OMM for an unlevel sacral base.

Costs were calculated using the formulae and methods outlined in Table 1 along with updated standard pay chart figures for the time period involved. Statistics used were Chi Square, Pearson Correlation and Student t-test for Independent Cases. Statistics were calculated using the SPSS for Windows Software Package (Chicago IL, USA).[21]

## Results

141 patients with an average pain history of 47.6 days were seen across 363 patient visits with 100% follow-up. 83 of the patients were male and 58 were female. The patient ages ranged from 19 to 72 years old with a mean age of 35 years old.

The mean number of visits per chief complaint accrued to the medicine approach was 47.56 (±6).(See Figure 1) Across this average number of visits the medicine approach reduced pain scale scores from a mean of 75.01 (±1) to an average of 48.24 (±2). This compared to taking an average of 2.56 (±0.1) visits to reduce pain scale scores from an average of 38.27 (±1) to an average of 11 (±1). All these results were significant at $p<0.01$.

All patients who were referred for care had some form of musculoskeletal complaint. OMM techniques were used in varying frequencies individualized for each patient. The techniques used included: muscle energy on contracted muscles, counterstrain on tender points, cranial-sacral techniques for headache complaints, myofascial techniques for fascial restrictions, and HVLA techniques for segmental motion restrictions.

100% of the patients were followed-up and interviewed. Pain scale scores following treatment with OMM were obtained and entered into a computerized database for tracking. The follow-up scores were tracked for an average of 72 days and the average follow-up pain scale score was 22.

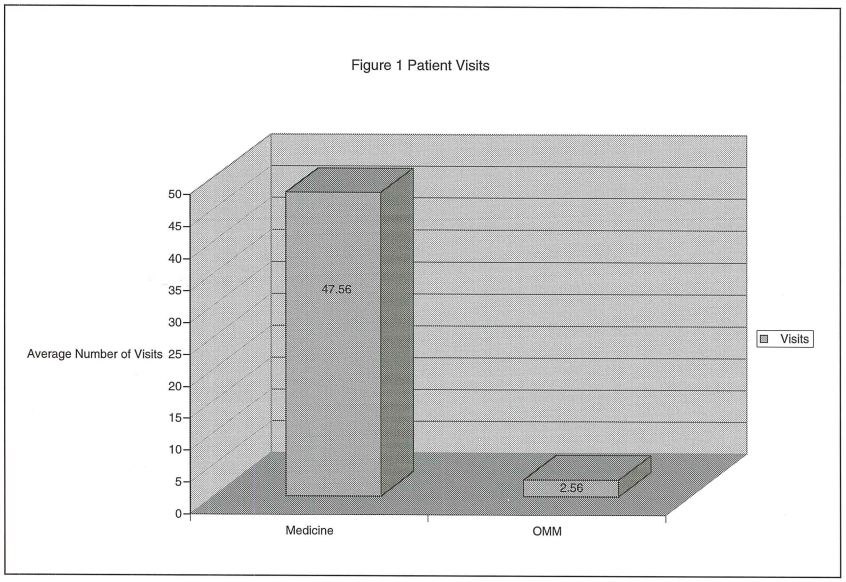
The 141 patients seen had previously accumulated 159,338 hours of light duty (administrative jobs with no lifting) and 12,455 sick-in quarters [bed rest at home (SIQ)] hours. This calculated to an average of 1,374 hours of light duty and 107 hours of SIQ time per patient.(See Figure 2)

**Table 2**

**Partial costs of care for treatment of patients with musculoskeletal pain.**

| | n* | Time used | Avg. cost/unit** $ | Avg Cost*** $ | Total Cost $ |
|---|---|---|---|---|---|
| Light Duty (Days) | 111 | 19917 | 74.21 | 13,315.68 | 1,478,040.57 |
| Sick in Quarters (Days) | 90 | 1557 | 82.54 | 1,427.94 | 128,514.78 |
| Medical Clinic patient visits (Hrs.) | 141 | 3280 | 9.49 | 220.76 | 31,127.20 |
| Medical Clinic provider (Hrs.) | 141 | 3280 | 16.07 | 337.83 | 52,709.60 |
| Total Medical Clinic Treatment Visit Cost Before OMM | | | 275.01 | 6,397.40 | 902,032.80 |
| OMM Clinic patient visits (Hrs.) | 141 | 363 | 11.09 | 28.55 | 4,025.67 |
| OMM Clinic provider (Hrs.) | 141 | 363 | 16.07 | 41.37 | 5,833.41 |
| Total OMM Clinic Treatment Visit Cost | | | 27.16 | 69.32 | 9,859.08 |

* n = number of cases.
** Average Cost/Unit $ = Average visit cost/dollars.
*** Average Cost $ = Average cost per treatment/patient



