THE AAO
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The Effect of Osteopathic Manipulative Treatment (OMT) on Heart Rate and Blood Pressure in Female Athletes

...see page 9

AAO's CME Calendar

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

September
18-21
Fall OMT Update (Intermediate)
Ann Habenicht, DO, FAAO,
Program Chairperson
The Contemporary
(Walt Disney® Resort Hotel)
Orlando, FL
Hours: 22 Category 1-A

October
20-22
AOA/AAO Convention
AAO Program – Research and OMM
Claudia McCarty, DO,
Program Chairperson
San Antonio Convention Center
San Antonio, TX
Hours: determined by the AOA

31-November 2
Counterstrain
John C. Glover, DO,
Program Chairperson
WesternU/COMP
Pomona, CA
Hours: 20 Category 1A

November
15-16
Faciliated Positional Release
Eileen DiGiovanna, DO, FAAO,
Program Chairperson
Grandview Hospital
Dayton, OH
Hours: 12.5 Category 1A

15-16
Basic Percussion Vibrator (Robert Fulford's Method)
Richard Koss, DO,
Program Chairperson
Grandview Hospital
Dayton, OH
Hours: 15 Category 1A

December
4-5
Basic Osteopathic Diagnosis & Treatment
John M. Jones, III, DO,
Program Chairperson
Westin Hotel Airport
Atlanta, GA
Hours: 16 Category 1A

6-7
Muscle Energy Tutorial
Walter Ehrenfeuchter, DO, FAAO
Program Chairperson
Westin Hotel Airport
Atlanta, GA
Hours: 16 Category 1A

January 1998
15-18
An Introduction to Osteopathic Manipulative Treatment
Boyd R. Buser, DO, Chairperson
Turtle Bay Hilton Hotel
O'ahu, Hawaii
Hours: 23 Category 1A

Affiliated Organization's CME Calendar

September 25-28
26th Annual Fall Convention
New England Osteopathic Association
Summit Hotel and Conference Center
Bethel, ME
Hours: 28 Category 1A
Contact: Denise Gendron
(207) 283-0171

September 29 - October 3
Intermediate Cranial Course
Viola Frymann, DO, FAAO, Course Director
Claremont, CA
Hours: 40 Category 1A
Contact: Marlene Weyuker
(916) 447-2004

October 4-5
OMT and the Hospitalized Patient (Hands-on in the Hospital)
Eastmoreland Hospital and
Northwest Osteopathic Medical Foundation
Eastmoreland Hospital, OMM Dept.
Portland, OR
Hours: 14 Category 1A
Contact: Al Turner, DO
(503) 230-2501

October 4-6
SCTF Intermediate Course
"Osteopathic Utilization of Optometry"
UNECOM; Biddeford, ME
Hours: 27 Category 1A
Contact: Joseph Field, DO
(207) 967-3311

October 10-12
Continuing Studies
"The Cranial Base Revisited"
Sutherland Cranial Teaching Foundation
UNECOM, Biddeford, Maine
Hours: 16 Category 1A
Contact: Judy Staser
(817) 735-2498

February 6-8, 1998
The Osteopathic Approach to Respiratory Problems in Children
The Osteopathic Center For Children
San Diego, CA
Contact: Kathy Campbell
(619) 583-7611

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THE AAO
JOURNAL
A Publication of the American Academy of Osteopathy

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

Instructions for Authors

The American Academy of Osteopathy (AAO) Journal is intended as a forum 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
News of promotions, awards, appointments and other similar professional activities.

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

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

Submission
Submit all papers to Raymond J. Hruby, DO, FAAO, Editor-in-Chief, MSUCOM, Dept. of OMM, A-439 E. Fee Hall, East Lansing, MI 48824.

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

Requirements for manuscript submission:

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

2. Submit original plus one copy. Please 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.

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.

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

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

3. Include a caption for each figure.

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

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

Editorial Processing
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From the Editor

by Raymond J. Hruby, DO, FAAO

Triangles, Circles, Fire, and Water

We are all saddened by the death, on June 27, 1997, of Robert Fulford, DO, FAAO. The profession has lost a giant, and those of us who knew him have lost a great friend, teacher, and role model.

I did not know Bob Fulford very well. Indeed, there are many who knew him far better than I ever did. But, I take the time here to commemorate his passing, and to share my thoughts about him with you.

The first time I ever met Bob Fulford was somewhere around 1980 or 1981 at the Academy's Convocation in Colorado Springs. I knew from my first conversation with him that he was a great man — intensely dedicated to his patients and his profession, and most willing to share his vast knowledge and experience with others.

He gave a presentation at that Convocation that I have never forgotten. In fact, I can still see it in my mind as though it happened just yesterday. I remember it because the subject matter was so different, so unique —unlike anything I had ever heard before. Some people would have called it strange, weird, even unscientific. In fact, looking back on that time now, I am convinced that if anyone else in the world would have been giving that presentation on that day, he or she would have been ridiculed right out of the room. But not Doctor Fulford.

One of the most striking things I remember about that particular presentation was that everyone in the lecture room was totally attentive to Bob's every word. One could have heard the proverbial pin drop in the room that day. He spoke of things that were new and strange to me, yet his topic was decidedly exciting and interesting. He drew pictures of triangles and circles on a blackboard, and he spoke of elements like fire and water. He especially talked about something he called "the breath of life," and he demonstrated a manipulative technique that some audience members referred to as the "belly button" technique for "releasing the breath of life."

> . . . "He spoke of things that were new and strange to me, yet his topic was decidedly exciting and interesting. . ."

I learned that he worked with something called the "percussion hammer." Over the years, I heard Bob Fulford speak many times and learned many things from him. I saw that he was a man who truly understood and applied the principles of osteopathy that A. T. Still gave us. While I have never felt that I could do all the things he showed me very well, nevertheless he gave me a perspective on life, the universe, and the human body unlike any I have ever heard before. I am most grateful to him for that.

When I was a faculty member at the University of New England College of Osteopathic Medicine, I was fortunate enough to experience Bob there as a visiting clinician. I have one or two transcripts of lectures that he gave in the past. I am also glad he was able to share some of his knowledge with the world with the publication of his recent book. Bob Fulford was the most unpretentious man I ever met. Always pleasant and friendly, always the gentleman, and always willing to share his vast store of knowledge. We are indeed saddened at his passing, and we are all diminished because he is no longer among us. ❐

Message from the President

by Ann L. Habenicht, DO, FAAO

Osteopathic profession confused about OMM certification

My fellow Academy members,

Over the past five months, I have had the opportunity to represent the AAO at several meetings. Our educational opportunities and our certification process have always been of great interest at these meetings. At the recent AOA Board of Trustees and House of Delegates meetings in Chicago, some very disturbing events took place that I feel compelled to discuss with you. The issue in question was OMM certification.

During discussions with several AOA trustees it was apparent that there are still DOs, some in high positions, that do not know there is a ***general certification*** in OMM and that AOBSPOMM (American Osteopathic Board of Special Proficiency in Osteopathic Manipulative Medicine) is an AOA ***primary certifying board***! AOA documents state that this primary certification is conferred on diplomates who meet the requirements in a specified field of medical practice under the jurisdiction of a certifying board. This misconception surfaced after a discussion with one AOA trustee. The C-SPOMM (certification – special proficiency in osteopathic manipulative medicine) designation is mistaken to mean that this is a certificate of added qualification (CAQ). A CAQ is defined as "a modification of a general certificate" that one may obtain after first having a primary certification and then sitting for an exam. An example is geriatrics or sports medicine.