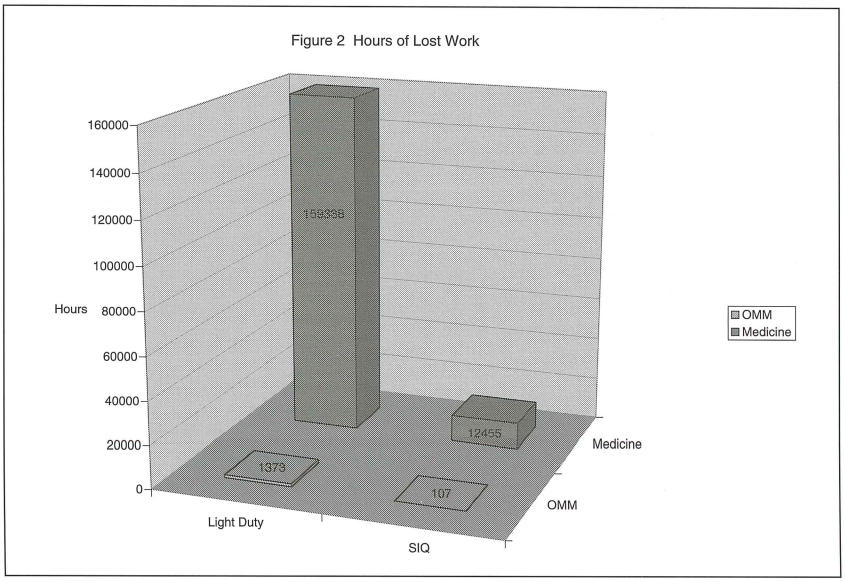

tions. The statistical analysis showed the average cost per patient to be $275.01 with the medicine approach and $27.16 for the OMM approach with values highly significant at $p<0.005$.(See Figure 3) These figures showed a cost ratio of the medicine/OMM approach to be approximately 10 times more expense.(See Table 2)

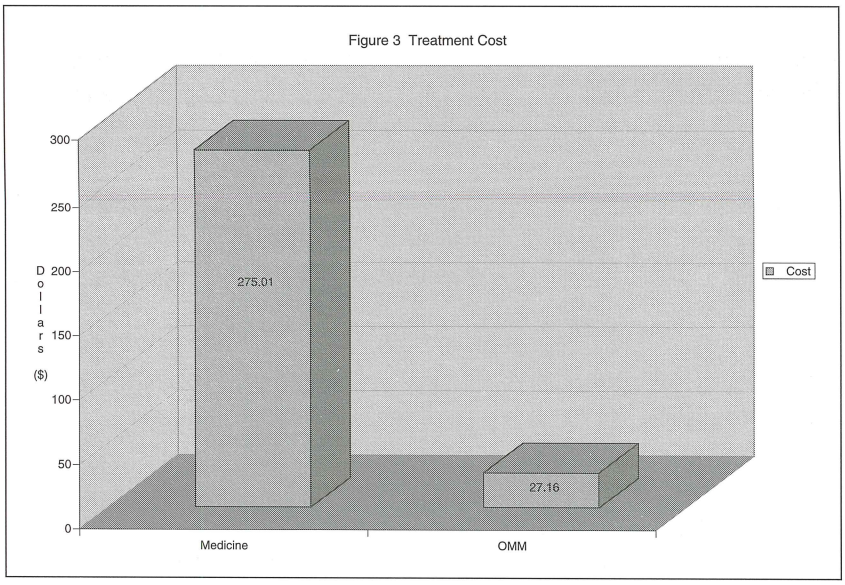
## Discussion

The medicine approach took an average of about 20 times more visits to achieve no better than an average plateau of 48 on the pain scale

The numbers in these categories were conservative since some of the 141 patients were dependents who were given suggestions to modify their activity but, because of their civilian status, did not receive light duty or SIQ documentation. No patients treated with the OMM approach received SIQ time. An average of 0.20 hours of light duty time was awarded to patients after treatment with the OMM approach.

The cost of the treatment of these 141 patients by either approach did not include labs, x-rays, or medica-






scores across attempts ranging from weeks to years. The costs of these attempts were from 9 to 20 times more expensive than the OMM approach in time lost from the job. The OMM approach was applied to patients who had never been below an average pain scale score of 48 by following the medical approach; and when they arrived for the OMM approach their pain score frequently started out much higher. The OMM treatments immediately decreased their pain scores to an average of 11 (multiple patients with 0 out of 100 pain were averaged in with some patients who were not helped). One of the traditional questions asked is how long do the effects of treatment last? The answer from the present data appears that the treatment lasts at least an average of 72 days with the patient still, on average, over 50% better (pain scale score of 22 vs. 48) than they ever were with the medicine approach.

The results of this study suggest that the treatment of musculoskeletal complaints described as somatic dysfunction using the OMM approach resulted in reduction of pain scores. Somatic dysfunction refers to specific postural and functional segmental diagnoses for each patient. The diagnosis of somatic dysfunction is based on individual and highly specific palpation and motion testing of tissue texture changes, asymmetry, and restriction of motion. Subsequent testing for relief of somatic dysfunction followed each treatment. The difference between post-medication (48.24) and pre-OMM (38.27) pain scale scores does not likely represent the natural history of healing. The scores are averages of many patients. More probably the difference came from two sources: 1) a long-standing plateau in improvement in individual patients; or, 2) from the averaging of occasional good days experienced by patients long after the effects of their medicine had reached a plateau. Regardless of the source, the natural history point is moot. Improvements in our patients by the rapid reduction of pain scale scores was noted immediately post-OMM. This improvement was not the result of a prior natural healing process apparently imperceptible to the patient over days, weeks, months, or years. Rather the use of OMM yielded an immediate difference probably due to the OMM addressing the specific source of pain. The effectiveness of OMM beyond the acute stage is a finding unique to the current consensus on the state of the literature. This success might be attributed to physically addressing the part of the segmental musculoskeletal system causing the complaint.

Review of the data indicates that most of the cost difference is attributed to SIQ and light duty time and multiple return visits accrued by previous providers. Additional costs accrued via the medicine approach while covering the patient with duty status changes pending evaluation by other specialty clinics primarily involved with surgical patients; and protecting the patient against the side effects of medicine. The design considered dollar values, which were calculated in an extremely conservative manner. The follow-up rate was 100%. For the same patient with the same complaint manipulation achieved the lowest pain score values in fewer visits. Making the correct specific diagnosis of a nonsurgical, nonmedical musculoskeletal complaint is a goal the team has in common. The OMM approach transposes a general complaint into a segmental diagnosis that is treated accordingly. This approach generated savings through the cooperative use of OMM. No patients were affected adversely in this study. To be fair, it should be mentioned that some of the patients seen in this study were on limited duty or had a medical board pending. A medical board is a permanent disability evaluation in the military; and by regulation patients have to be kept on these boards until re-evaluated by the only provider who could alter this status, namely their boarding medical officer. These patients were not counted in our light duty figures since regardless of their improvement or lack of need for light duty their orders could not be changed, nor were they awarded light duty because of a failure of the OMM approach.

The overwhelming cost of the way we have approached this problem in the past, requires a fresh look at how we can integrate OMM locally after the initial follow-up visit for muscu-

loskeletal complaints. By limiting initial bed rest to two days,[22] checking a Hoover Test, Waddell's signs, the extension sign, and by obtaining labs and X-rays by day five, appropriate referrals for the OMM team approach could be discerned.[23] This approach would help cut down on multiple medicine refills, specialist referrals, altered duty status pending other specialist exams, and surgical specialty clinic waiting times. In designing such studies, the lack of double-blinded evaluation, and separate controls with prospective cross-over groups was considered. For example, lets assume, that a research design uses objectively double-blinded and cross-over range of motion measurements to assess the efficacy of manipulative treatment. Hypothetically, a patient presents able to touch his/her toes with full range of motion, but does so only with a 48 on the pain scale score. Assume a situation where medication does nothing to eliminate the pain, but after manipulation the patient's pain score is 0. Unfortunately, the patient, after both treatments, is measured by a blinded evaluator who notes that the patient has the same full range of motion. Does this mean manipulation did no better than medicine and in fact nothing was actually done? Manipulation is a local phenomena with wide ranging systemic effects which are difficult to measure separately. This is why we prescribed specific OMM treatment according to the individual needs of the patient rather than prescribe general medicine for general symptoms. We then assessed the whole response via pain scores. Treating symptoms and not specific segmental dysfunction is a prescription for missing diagnoses and prolonged treatment of patients with a specific somatic dysfunction. That is also why, on the topic of manipulation, the bigger problem in the literature seems to be accentuating the difficulties in studying the myriad effects of manipulation rather than focusing on the cost-effective outcome of OMM in patient care. The cost avoidance and recapture of funds by changing over on a larger scale to this safe, economical, and successful treatment approach should be the priority. In the Navy, returning members to readiness in support of our line commanders with low technology, cost-effective, state of the art, patient-preferred medicine is becoming the priority. The reversal of even one medical board is a significant cost saving event, both in disability payments and in the cost of training a replacement. In our clinic, medical boards in progress were reversed, and symptom amplifiers identified. Qualified practitioners both MD and DO alike can be and are being cross-trained to integrate this standard of care. The goal would be to have primary care practitioners establish a working diagnosis of a nonmedical, nonsurgical musculoskeletal complaint early in the clinical course and refer the patient for manipulation by a qualified physician. The Department of Defense and Veterans Administration have taken the first step towards this significant goal.[24]

## Conclusions

OMM treatment reduced pain scale scores to a lower number in fewer visits than the medicine treatment. The early use of the OMM approach obviated the need for excessive use of SIQ and light duty time for the purpose of temporizing. Patients did not need to wait to see a surgeon to be told their diagnosis was nonsurgical, nor did they miss excessive amounts of work because of the way they were evaluated and treated. Therefore, the cooperative and integrated use of OMM, by qualified practitioners, promotes rapid pain relief with cost-effective outcomes when compared to previous attempts at medical treatment. Integration of this approach results in cost avoidance and savings by the placement of workers in a condition of enhanced readiness.

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# The Still Technique:

## A Manipulative Method of Andrew Taylor Still, MD

## May 10-12, 2002

Arizona College of Osteopathic Medicine – Glendale, AZ
Richard L. Van Buskirk, DO, FAAO, Program Chairperson

***Learning Objectives:***

By the end of this course the attendee will know:

- the history of the Still technique, its loss and recovery;
- the underlying method;
- segmental diagnostic techniques that are shared by this technique with HVLA and muscle energy techniques as well as those unique to the Still technique, and
- specific applications of the technique to the cervical, thoracic, and lumbar spine, ribs, pelvis, extremities, muscles, and tendons.

***Program Time Table***

Friday, May 10 ..... 8:00 am –5:30 pm
Saturday, May 11 ..... 8:00 am –5:30 pm
Sunday, May 12 ..... 8:00 am – 12:30 noon

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## Rediscovering the Still method of OMT?

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# Clarification

The headline about the Osteopathic Research Center on the cover of the Winter 2001 issue of *The AAO Journal* indicated that the AOA had designated UNTHSC as the Osteopathic Research Center. The Center is an outgrowth of a collaborative research effort started three years ago by several osteopathic organizations who developed the process to select the profession-wide collaborative research center now housed at UNTHSC. Organizations that have been involved in the effort to develop the center include the AAO, AACOM, AOA, AOHA, AODME and ACOFP.