This misconception about C-SPOMM is indeed a problem. First, as Academy members it is important that we educate our fellow DOs about certification in OMM. OMM certification is both a primary certification and, for many of our members, a secondary certification. Prior to the development of AOBSPOMM by the AOA in 1989, the FAAO was the certifying mechanism. This can be seen by observing any FAAO certificate conferred prior to 1989. Many of you may be confronted with the argument that "every DO does OMT and, therefore, a certification is not necessary." Using the same logic, every DO knows how to treat pneumonia, take care of a child, deliver a baby, or take care of congestive heart failure, yet we have specialists available when things become more complicated. These are the infectious disease specialist, the pediatrician, the obstetrician/gynecologist, and the cardiologist.

Secondly, Academy members need to encourage other DOs to become certified by AOBSPOMM. Certification is necessary in the managed care environment. The more C-SPOMM physicians we have, the more voice we will have with managed care entities.

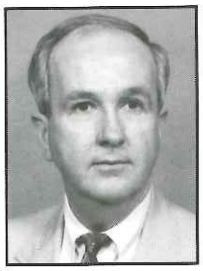
Lastly, the osteopathic profession has a unique opportunity to develop and maintain certification in manipulative medicine for all fully-licensed physicians and surgeons. Since AOBSPOMM currently has no counterpart within the federally recognized certifying bodies in the allopathic profession, it is natural that the AOA become THE certifying body. Following affirmative action on the part of the House of Delegates, the Bureau of professional Education and the Council on Postdoctoral Training, in 1966, the AOA Board of Trustees directed that OMM Residency-trained allopathic physicians be given the designation of C-SPOMM (certificate of special proficiency in osteopathic manipulative medicine) following completion of all requirements. The designation for DOs should then be changed to C-OMM. This new designation would rid us of the confusion within the profession and clearly demonstrate that our certification is not a CAQ. This change in the designation would have to come through the AOBSPOMM to the Bureau of Specialists.

I believe that the time has come for us to remove the confusion about our certification. I encourage all Academy members to support this change. Educate your colleagues about AOBSPOMM and OMM certification. Encourage our AOA leadership to continue to move forward. Now is not the time to step backwards out of fear, now is the time to grasp the future and place the osteopathic profession at THE recognized authority in manipulative medicine for fully licensed physicians and surgeons.

P.S. Happy Birthday A.T.!❐

Message from the Executive Director

by Stephen J. Noone, CAE



Lipservice or a true commitment to change? Where is the accountability?

I have just returned from the American Osteopathic Association's House of Delegates meeting and heard the frustration of many delegates who are calling for real change in the "seamless curriculum", change which reflects a true integration of osteopathic principles and practice (OPP) in pre-doctoral education and postdoctoral training. I understand their frustration which emanates from their perceived inability as policy makers to hold the profession accountable for effecting significant change in this curriculum. While there is a grass roots call this distinctiveness, there does not seem to be demonstrable signs of such change.

Critics will say that I am naive, that I lack a sophisticated appreciation for the complex process of change within the profession, or perhaps paranoid about OPP and OMT. However, I read the current milieu as simply lipservice to the maintenance and development of a truly distinct branch of mainstream medicine. The profession talks of unity of purpose and distinctiveness. It appears that the delivery of this unity and distinctiveness is another matter.

For the past several years, state delegations have introduced resolutions expressing serious concern over new colleges of osteopathic medicine and the expansion in student bodies by existing colleges. Their "perception" is that there are an inadequate number of *uniquely osteopathic* training programs to accommodate students on rotation, interns and residents. Students themselves confirm this "perception" when they report a sound foundation in osteopathic principles and practice in their first two years of medical school but observe a lack of reinforcement of distinct training in their clinical years. This year, I heard a concern about the "theft" of osteopathically-oriented faculty by new colleges from existing colleges and further concern over the inadequate numbers of such professionals nationwide. Nonetheless, the delegations are reminded that the AOA Bureau of Professional Education is the only body charged with the responsibility of accrediting colleges of osteopathic medicine and that the AOA Board of Trustees' and House of Delegates' role in the process is limited to *setting* the standards, not in accrediting the colleges or enforcing the standards. While some colleges have responded favorably, the state delegations continue to be frustrated at the lack of visible change in the system.

This year the Academy introduced a resolution calling for the AOA to adopt a position paper which would require attending physicians to provide appropriate supervision in osteopathic principles and practice to physicians-in-training (students, interns and residents) assigned to them. If the attending physician (DO or MD) was unable to provide such supervision, the AOA should require them to seek out another physician who could do so. Such accountability addresses the concerns expressed by physicians-in-training and covers both the MD who cannot supervise the delivery of OPP and the DO who, for whatever reason, may be unable to oversee it. However, the House of Delegates stripped the "position paper" language from the resolution and adopted alternative language which would *"Resolve, that the American Osteopathic Association's House of Delegates strongly encourages all supervising physicians to foster the appropriate utilization of osteopathic diagnosis and osteopathic manipulative treatment by students, interns and residents assigned to them."* In my opinion, this alternative fails to build any greater accountability into the educational system.

In another resolution submitted by the AAO Board of Governors, the Academy called for strengthening the language of an existing AOA policy on the preservation of osteopathic postdoctoral training programs when hospital mergers/acquisitions occur. The AOA Board of Trustees and House of Delegates responded that the Academy's language is already present in the documents for Osteopathic Postdoctoral Training Institutes (OPTIs) and is not needed in the policy statement. Hence, the House amended the statement to read *"Resolved, that the American Osteopathic Association continue to take all measures possible to prevent the termination of distinctive osteopathic training programs."* In my opinion, this amended policy statement will do little to challenge hospital leaders as they negotiate the merging of postdoctoral training programs into new conglomerates. →

In the July 1997 issue of the *Journal of the American Osteopathic Association*, Martyn E. Richardson, DO responds[2] to an editorial published in a previous edition of the journal.[1] A seasoned inspector of osteopathic health care institutions, Dr. Richardson reviews the evolution of the enforcement of the osteopathic musculoskeletal examination requirement which is part of the AOA hospital accreditation process. He offers suggestions which would renew the distinctiveness of the profession's clinical training programs. He further recommends that the AOA's affiliated organizations, including the AOA Bureau of Healthcare Facilities Accreditation and the Academy, work together to develop uniform guidelines which will result not only in more unique training programs but in better patient care.

I am hopeful that AOA President Howard Levine's call for a standardized form to record somatic dysfunction and the delivery of OMT will serve as a catalyst to enable the profession to demonstrate its uniqueness. Under direction of the AAO's Louisa Burns Osteopathic Research Committee, Chairperson Sandra Sleszynski obtained a grant from the AOA Bureau of Research to develop a standardized form. Academy Immediate Past President Michael Kuchera has accepted the challenge to consult with the AOA's bureaus, councils and affiliated organizations to ensure that this record form will be a functional tool to document this unique aspect of osteopathic medical care. We all share the accountability for implementation. Will we accept this opportunity? Time will tell!

[1] Johnson SM, Kurtz ME and Kurtz JC: Variables influencing the use of osteopathic treatment in family practice. *JAOA* 1997; 97:80-87.

[2] Richardson ME: Musculoskeletal examination needs to be a matter of habit. *JAOA* 1997;97:328-329. ❑

Letter to A.T. Still

Dear Doctor Still,

Anyone who has an interest in osteopathy usually has an interest in hearing or reading quotes from your various writings. Many DOs are familiar with the book *A. T. Still in the Living*, written by Robert E. Truhlar, DO, and published by himself in 1950. This book contains many of your best sayings, arranged alphabetically according to what I would call "key words." I have used the book many times and always find interesting points to ponder within its pages. The other day, I was perusing the book once again, and I found a very interesting quote. I have read it and thought about it many times before, but I have never asked you about it. The quote is this: "It will be an essential part of your training. But keep in mind while it may tell you how much the house is on fire, it does not tell you what started the fire and what is keeping it burning." I find this quote very intriguing. This particular quote is listed in the book under the "L" section; however, there is no word in the statement that begins with that letter. That makes it difficult to search your other writings for further references. I have wondered, of course, to what you were referring when you said these words. My guess is that you were speaking of standard medical training. I know that you were always very concerned that medical diagnosis in your time was often done by guesswork, and that treatment was not only just symptomatic but frequently inappropriate. The principles of osteopathy you developed showed us how to get much closer to the real cause of illness, and how to apply appropriate and accurate treatment. Thus, the analogy: knowing that the house is on fire, and even knowing how to put out the fire, does not tell us how the house got to be on fire in the first place. In any event, this is what I think you meant when you said these words. Perhaps sometime you will shed more light on this subject.