# The Impact Of Osteopathic Manipulative Medicine On Inpatient Outcomes

G. Bradley Klock, DO, FAAO

## Abstract

*Osteopathic manipulative medicine has long been recognized as an effective treatment for spinal pain and as a means of promoting health. To date, there is little evidence to suggest that this distinctly osteopathic modality should be utilized in the hospital setting. If it could be demonstrated that certain structural abnormalities could be used as reliable indicators of coronary artery disease and that manipulative treatment reduced mortality, morbidity or length of stay, then perhaps it would become the standard of care within the profession. The question remains, does it lessen human suffering or reduce the cost of medical care?*

*This paper is based upon data collected in a retrospective review of inpatient charts. The study revolves around four hundred and eighty four patients who underwent percutaneous transluminal balloon coronary angioplasty, with or without stent placement. One hundred thirty-four of these patients received a structural examination and osteopathic manipulative care on a total of one hundred and thirty-eight admissions, the others did not; and outcomes were compared between the two groups. The structural patterns were documented for statistical significance. Due to the size of the sample, patients were not segregated as to severity. Some underwent the procedure on an elective basis while others required the procedure as an emergent, lifesaving measure.*

*It is my hope that this pilot study will demonstrate the need to design a prospective study to evaluate fully the effect of manipulative medicine in the acute care hospital setting and the value of the structural examination as a diagnostic tool.*

The purpose of this paper is to evaluate the data accumulated since 1993 regarding the use of osteopathic structural evaluation and manipulative treatment as diagnostic and therapeutic modalities. This study involves a narrow patient population at Phoenix General Hospital/Deer Valley, now John C. Lincoln Hospital/Deer Valley, a small full-service community facility in north central Phoenix, Arizona.

For many years, correlations between pain presentation and somatic dysfunction have been used by osteopathic physicians to increase our index of suspicion that visceral disease exists; however, it is difficult to diagnose coronary artery disease (CAD) by pain presentation alone. Typically, patients with CAD will have pain manifested over somatic nerve distributions on spinal cord levels that correlate with the autonomic innervation of the heart. We would expect heart pain to be distributed over the T1 to T4 and possibly the lower cervical dermatome levels.[1]

Likewise, we should remember that the osteopathic lesion in this case, should it involve the levels ranging from approximately C7 to T4, might indicate pure symptomatic signs of cardiac pathological processes and reduced homeostatic reserve.[2]

Osteopathic philosophy holds that people with coronary artery disease will exhibit certain structural abnormalities in the upper thoracic area. It has been suggested that these mechanical problems will most likely involve the second through fifth vertebral segments. Some believe that a neutral pattern will exist with rotation left and side-bending to the right. There is some evidence that manipulative treatment of these structural abnormalities may have an effect on clinical outcomes.

The autonomic division of the central nervous system exerts control over and influences function of the heart. Sympathetic influence comes

[1]Gail Duane Burchett, "Somatic Manifestations of Ischemic Heart Disease," Osteopathic Annals 4, No. 9 (1976), pp. 45 & 48.
[2]R. McFarlane Tilley, "The Somatic Component in Heart Disease," Osteopathic Annals 2, No. 5 (1974), p. 37.

to the heart via the cardiac nerves. The motoneurons are located in both sides of the spinal cord and arise primarily from the first through fifth thoracic spinal segments. Most of the preganglionic fibers apparently pass through the stellate and middle cervical ganglions. Postganglionic fibers reach the heart to innervate the pacemaker cells, the myocardium, the conduction system and the coronary arteries.[3]

Stimulation of the cardiac sympathetic nerves causes an acceleration of heart rate, dilation of the coronary arteries, an increase in myocardial contractility and a faster conduction time from the atrium to the ventricles.[4] It is interesting to note that in a study done by Norris Foreman and Robert Wurster on the first five ventral thoracic roots of the canine heart, stimulation increased contractile forces in specific areas of the myocardium. The largest increase in contractile force was seen during stimulation of the second root of both sides. It seems the right roots most influenced contractile force of the anterior left ventricle and left root stimulation most influenced the anterior right. Right root stimulation caused a greater chronotropic response and stimulation of the left a greater pressor response. Simply put, there seems to be a selective sidedness to the effect of sympathetic stimulation of heart muscle.[5]

According to Korr, it would appear that long-term hyperactivity of the sympathetics may cause damage to organs receiving input from specific spinal levels. The hyperactivity may be related to somatic dysfunction in the spinal and paraspinal areas.[6]

As noted by Edward Stiles in his paper on inpatient manipulative care, work done by W. H. Gutstein showed that chronic stimulation of a sympathetic ganglion can produce atherosclerosis and arteriosclerotic lesions in an artery receiving influence from the ganglion.[7]

Robuck's article cites work done by Louisa Burns and her coworkers, which suggested that ganglionic changes do precede disease of internal organs and that these pathologies are interrelated. She produced fourth thoracic lesions in laboratory animals that were followed by elevated heart rate and rhythm disturbances. These aberrations persisted unless the lesion was reduced. Normalization of function followed normalization of structure. She also noted that the heart muscle of these lesioned animals to exhibit less tone and tensile strength.[8]

In his radiographic study of cardiac patients, Koch noted that there was a spinal component to cardiac disease. He found that the preponderance of the patients that he studied had radiographic evidence of spinal aberration in the area between T2 and T6. He also reported that correction of these segmental abnormalities was followed by relief in varying degrees of spinal and cardiac symptoms and clinical and/or laboratory improvement.[9]

Parasympathetic influence is exerted via the vagus nerves. The primary effects are decreased heart rate, slowed atrioventricular conduction and, to an extent, a decrease in ventricular contractility. The cardiac vagal fibers travel in the cervical vagus nerve into the thorax where they separate from the vagus to form the cardiacnerves.[10]

According to work done by Geis and Wurster on cats, cardiac vagal nerves whose cells arise from different areas of the medulla may affect different cardiac functions. For example, the nucleus ambiguus may exert more influence over heart rate whereas the dorsomotor nucleus may play a greater role in influencing ventricular contractility. This too seems to suggest a certain site of origin specificity to control of the heart.[11]

The vagus has sensory fibers that go to the mucous membranes of the larynx, trachea and lungs with motor fibers to the larynx. Innervation of the lung is both by vagal and sympathetic fibers via the anterior and posterior pulmonary plexuses. The pulmonary arteries are apparently innervated by sympathetic fibers only. The smooth muscles of the bronchi are innervated by parasympathetic fibers and the bronchial glands are innervated by sympathetic fibers.[12]

In quiet respiration, the ribs are raised by the external intercostal

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[3]Michael M. Patterson and Robert D. Wurster, "Neurophysiologic System: Integration and Disintegration," Foundations for Osteopathic Medicine (Baltimore, MD: Williams & Wilkins, 1997), pp. 142-43.

[4]Patterson and Wurster, p. 141.

[5]J.E. Norris et al., "Responses of the Canine Heart to Stimulation of the First Five Ventral Thoracic Roots," American Journal of Physiology 227 (1974), p. 11.

[6]Irvin M. Korr, "Sustained Sympathicotonia as a Factor in Disease," in The Collected Papers of Irvin M. Korr, ed. Barbara Peterson (Colorado Springs, CO: American Academy of Osteopathy, 1979), p. 77.

[7]Edward G. Stiles, "Osteopathic Manipulation in a Hospital Environment," 1977 AAO Yearbook (Colorado Springs, CO: American Academy of Osteopathy, 1979), p. 20.

[8]S. V. Robuck, "The Relation of the Osteopathic Somatic Lesion to Visceral Pathology," Journal of the American Osteopathic Association 50, No. 6 (1950), pp. 322-23.

[9]Richard S. Koch, "The Spinal Component in Heart Disease," Yearbook of Applied Osteopathy (Ann Arbor, MI: Academy of Applied Osteopathy, 1957), p. 70.

[10]Patterson and Wurster, p. 143.

[11]Patterson and Wurster, p. 143.

[12]Ben Pansky, Review of Gross Anatomy, 4th ed. (New York: Macmillan , 1988), p. 282.

muscles (ribs 3-10). The ribs are lowered by passive motion of the rib cage. Deep respiration depends on action of the external intercostal muscles, scalenes, sternocleido-mastoids, levator costarums, serratus posterior and superior muscles. The ribs are again lowered by passive motion of the rib cage.[13]

It appears that normal function of the heart and lungs is influenced by the vagus and spinal segments from the second cervical to the twelfth thoracic segment. Normal respiratory rib motion and symmetry of the rib cage will allow for adequate physical expansion of the lung tissue.

Visceral afferents can and do cause a somatic reflex response expressed as changes in paravertebral muscle tone. This, in turn, causes changes in position and motion characteristics of vertebral segments. Specific areas of the spine are believed to reflect pathophysiology of the organ systems. Osteopathic physicians have capitalized on this concept to develop a "visceral road map" to aid in diagnosing and treating visceral pathology. This allows us to direct manipulative care to improve organ function in an attempt to improve health and reduce mortality and morbidity.

When considering the anatomy and physiology, it becomes clear just how much can be learned about a patient's general health by performing a detailed structural examination. It also comes to mind that much can be done to help the patient regain his/her health.

I have performed a retrospective evaluation of inpatient charts for this paper. The patient population is comprised of those patients admitted to this hospital who have received a P.T.C.A (Percutaneous Transluminal Coronary Angioplasty) with or without stent placement by John S. Raniolo, DO. I was able to provide adjunct manipulative care to a number of these patients. No preference was shown in the selection of candidates for manipulative care based upon age, ability to pay or concurrent medical diagnoses.

Data were collected after a review of charts to document structural abnormalities of the patients studied and to compare the population of patients who received manipulative care to the population who did not. The purpose was to determine if structural abnormalities are a reliable predictor of coronary artery disease and if these two patient populations differed significantly in terms of mortality rates, length of stay (L.O.S.), and readmission within 31 days of discharge. The patient population was divided into two subgroups, those with C.O.P.D. and those without. Patients were not otherwise segregated as to severity. Some underwent P.T.C.A. and stent placement on an elective basis, while others required the procedure as an emergent, lifesaving measure. From 1993 through 1998 Dr. Raniolo performed this procedure on 484 patients, of which I provided manipulative care to 134 on a total of 138 admissions.

All body systems are interrelated and it is our philosophy and practice to evaluate and treat the entire patient. Prior to beginning this study, I was employed at Phoenix General Hospital as the Director of the Department of Osteopathic Manipulative Medicine. I served in this capacity for six years. In addition to patient care, I was responsible for training students, interns and residents to perform meaningful structural examinations and to integrate osteopathic manipulative medicine into the care of their hospitalized patients. In order to provide appropriate manipulative care to critically ill patients, the physician must develop a structural examination and integrated treatment techniques suitable for use in this setting.

Initial examination of the patient was always complete but was performed in such a manner that it would not interfere with other care being provided or cause the patient further discomfort. Most often it was done in the supine and modified lateral recumbent positions. Initial care was directed to the areas of most critical need, and then expanded to provide comprehensive manipulative treatment to each patient.