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

The effect of osteopathic manipulative treatment (OMT) on heart rate and blood pressure in female athletes

by Frank A. Paul, DO, James M. Norton, PhD, Neal A. Cross, PhD, and Boyd R. Buser, DO,
University of New England College of Osteopathic Medicine, Biddeford, ME

Abstract

The study was to determine the effects of OMT on blood pressure and heart rate (HR) in softball players. Subjects received up to three treatments (T_1, T_2, T_3).

The treatment group showed a decrease in HR between the pre-treatment (pre-tx) and post-treatment (post-tx) values at T_2 ($p<.01$) and T_3 ($p<.05$), with the changes in HR for the treatment group being greater than the control group at T_2 and T_3 ($p<.01$).

Pre-tx HR comparisons between groups demonstrated differences at T_2 and T_3, with the treatment group being higher ($p<.01$). The pre-tx HR values of only those subjects receiving three treatments increased from T_1 through T_3 ($P<.05$). The post-tx HR for the treatment group at T_3 was lower than that of the control group ($p<.01$). The drop in this group increased with subsequent treatments ($p<.05$), suggesting the efficacy of OMT in reducing HR was not solely dependent upon elevated pre-tx HR values. These findings were validated statistically by using analysis of covariance with the appropriate equations and a multiple comparison procedure ($P<0.5$)

Introduction

Results from many previous studies utilizing osteopathic manipulative treatment (OMT) as a modality in the treatment of medical illness have been contradictory or inconclusive, in part due to inadequate experimental protocol.[1,3,4,6,7,8,9,10,12,13,14] Though manipulation has long been advocated as an adjunct in the management of various physiological functions,[1-14] much remains unknown about the way OMT affects physiologic homeostatic mechanisms. Some of the studies have utilized manipulative procedures in an effort to down-regulate the sympathetic nervous system,[14] normalize blood aldosterone levels,[11] or affect the fibrinolytic activity of the plasma.[8] Other studies have used manipulative treatment in specific anatomical areas in order to find a "magic region" that would be effective in the treatment of hypertension.[6,7,8,9,10,12,13,14] Gillum studied the effect of spinal manipulation at vertebral segments C5-T3 on heart rate (HR), but in the absence of proper controls, the results were equivocal.[13] In addition, such a narrowly focused approach to manipulation removes the fundamental osteopathic principle of "holism" from the treatment process and thereby departs from the philosophical emphases developed by A.T. Still.

The purpose of this study was to evaluate the effects of OMT on HR and blood pressure (BP) regulation in female athletes during a competitive season. This may be reflected in statistical performance and physiological parameters monitored during the season. It is generally taught in the colleges of osteopathic medicine that structure and function are intimately related and that this relationship has an effect on the body's ability to maintain homeostasis. Therefore, an optimal structure-function relationship should enhance an individual's capacity to perform challenging tasks more effectively.

Materials and Methods

The study population consisted of twenty female athletes varying in ages from 17 to 23 who were members of the University of New England (Biddeford, Maine) women's intercollegiate softball team. Informed consent was obtained from all participants. The women were paired according to athletic abilities and →

performance utilizing available statistics, i.e. batting average, RBI's, fielding percentage, slugging percentage, and subjective evaluations of their preseason performance. The pairs were arbitrarily split into control and treatment groups by an impartial party. The coaching staff was not told which players were in the treatment or control groups.

Subjects were screened to determine their individual base-line BP and HR status and to assure that the groups were initially comparable. This procedure helped reduce the measurement error by familiarizing the subjects and investigators with the procedure. The base-line measurements were taken from the left arm using a sphygmomanometer at three separate sittings on three different days by an impartial, trained physical therapy student. HR's were measured for fifteen-second intervals. All base-line values were obtained with each subject lying quietly supine for five minutes prior to taking the readings. An examination of each subject began with a brief history of complaints prior to all sessions. A palpatory structural exam was performed on the treatment group and the following findings were recorded:

- Obvious positional asymmetry of the axial skeleton and any lateral curves.
- Motion restrictions or hypermobility of the axial and appendicular skeleton.
- Tissue texture changes in the paraspinal tissues.
- Any deviations from the common compensatory pattern.[17]
- Motions associated with the Primary Respiratory Mechanism.

No palpatory structural screening was performed on the control group patients, which eliminated the potential for therapeutic changes taking place during the examination.

All subjects were asked to lie quietly for five minutes prior to the systolic blood pressure (SP), diastolic blood pressure (DP), HR measurements, and treatment session. After pre-tx measurements were obtained, the treatment group received OMT and the control group rested undisturbed for an identical concurrent period of time. Following treatment or rest, all subjects were asked to lie quietly in a supine position for an additional five minutes. At the conclusion, measurements of SP, DP, and HR post-tx were again taken. Subjects received up to three sessions of either OMT (treatment) or rest (control) over the course of the softball season. No treatments were given within 20 hours prior to a game.

Patients receiving OMT were evaluated and treated with efforts focused towards normalizing the patients' structure-function relationship by reducing motion restriction. The following techniques were utilized: myofascial release, articulatory technique, classical soft tissue technique, high velocity low amplitude thrust, balanced membranous tension, muscle energy, counterstrain, and craniosacral technique. Particular attention was given to the following areas: axial skeleton, primary respiratory mechanism, upper cervical unit (C_1, C_2), thoracic inlet (T_1), thoraco-lumbar junction (T_{11}-L_2), lumbosacral junction (L_5, S_1), sacroiliac articulations, and the spheno-basilar synchondrosis.

Injury management of all players consisted of standard medical therapy. In addition, the treatment group received OMT as described above. Not all subjects in the study received three treatments as planned because inclement weather compressed the season to five and a half weeks.

Data

The following data was charted over the entire season's duration:

- notable physical findings
- pre- and post-tx SP, DP & HR
- treatment rendered (modality and areas utilized)
- injury/illness profiles.

Our analysis initially compared the two groups with respect to pre- versus post-tx SP, DP, and HR, using a paired T-test to determine statistical significance. Other comparisons were made using a simple T-test for groups of unequal size. An analysis of variance (ANOVA), analysis of covariance, and multiple comparison procedures were used to determine the statistical differences between control and treatment groups.

Results

Data for both the control and treatment groups was analyzed from the three different sessions (T_1, T_2, T_3). At each treatment time, control and treatment groups had pre-tx and post-tx values recorded for SP, DP, and HR. The first comparisons were made between the pre- and post-tx values for resting SP, DP, and HR on both the control and treatment groups for three treatment sessions.

Blood Pressure

Pre- and post-treatment systolic and diastolic pressures for the treated and control groups are shown in **Figure 1**. No statistically significant changes in systolic, diastolic, or mean pressures (calculated as diastolic + [systolic - diastolic]/3) could be demonstrated for either the control or the treatment groups at any of the treatment times.

Figure 1a

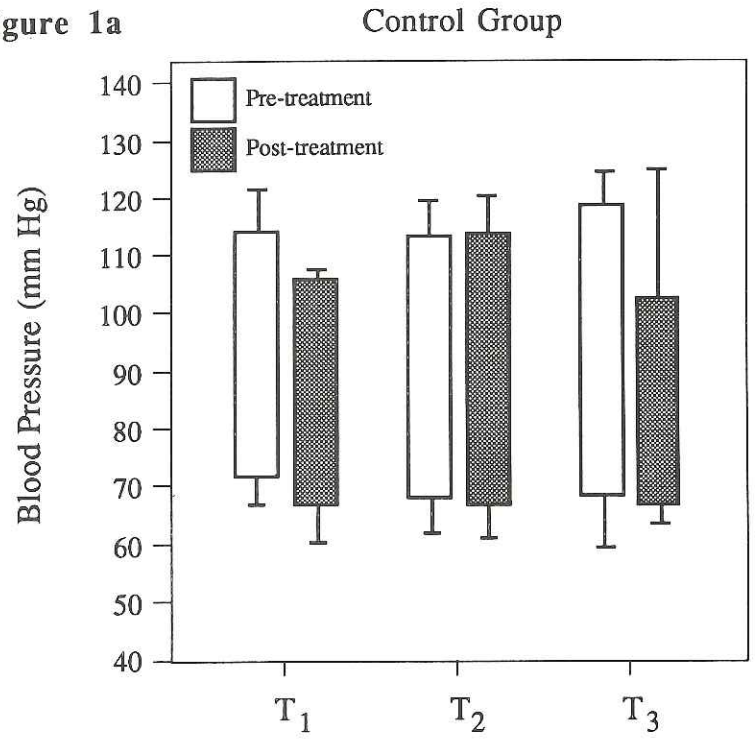


Figure 1b

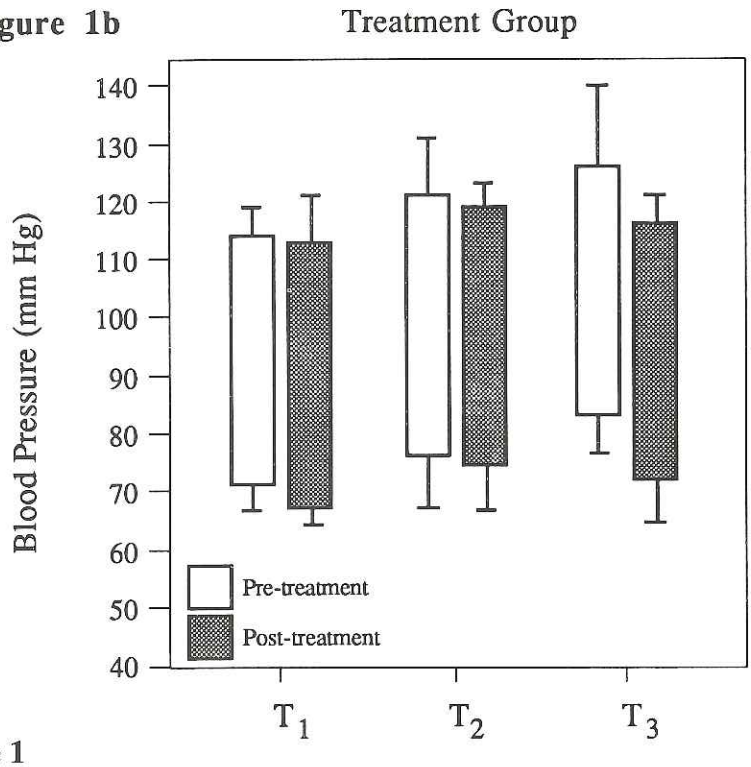


Figure 1

Pre- and post-treatment systolic and diastolic pressures for the control (upper panel) and treated (lower panel) groups at times T1, T2, and T3. The upper border of each bar represents the systolic pressure; the lower end of each bar, the diastolic pressure; the length of the bar, the pulse pressure. Error bars represent± 1 s.d.

SP and DP moved in the same direction (decreased) as the HRs for the treatment group at T_2 and T_3, but the relative changes did not reach a level of significance ($p>0.5$).

Heart Rate

Pre- and post-treatment heart rates for the treated and control groups for each of the three treatments are shown in **Figure 2**. The variable of interest was the change in heart rate produced by the treatment, calculated as the difference between the pre- and post-treatment HR values. The treatment group at T_2 demonstrated a significant decrease in HR of 9.8 BPM ($p<0.01$). At T_3, a significant difference in HR of 20.5 BPM was seen for the treatment group ($p<0.05$). An ANOVA was performed to compare the changes in HR for the control and treatment groups at each of the three treatment sessions. No significant differences were noted at T_1. However, the change in mean HR for the treatment group at T_2 was significantly greater ($p<0.05$) than the change in HR for the control group (9.8 BPM vs. 1.7 BPM). The change in HR of the treatment group at T_3 was significantly greater than that of the control group ($p<0.01$). The treatment group showed a 20.5 BPM *drop* in HR with treatment; whereas, the control group showed a 9.3 BPM *rise* in HR (**Figure 3**). Initial inspection of the data for heart rates for the control and treated groups suggested the possibility that the magnitude of change in HR was directly proportional to the magnitude of pre-treatment heart rate itself. Subsequent analysis of the data yielded statistically significant ($p<0.05$) and nearly identical correlations between pre-treatment HR and change in HR for the treatment and control groups, confirming this suspicion. →