I began my study of cardiac patients in 1984 but had to discard much of my data on mortality, morbidity and length of stay due to new advances in medical therapeutics. Most recently the common use of "clot busters" such as streptokinase and urokinase in the emergency room made much of my earlier data obsolete, and hundreds of cases became irrelevant and were deleted from my study.

Each patient was seen within 1 to 24 hours post procedure and was provided an examination and manipulative care based on his/her overall condition. Many times the access sheath to the femoral artery or pressure dressing was still in place. Under these circumstances, examination and treatment was provided in the supine and modified lateral recumbent positions. Other times the patient's condition allowed for the procedures to be performed in the sitting, supine and recumbent positions.

Likewise, when the sheath or pressure dressing was in place, even a mild Valsalva maneuver might likely contribute to hematoma formation. Under these circumstances, treatment was restricted to counterstrain, rib-raising and respiratory augmentation techniques. If the patient was able to sit and the likelihood of complications were minimal, then muscle en-

[13]Pansky, p. 306.
[14]Stiles, p. 20.

ergy techniques were employed in addition to the techniques mentioned above.

Having served a fellowship in manipulative medicine under Bernard A. TePoorten, DO, and J. Gordon Zink, DO, I have a profound appreciation for trying to achieve autonomic balance and for restoring normal pressure gradients to promote normal venous and lymphatic return.

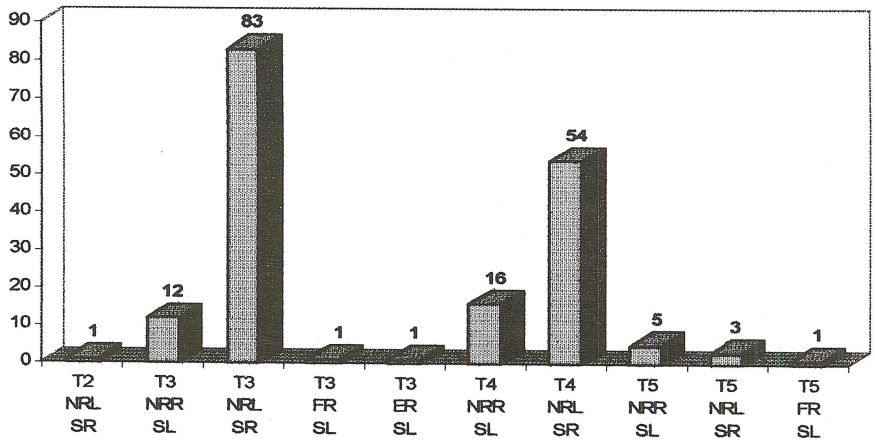
Edward Stiles, DO has also pointed out the importance of restoring normal physiologic motion to the upper thoracic and lower cervical areas to balance the autonomics to the coronary vessels. Likewise, it is important to address problems in the occipito-atlantal cervical region and upper dorsal area to improve myocardial rate and rhythm.[14]

Dr. Zink stressed the value in balancing the upper thoracics to normalize lymphatic flow through the thoracic inlet. He emphasized the importance of this low pressure return system on homeostasis. The driving force behind return is the body's diaphragm system. Dysfunction affecting the areas of attachment of the urogenital pelvic diaphragm, abdominal diaphragm or cupola will have profound effects on lymphatic flow. Low return results in tissue congestion due to the collection of proteins in the interstitial spaces, and fluid accumulation due to the colloid osmotic forces they exert.

With these things in mind it is apparent that mechanical problems involving the sacrum, pelvis, lower six ribs, first three lumbar segments or problems limiting the angle of Lewis will pose clinical consequences.

Dr. Stiles quoted work done by Dr. Allan Dumont, who suggested that the normal adult produces between eight and twelve ounces of lymph daily but that a patient with congestive heart failure (CHF) may produce up to six to eight liters per day.[15] A

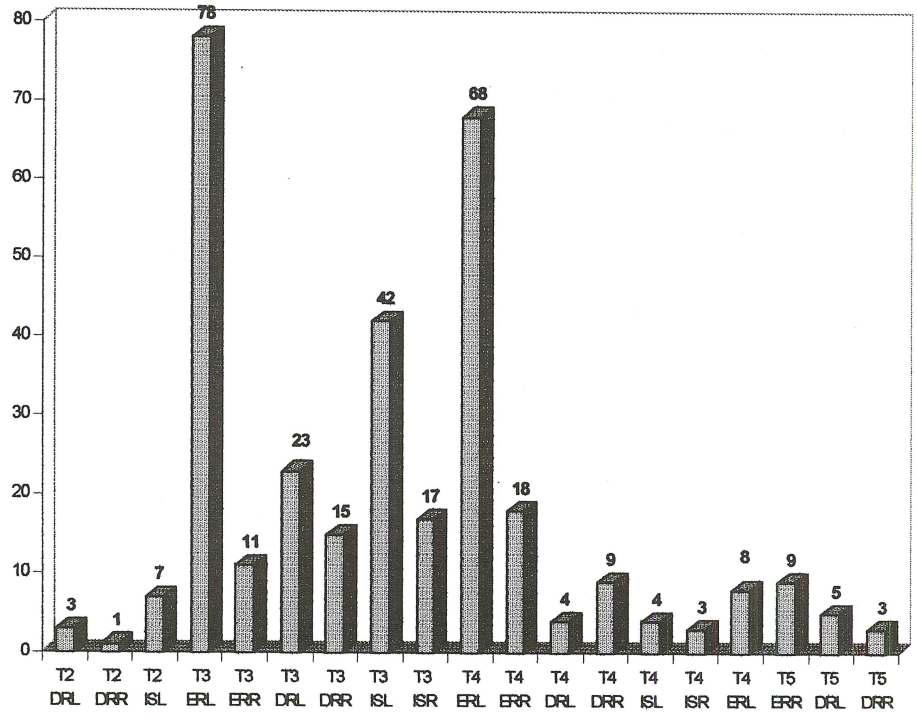
**Table One - Segmental Patterns on 138 Evaluations**