Figure 2a Control Group

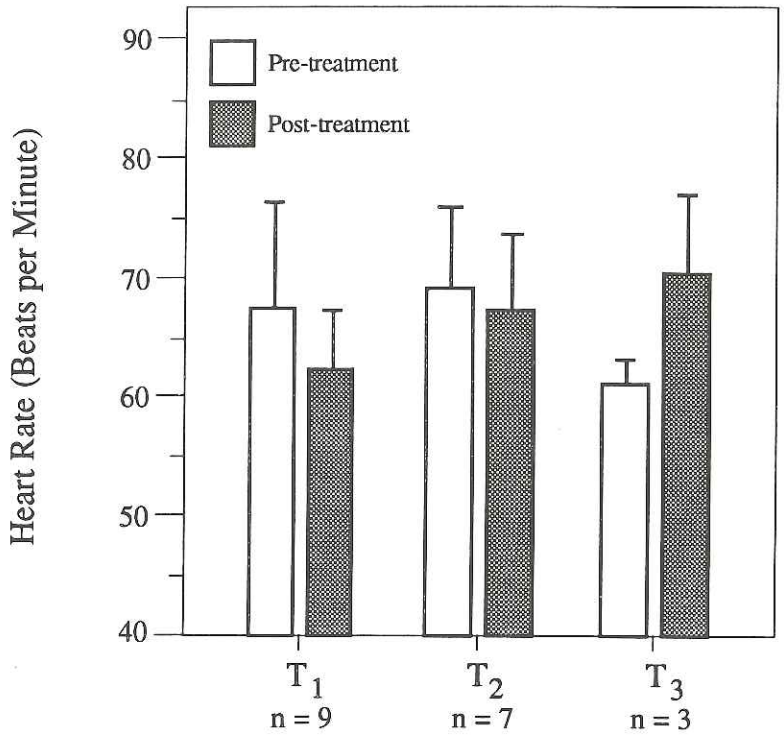


Figure 2b Treatment Group

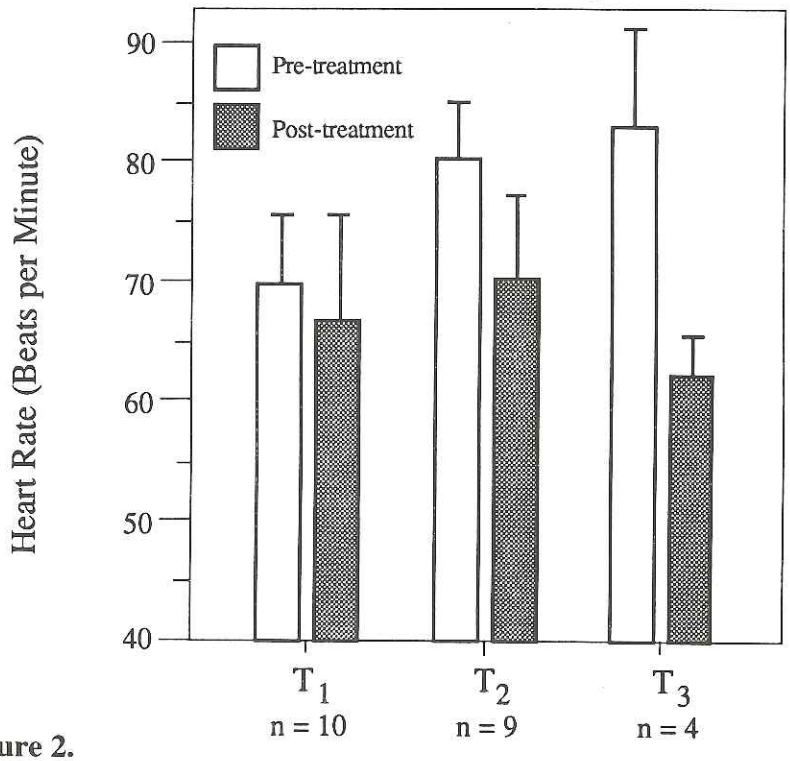


Figure 2.
Pre- and post-treatment heart rates for the control (upper panel) and treated (lower panel) groups at times T1 T2, and T3. The height of the bar represents heart rate; the error bars represent ± 1 s.d.

The mean pre-tx HR comparisons show the pre-tx HR of the control and treatment groups to be significantly different ($p<0.01$) at T_2 (69.1 BPM vs. 80.4 BPM) and T_3 (61.3 BPM vs. 83 BPM) with the treatment group being higher (11.3 and 21.7 BPM). The post-tx HRs were significantly different ($p<0.01$) at T_3 with the treatment group being lower by 8.2 BPM (70.7 BPM vs 62.5 BPM).

Next, the pre-tx HR values and the post-tx HR values of only those subjects who actually underwent three treatment sessions were compared using ANOVA. The treatment group HRs prior to T_2 and T_3 were significantly higher ($p<0.05$) than the HR prior to the first treatment. (T_1, 68 BPM; T_2, 82 BPM; T_3, 83 BPM). The pre-tx control HRs differed significantly ($p<.05$) between T_2 and T_3 (T_1, 64.0 BPM; T_2, 70.7 BPM; T_3, 61.3 BPM). However, the post-tx HR's for the treatment group and for the control group were not significantly different at any treatment sessions [(control) T_1, 62.7 BPM; T_2, 70.7 BPM; T_3, 70.7 BPM: (treatment) T_1, 66.5 BPM; T_2, 72 BPM; T_3, 62.5 BPM)]. HRs in the treatment group following OMT were found to decrease progressively in amplitude with subsequent treatments ($p<.05$)(T_1, -1.5 BPM; T_2, -10 BPM; T_3, -20.5 BPM).

The heart rate data for each subject who received more than one treatment was initially averaged to yield single values for each subject for mean pre-treatment HR, mean post-treatment HR, and change in HR. These results were combined with the data for those subjects who received only one treatment to produce average values for the three variables for the control and treated groups. This combined data is shown in **Table I**. The only statistically significant difference

TABLE I

Pre- and Post-treatment heart rates for control and treated subjects[a]

	Pre-tx HR	Post-tx HR	Change in HR
Control	67.9 (6.6)	64.9 (4.2)	3.0 (6.9)
Treated	75.9b (2.7)	68.4 (5.4)	7.4 (5.7)

[a] values given are mean +/- 1 s.d.

[b] significantly different from the corresponding control values at the $p<0.05$ level using Student's T-test

noted between the control and treated groups was in the pre-treatment heart rate, which was higher for the treated group. However, since there seemed to be a pattern to the changes in heart rate over the span of three treatments, the decision was made to analyze the data in a fashion that would show the differences among treatments, as well as between the control and experimental groups.

Because of the dependence of change in HR on the pre-treatment heart rate, analysis of covariance was used to increase the precision of the analysis of the effect of manipulation of heart rate by utilizing the pre-treatment HR as a covariant. Application of this method of analysis to the heart rate data revealed that statistically significant differences were present among the groups with respect to change in HR even after adjusting for the initial heart rate. The original group averages were transformed using the appropriate regression equations, and the results are shown in **Table II (next page)**. A multiple comparison procedure was then used to compare the adjusted group averages with the level of significance established as ($p<0.05$).

The results produced by this form of data analysis indicate that the adjusted values for change in HR for the control group diminished with successive treatments to nearly zero at T_3; whereas, adjusted change in HR for the treated group was higher at T_3. Significant differences ($p<0.05$) were observed between the treatment and control-adjusted change in HR values at T_2 and T_3.

Injury and illness profiles for both groups were clinically comparable in severity and absolute numbers. Furthermore, there were no consistent viscero-somatic changes seen in →

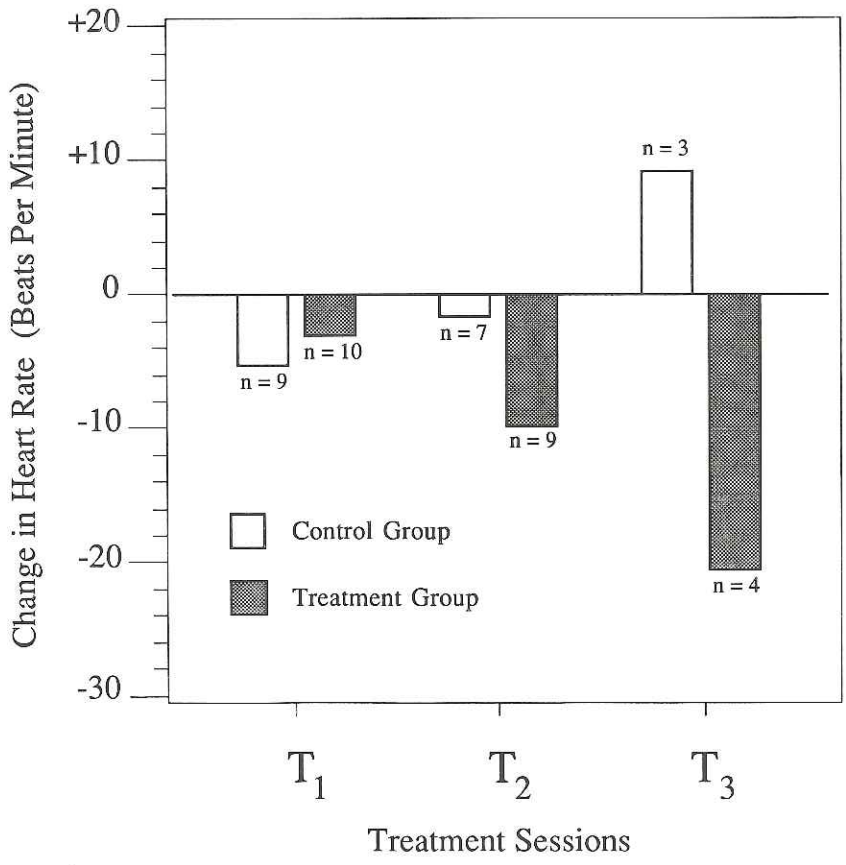


Figure 3.
Comparison of averaged changes in heart rate between control and treatment groups following serial treatment sessions.

TABLE II
Actual and adjusted[a] change in HR
for control and treated subjects over three different treatment times[b]

	T_1		T_2		T_3	
	Change in HR		Change in HR		Change in HR	
	Act	Adj	Act	Adj	Act	Adj
Control	5.1	8.8	1.7	4.2	-9.3	-0.5
	(8.3)	(4.6)	(3.9)	(5.3)	(7.6)	(6.6)
Treated	3.0	4.7	9.8c	2.9c	20.5C	11.6C
	(8.3)	(8.4)	(8.0)	(6.9)	(10.6)	(4.9)

[a] adjusted values represent transformations of the actual group means using regression equations developed from the analysis of covariance as described in the text. Change in HR is calculated as pre-treatment HR - post-treatment HR.

[b] values listed are mean +/- 1 s.d.

[c] significantly different from the corresponding control value, $p<0.05$.

patients with elevated pre-tx HRs which is consistent with the lack of visceral pathology in this study population.

Discussion

The influence of OMT on circulatory homeostasis is not well understood. Somatic components that influence local tissue perfusion, visceral components such as autonomic control, circulating humoral factors, and vascular reactivity may play a role in regulating BP and HR.[16] Correcting structural imbalances that affect autonomic tone may help to normalize BP and HR,[2,16] but may not be the only mechanism by which OMT affects HR. Somatic dysfunction may cause both a decreased range of motion and a perceived stress to which the body responds by increasing autonomic tone or altering humoral controls such as, blood cortisol or catecholamine levels.[16] Northup suggested that restricted motion may cause local tissue hypoxia, triggering a reflex increase in blood delivery parameters to correct for such imbalances.[3] Generally, the HR increases under hypoxic conditions caused by an increased oxygen demand or a decrease in the efficiency of oxygen delivery.[18]

No statistically or physiologically significant effects of manipulative treatment on systolic, diastolic, or mean blood pressures were found in this study. This is likely due to the many regulatory mechanisms known to influence BP. Furthermore, *it should be difficult* to produce BP changes in a population of healthy and normotensive female athletes. Ubiquitously in medicine there are heterogeneous responses to most treatment regimens, and OMT is probably no different in this regard. A subset of subjects responsive to OMT would very likely demonstrate a more pronounced effect.

The major finding of this study was that an application of osteopathic manipulative treatment produced a change in the resting heart rates of young female athletes, and that the drop in HR tended to be more pronounced with repeated treatments. Conversely, although a period of rest of identical length initially produced a drop in HR in the control subjects, the magnitude of the change *decreased* with successive "treatments." By the third treatment, T_3, the control and treated groups differed dramatically and significantly in their responses. Although the pre-treatment heart rates rose steadily from T_1 to T_3 (as is evident in **Figure 2**), the use of analysis of covariance shows that the effect of manipulative treatment on heart rate was independent of the pre-treatment heart rate. The actual cause of the elevation of pre-treatment heart rate seen in the treatment group may be simply the anxiety associated with the anticipation of manipulative therapy directed at areas of injury or pain. Chronic pain, stress, anxiety, and acute pain all cause an increase in HR and BP by increasing catecholamine release and/or via direct neurologic cardiac stimulation.[15]

The OMT group's HR dropped lower than the control group following treatment. This suggests that there is a somatic component to the resting autonomic sympathetic tone which, once reduced, allows for a return toward the norm. It has recently been shown that neurologic pathways exist between a somatic dysfunction (a stressor) or somatic regions and the hypothalamus.[16] Therefore, structural imbalance and somatic dysfunction may act to artificially elevate the resting HR to a greater degree than would normally be present without these motion restrictions.

Athletes have a greater capacity for maintaining physiologic homeostasis.

Yet, the results shown in **Figure 2** clearly show an opposing trend in HR over the three treatment periods for both groups. The average HR for the treatment group declined significantly, whereas the control groups HRs increased steadily. One explanation may be that the treatment group was observed to experience greater range of motion with less pain after OMT. Subsequent treatments became more effective and results more pronounced as is often seen clinically. Conversely for the control group, as the season progressed the presence of somatic dysfunction and pain generated through injuries not managed with OMT were more physically and physiologically stressful. The rise observed in HR of the control athletes while resting was probably due to the discomfort they were experiencing while lying still for an extended period of time (as evidenced by subjective complaints). This effect has been well documented in the emergency medical literature with the use of backboards during paramedic runs for spinal precautions. It appears that the cumulative effects of stress and injury over the period of a season may move the athlete's body away from its optimal level of function. The results of this study strongly suggest that OMT applied to athletes over the course of a season may minimize this tendency and aid the body in maintaining its capacity for autoregulation. The reduction of pain and the increased feeling of well being should positively impact the athletes performance.

The clinical implication of these findings may be relevant to the patient with acute myocardial infarction. Since cardiac work equals the product of the heart rate and the stroke volume, these findings have physiologic significance. It has been found that an elevated heart rate during hospital stay and after discharge has been predictive of death in patients with acute myocardial infarction. Increased heart rate is independently associated with mortality.[19] A somato-visceral component may exist to impact on this association of heart rate and mortality. Based on this study's findings, OMT may have clinical application in such a case.

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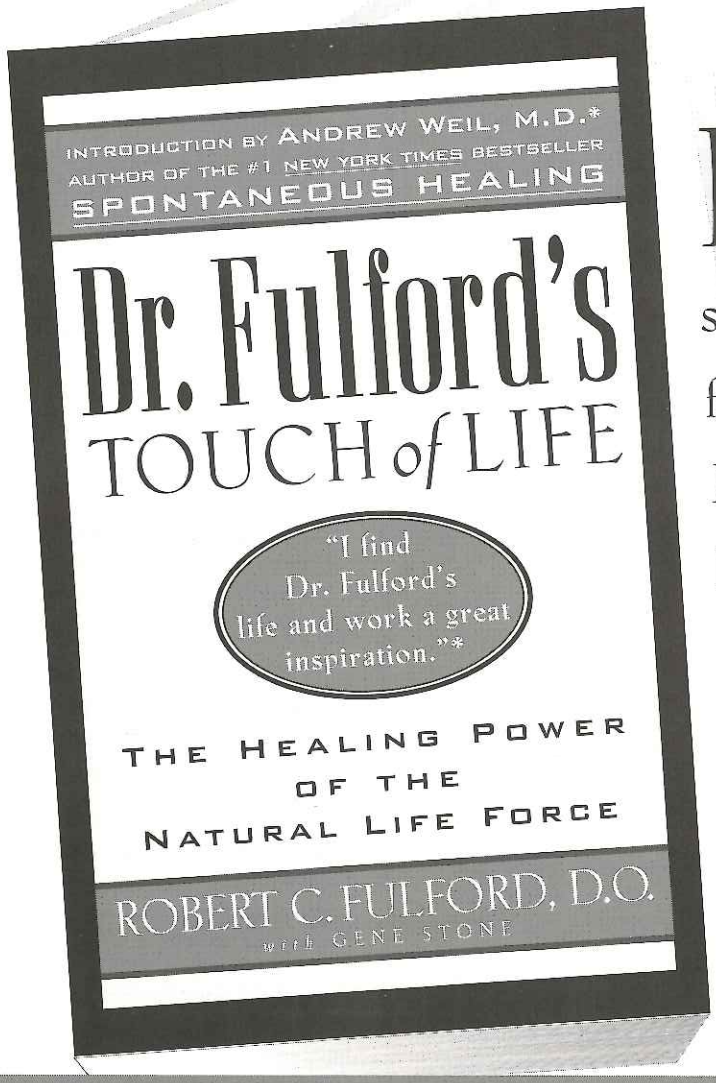

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Osteopathic manipulative treatment: Practice use and opinions of the Texas College of Osteopathic Medicine alumni

by Russell G. Gamber, DO, Donald A. Kennedy, PhD, Richard C. Erickson, DO, Judith A. Moss, DO, Claire McKay Hart, DO, Claire Zengerle, DO, Robert C. Stone, DO, Eric E. Gish, UTF.

Abstract

Some of the most incompletely documented aspects of the use of manipulative medicine are the factors that determine whether or not a physician uses OMT in practice, and if OMT is used, what techniques are chosen. This study utilized a comprehensive survey to study the OMT practices of the graduates of the Texas College of Osteopathic Medicine (TCOM). The results were correlated with the instruction available at TCOM during the study years. A majority of practicing graduates do use OMT in their practice but some of the methods used required post graduate training in OMT. Overall, the frequency of OMT use, the methods chosen, and the problems frequently treated with OMT indicate widespread use, but dissatisfaction with the level of OMT training is noted at the undergraduate and graduate level.