T2, T3, T4 and T5 denote the vertebral segment involved.
NRLSR, NRRSL, FRSL and ERSL are used to describe vertebral motion abnormalities:

| | |
|---|---|
| NRLSR | Neutral with rotation left and side-bending right |
| NRRSL | Neutral with rotation right and side-bending left |
| FRSL | Flexion with rotation and side-bending left |
| ERSL | Extension with rotation and side-bending left |

**Table Two - Jones Tender Points on 138 Evaluations**




DRL - depressed rib left ERL - elevated rib left ISL - interspace left

DRR - depressed rib right ERR - elevated rib right ISR - interspace right

[15]Stiles, p. 19.

failure of this system, under these circumstances as Dr. Zink would say, "would cause the patient to drown in his/her own fluids."

Patients were treated from one to three times during their hospitalizations, but most often twice. Treatment was specifically tailored to:

Resolve respiratory rib motion abnormalities

Promote lymphatic return

Balance the autonomics

Promote the free flow of fluids between body compartments

No untoward effects were observed during the years of this study.

Review of the consultation reports revealed that quite often, mechanical abnormalities at the third and fourth thoracic vertebral segments were present in these patients whose coronary artery disease had been confirmed by angiography.

In the fifteen years that I have regularly provided manipulative care to cardiac inpatients, it has become apparent to me that certain Jones Tender Points are associated with a "cardiac pattern." Elevated and depressed rib tender points are commonly seen in people with coronary artery disease. The chart review revealed that of the one hundred thirty-eight structural exams performed, there was a remarkable number of these tender points indicating a soft tissue reaction involving the ribs associated with the third and fourth vertebral segments.

For purposes of my review, data on death, length of stay and readmission within thirty-one days on patients with a D.R.G. of 112 (P.T.C.A), 115 and 116 (stent placement) were reviewed. When the analyses were done, all patients with P.T.C.A./stent procedures were included. For readmissions, I counted thirty-one days from the date of discharge. When patients went directly to the skilled nursing facility from the acute stay, I counted thirty-one days from the date of discharge from the skilled nursing facility rather than from the date of discharge from acute care. This was done because the entire stay was related to the procedure.

Subsets were as follows:

- P.T.C.A./stent
- P.T.C.A./stent with C.O.P.D.

Analyses were for:

- P.T.C.A./stent - deaths by O.M.M. and no O.M.M.
- P.T.C.A./stent with C.O.P.D. - deaths by O.M.M. and no O.M.M. (done using Chi Square and Pearson)
- P.T.C.A./stent - readmissions by O.M.M. and no O.M.M.
- P.T.C.A./stent with C.O.P.D. - readmissions by O.M.M. and no O.M.M. (done using Chi Square and Pearson)
- P.T.C.A./stent - length of stay (L.O.S.) by O.M.M. and no O.M.M.
- P.T.C.A./stent with C.O.P.D. - length of stay by O.M.M. and no O.M.M. (both done using independent sample t test )

Review of my data reveals that there is indeed a significant likelihood that a person with coronary artery disease will have a structural problem in the upper thoracic region. It is most likely that he/she will have a mechanical abnormality involving the third or perhaps the fourth thoracic vertebral segment with rotation to the left and side-bending to the right.

My findings correlate well with the observations made by Norman Larson, DO in a study he performed at the Chicago School of Osteopathic Medicine. His study of patients at Chicago Osteopathic Hospital's intensive care unit also revealed a high correlation of CAD with segmental abnormalities involving T3, T4 and T5. Furthermore, he noted a moderate dominance of left-sided rotations. The most frequently involved aberration was at T3.[16]

[16]Norman J. Larson, "Summary of Site and Occurrence of Paraspinal Soft Tissue Changes of Patients in the Intensive Care Unit," *Journal of the American Osteoopathic Association* 75 (1976), pp. 841-42

Total number of cases:

| Indicator | Description | Number |
|---|---|---|
| D.R.G.s 112, 115 & 116 | P.T.C.A./stent | 484 |
| | C.O.P.D. | 124 |
| | Deaths | 6 |
| | Re-admissions | 55 |

| Indicator | n | with OMM | without OMM | Signifcance |
|---|---|---|---|---|
| Deaths | 484 | 2 | 4 | .68177 |
| Re-admissions | 484 | 12 | 43 | .44928 |
| L.O.S. | 484 | 3.7937 | 3.9441 | .497 |
| Deaths with C.O.P.D. | 124 | 0 | 2 | .6818 |
| Re-admissions w/C.O.P.D. | 124 | 4 | 6 | .54373 |
| L.O.S. with C.O.P.D. | 124 | 3.6154 | 4.1647 | .103 |

The same analyses were done below with deaths removed from the data as they were felt to skew the data accumulated for length of stay.

| Indicator | n | with OMM | without OMM | Signifcance |
|---|---|---|---|---|
| Re-admissions | 478 | 12 | 43 | .45832 |
| L.O.S. | 478 | 3.8226 | 3.8746 | .496 |
| Re-admissions w/C.O.P.D. | 122 | 4 | 6 | .5697 |
| L.O.S. with C.O.P.D. | 122 | 3.6154 | 4.2289 | .069 |

My data demonstrates that there are Jones Tender Points present in a significant number of patients with coronary artery disease. It is most likely that they will be elevated rib tender points associated with the third or fourth vertebral segments. Most often they will be on the left side of the spine.