Introduction

This survey sought to understand more clearly the attitudes of osteopathic physicians regarding their use of OMT in practice after completion of medical school and post graduate training. The specific interests of the survey were:

1. to determine the types of diagnoses for which manipulation was being used,
2. which techniques are being chosen,
3. the relationship between type of residency and OMT use,
4. whether physicians felt that the number of hours spent in OMT training was sufficient, and
5. if the curriculum taught in medical school adequately prepares physicians to use OMT in clinical settings.

This study was conducted in the summer of 1991 and was limited to graduates of the TCOM from 1978 to 1985. Questionnaires were sent to physicians in active practice, but not to interns or residents. A total of 595 questionnaires were mailed without regard to specialty, practice size, length of time in practice, postgraduate training, or location.

Method

The survey used several types of questions, including open-ended questions, a series of linear scales, fill in the blank and short statement questions. Given that the objective of the survey was to discover the attitudes of the graduates toward manipulation in their practices, the survey was conducted in a confidential manner to allow the respondents freedom in answering the questions. Given that two types of data were collected, qualitative and quantitative, a dual approach was taken in analyzing the data. Numerical and categorical data were compiled and then analyzed with a computer and opinions and attitude questions (descriptive materials) were manually compared for common themes and extreme responses.

Results

OMT in Practice

Of 595 surveys mailed, 137 (23 percent) were returned completed. Three-fourths of the respondents were in primary care fields (G/FP, OB/GYN, pediatrics, and general internal medicine). This corresponds with the reported 75 percent of DO's in primary care.[1] The largest single group of respondents was in the General/Family Practice Specialty (**Table 1**), therefore this paper will focus primarily on the findings regarding General and Family Practice (G/FP) physicians.

Further analysis of the G/FP respondents (**Table 2**) showed that 63 percent were board certified and that 92 percent use OMT at some time in their practice. This is compared to the specialists who responded, 52 percent of whom stated they use OMT. This is slightly higher than the figures found by Shlapentokh,[1] but the difference in OMT usage between primary care and other specialties is well known.[2] The use of OMT has also previously been shown to be →

Table 1
Distribution of Respondents by Specialty

SPECIALITY	#	(%)	SPECIALTY	#	(%)
G/FP	86	(62.8)	Pediatrics	6	(4.4)
OB/GYN	6	(4.4)	Emergency Med.	6	(4.4)
Internal Medicine	5	(3.7)	OMT Specialist	4	(2.9)
Orthopedics	4	(2.9)	Oncology	3	(2.2)
Pulmonology	2	(1.5)	Neurology	2	(1.5)
Ophthalmology	2	(1.5)	Sports Medicine	2	(1.5)
Radiology	2	(1.5)	Psychiatry	2	(1.5)
Cardiology	2	(1.5)	General Surgery	1	(0.7)
Industrial Medicine	1	(0.7)	Occupational Medicine	1	(0.7)
			Total	137	(100)

Table 2
General/Family Practice Physicians Responding
GENERAL DATA

Board Certified	54/86	(62.8%)
Avg. length of time in practice	7 years	
Avg. number pts./week	118	
Avg. number OMT pts./week	15	(12.7% of all pts.)
Number of G/FP physicians who use OMT at some time	79/86	(91.9%)

Table 3
OMT Use by Responding G/FP Physicians
Avg. # of OMT procedures done per week by method:

METHOD	#	(%)
High Velocity Low Amplitude Thrusting	9	(26)
Soft Tissue	9	(26)
Muscle Energy	5	(15)
Strain/Counterstrain (Jones)	4	(12)
Myofascial Release	4	(12)
Craniosacral	3	(9)
Total	34	(100)

Table 4
Top Ten OMT Uses as Reported by G/FP Physicians

CONDITION	TIMES IN PHYSICIANS' TOP TEN LISTS
Cervical Pain	43
Cephalgia	33
Lower Back Pain	32
Sprains/Strains	20
Sinusitis	12
Arthritis/Stiff Jnts.	12
Upper Back Pain	9
Shoulder Pain	8
URIs/Otitis Media	8
Urogenital Problems	8

inversely proportional to the number of years in postgraduate training.[3]

When asked which OMT techniques were preferred, high velocity low amplitude thrusting and soft tissue were each preferred almost 2:1 over the next most used method (**Table 3**). A lower utilization is found with myofascial release and craniosacral approaches.

Responding physicians were asked to name in order their top-ten diagnoses for which they used manipulative medicine. The total number of times (in the physicians' top-ten list) a specific diagnosis was found and calculated, a cumulative top-ten list was created. This list showed the rank and how many times that diagnosis appeared in physicians' lists (**Table 4**). Musculoskeletal conditions were listed by every respondent who used OMT, with 53 of the 85 conditions listed being musculoskeletal in nature. However, there were many varied conditions also listed, including otitis media, sinusitis, esophageal reflux, fatigue, and dyslexia. Lower back pain was more frequently listed as the number one choice for OMT use, however, cervical pain was more frequently listed in the top-ten choices overall.

Of the top-ten conditions, the other four complaints commonly treated which are not primarily musculoskeletal are cephalalgia, sinusitis, upper respiratory tract infections (including otitis media), and urogenital complaints (such as incontinence). It was no surprise that lower back pain ranked at the top of the list of musculoskeletal problems treated with OMT. Leclere shows in her paper on difficult problems of the general practitioner, that chronic lower back pain was among the problems generating the greatest number of difficulties in getting good and lasting resolution.[4]

A section of the survey dealt with the referring pattern of the doctors. It was suspected that the number of physicians referring patients for manipulative treatment would

Table 5
Attitudes About Adequacy of Hours in OMT Training

Type of Educational Hours	Too Few	Adequate	Too Many	n
Undergraduate	17.9%	75.0%	7.1%	84
Intern	67.1%	32.9%	0.0%	82
Resident	55.9%	44.1%	0.0%	34
Continuing Education	59.0%	39.8%	1.2%	83

correlate to the number of physicians not using OMT. It was found, however, that 40 percent of the 86 G/FPs refer to chiropractors at some point in their practice.

OMT Education

The feelings of the respondents toward the number of hours spent on OMT training in medical school and postgraduate training varied. Each respondent was asked whether the number of hours was too few, too many, or adequate (**Table 5**). Since not all G/FP respondents completed an AOA internship or residency, it was necessary to adjust the percent calculated to reflect the actual number (n) who answered the question.

It was found that the G/FPs had a greater tendency to consider their OMT educations as "less than adequate." Comments were made concerning a need for greater integration of osteopathic concepts, which is confirmed in Johnston's article, both on the undergraduate and postgraduate levels.[5] An overall perception that a need for a general change in methods of instruction was also evident.[6] While the average respondent felt that the lecture-guided skills approach was not the best method to impart OMT knowledge, there is no study which demonstrates that a significant difference will be incurred by the use of a problem-oriented type of format in the final course grade.[7]

Osteopathic vs. Allopathic

When asked if they thought their style of practice differed from that of the MD family practice physicians, 68.5 percent felt there was a distinctive difference between the styles of practice. This is consistent with the findings of Eckberg in 1987.[8] Comments included that DOs try to take more time to be personable, to educate their patients on prevention, to use palpatory skills learned in school, to treat the cause of the problem and not just the symptom, and to treat the entire body. Sixty percent of specialists also viewed themselves as having a different style of practice from their MD counterparts. Many of the DO who felt there was no difference between practices also reported they did not have time for OMT.

Discussion

In this survey, the top four conditions for which OMT is utilized are the stereotypical musculoskeletal disorders associated with manipulative treatment. Cervical pain, cephalalgia, low back pain and strains/sprains are already generally accepted by the osteopathic community as appropriate indications to manipulative treatment. The remaining six of the top-ten diagnoses revealed by this survey are to varying degrees less obvious indications for OMT.