The frequency with which these specific segmental abnormalities and Jones Tender Points occur in patients with coronary artery disease is encouraging. It follows that they may and should be used as indicators to increase a practitioner's suspicion that a patient has heart disease. Used in the office setting as a screening, these findings might well suggest that further questioning and diagnostic studies would be in order.

Review of the data shows a statistical difference between patients who received manipulative care during their hospitalization and those who did not. The most significant difference was with respect to length of stay for patients admitted for the procedure who also had chronic obstructive pulmonary disease.

Whereas O.M.M. has been recognized as an effective modality for spinal pain and as a means of promoting health, there have been factors impeding its use in the hospital setting. It is not used regularly on inpatients but it should be.

It is my hope that this retrospective chart review will demonstrate the need to design a prospective study to evaluate the effect of osteopathic manipulative care on inpatient clinical outcomes. The data is encouraging, particularly with respect to patients admitted with chronic obstructive pulmonary disease. Perhaps such a study will show a lower rate of mortality, a significant difference in length of stay and a tangible cost savings. These results may substantiate the necessity of providing O.M.M. to at least select inpatients as the standard of care rather than the exception.

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# Greenman's Exercise Prescription

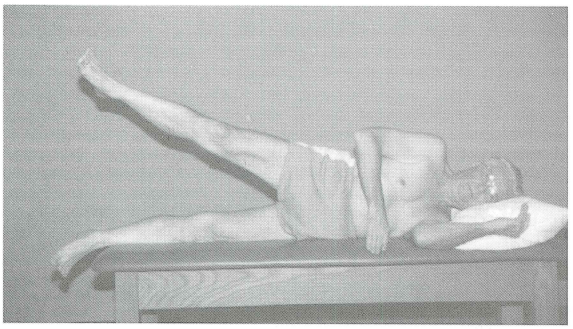
## May 31 - June 2, 2002

## Indianapolis, IN

**20 Category 1A**

### *Objectives*:

1. To understand the functional anatomical connections of upper and lower quarter musculature to the proximal trunk and pelvis.
2. To introduce the concept of neuromuscular imbalance as a contribution to chronic musculoskeletal dysfunction.
3. To learn exercises to address specific somatic dysfunctions found in the vertebral column and pelvis.
4. To be able to design and sequence a home exercise program for patients to complement manual medicine.
5. To be able to instruct the patient in an exercise program based upon his/her functional goals and life-style.



### *Program Time Table:*

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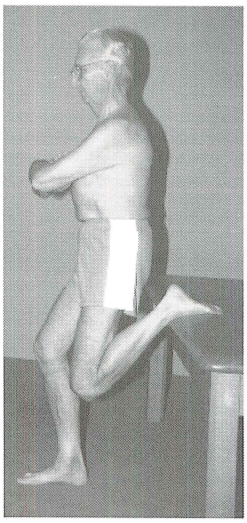
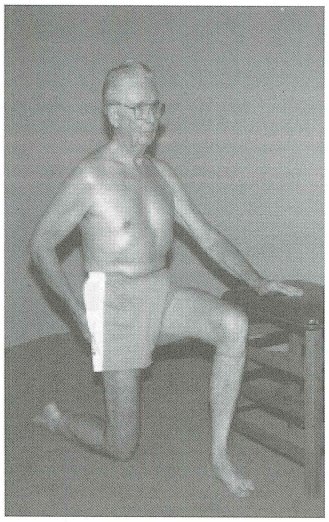
Saturday, June 1 ..... 8:00 am – 5:00 pm
Sunday, June 2 ..... 8:00 am – 12:00 noon





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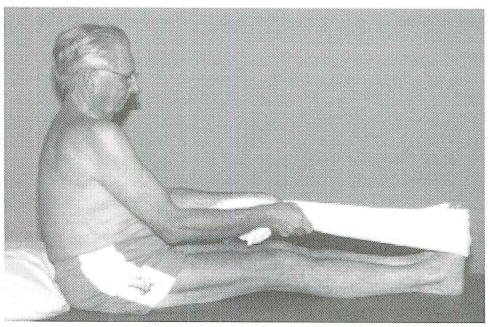

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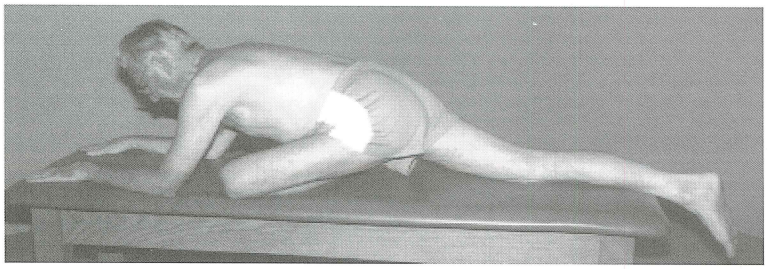

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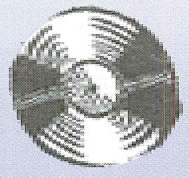

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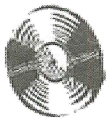

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