Shoulder pain, number eight, is a diagnosis requiring a higher degree of OMT skills. This is due to its anatomical complexity. In addition, the treatment of the shoulder goes far beyond the seven stages of Spencer. Arthritis, number six, is somewhat unusual in that the arthritic pathophysiology does not automatically lend itself to treatment with the "basic" manipulative techniques. For example, when treating an inflamed or even degenerated joint, the more subtle, indirect techniques are appropriate and represent another increase in the level of manipulative skills.

The remaining three indications (sinusitis, upper respiratory tract infections/otitis media, and urogenital problems) require a deeper understanding of the body's anatomy for appropriate manipulative treatment. The use of OMT for these three problems indicates at least a basic understanding of the secondary effects of manipulation on the body and physiology. Otitis, sinusitis, and urogenital problems are beneficially affected by manipulative techniques utilized as adjunctive therapy. Often, specific areas of somatic dysfunction exist such that correction of the problem relies not only on the physical manipulation itself, but more dramatically from the accompanying autonomic nervous system response to the manipulation. This nervous system response promotes lymphatic drainage, modulates blood flow to and from an area, and maintains appropriate nervous stimulation to the affected organs.

As aforementioned, 92 percent of the responding G/FP physicians utilize OMT in their practice, treating an average of 15 patients with OMT per week. Some physicians utilize some techniques more than others. For example, direct techniques were used on an average twice as often as indirect techniques. However, the indirect techniques of strain/counterstrain, myofascial release, and craniosacral, were used on the average of three to four times per week. These techniques represent a more subtle approach both to diagnosis and treatment. Some of these techniques were not even taught as part of the manipulative curriculum during the period the respondents attended TCOM, therefore some postgraduate level training is assumed to have taken place.

Respondents were asked to rate the adequacy of their OMT training at all levels. Regarding the training in

. . . continued on page 27

The Legacy of Robert C. Fulford, DO

by Richard W. Koss, DO, CSPOMM, Fort Worth, Texas

What can anyone say about the life and times of Robert C. Fulford, DO? Here is a man who in every sense of the term is an *Osteopath*. As far as I am concerned one of the "last of the osteopaths." He lived his beliefs, slept his beliefs, and agonized over them day and night. His mind was working all the time frequently waking up at three o'clock in the morning with the answers to the question or problem he was having. Doc was what A. T. Still himself implored, all his students to be a "free thinker." Like most other great minds he was scorned, chastised, called a quack, said he did his way of treatment because of his arthritis, by many of the osteopathic profession. Doc told me as well as others that many of his referrals in Cincinnati came from MDs and very few from DOs. His notoriety and fame came from the mentioning of him by Andrew Weil, MD in two of Dr. Weil's books (national best sellers). It was the mention of Dr. Fulford's brand of osteopathy that put the AAO, CA, and AOA "on the map," quadrupling the requests for osteopathic physicians similar to Dr. Fulford.

My sadness and grief are the loss of this great soul in our presence to teach us, to show us how to be an osteopath, to give us permission to be different, much as Drs. Still and Sutherland. Dr. Fulford received criticism for being different. I will miss watching him treat a patient. That was a site to behold, and the results frequently were beyond the comprehension of modern science and medicine. He seemed to be working at a level at which only a few are aware. He knew so much more in his 55 years of practice, that I felt I only scratched the surface of his knowledge.

It is hard to believe that I started studying with him only ten years ago taking my first percussion vibrator course in Kirksville. To say that he changed my life is an understatement. He awakened in me that deep desire to heal, to be of service, to love unconditionally. All these things were snuffed out in medical school, internship, early practice, and residency. He re-awakened in my the desire to explore human kind, spirituality, and the universe. He constantly implored us (in his own gentle way) to read, study, think for yourself, and not just parrot the teaching of others and to push the envelope of inquiry and not satisfy yourself with the traditional teachings of the "scientific research." He did not have much interest in those who wanted to be spoon-fed and at the same time was very patient with those who's questions were thought out, yet at times were repetitious.

Dr. Fulford was a private, humble man. To see him sauntering in the airport carrying his suitcase in his long coat and grey cap, one could only think of a kindly old grandfatherly figure on his way to visit someone. He did not like to speak in public gatherings, but when he did speak . . . the depth of his ideas at first seemed simple, then as one ponders, many doors seem to open into many far reaching concepts.

His love of children is unsurpassed. He could not refuse a child in need. He was still treating children in April of this year. Dr. Fulford always felt that the future of mankind lies in the health of its children. There has to be some people around to continue the improvement of man, especially in light of the difficulties, illnesses, and current state of today's society. I have seen Dr. Fulford worn out after a percussor course totally come alive, showing no sign of fatigue or age when the patient demonstration time came and a small child walked into the room. Frequently, fussy children would calm down and lie quietly as he worked on them for twenty minutes or so. The attending physician's comment was always, "that child would never lay that still for me"! There was always something tangibly magic in the way he would interact with an infant.

Dr. Fulford spent his entire life working with the life force, the energy field. He was a vitalist. There is a great body of knowledge outside of current mainstream literature that supports this concept. Dr. Fulford was a student of the vital forces in the human body since his days in medical school. Currently, more and more of the mainstream journals and scientific texts are proving the power and efficacy of working with the life force, energy, consciousness, breath, etc. As Doc stated at the Cranial Academy meeting in Chicago, June 1997, that unless "we start doing research in the energy field, the medics will take you over."

All of this hit me and ran through my mind the day I received the call of Dr. Fulford's passing. Yet, was it his time? He said so many times that he was very tired and wanted to go. But, he also said that these were exciting times, so much more to learn. Information is booming, proving things he had been doing thirty years ago. He said to me a few times, "If only I were twenty years younger." He looked forward to the coming age predicting in 1992 that big things will be happening at the turn of the century. I felt so sad and empty at the passing of this great soul.

On the following day, I got up at the usual time to exercise and meditate. I had a rough night, tossing and turning, crying at the loss of a dear friend, teacher, mentor, healer. The exercises that usually are so comforting just were not working. So, when these things happen, I go outside to the deck to watch the sunrise. I sit under a big tree in a chair and as frequently happens, I drift off into a meditative state, only to be suddenly aware that the neighborhood red squirrel was on a branch not more than five feet above me looking down, chastising me as squirrels do. Now, I have seen this squirrel many times. But, he gives all people a wide birth, never getting within 30 feet or so. At any sign of people, he takes off through the trees to the next

continued on page 22

The art of osteopathy

by Ann L. Wales, DO
AAO Yearbook, 1953

It is in the art of osteopathy that we see Dr. Still at his best, for he is eminently practical. This is the criterion of his endeavors; simply to relieve suffering humanity, not to promote or foster an abstract teaching. This represents not only truth for truth's sake but something far beyond, an application of truth in a most practical manner.

The art of osteopathy is simply a means to an end; herein is actualized the science of osteopathy. Without the art, the teachings of Dr. Still would be little better than a passing fancy or an abstraction. Still at the same time we should never overlook the fact that the very basis of osteopathy rests upon the etiologic concept; this constitutes the vision, the conviction, the living reality. To get the inner meaning of osteopathy the reader should realize that Dr. Still's discoveries are epoch-making; that the interpretation given to anatomy and physiology are fundamentally different from the usual medical teaching, still not at variance with the facts, as merely such, presented in the sciences that comprise the basis of medical education; and that these fundamental differences give a new value to the facts of medical knowledge. This is the idea we attempted to portray in the Science of Osteopathy.

The field of anatomy to most minds would be a closed book in so far as discovery of new facts is concerned. "Anatomy is anatomy," they would say, "practically what more can we know of the structure of the human body"? This is true to a large extent particularly from the conventional "structural" viewpoint. But, what a vast vista has been opened up in the field of applied anatomy! The body is not a machine in the sense that it is simply an assemblage of parts, far from it. It is the conditioning of these parts from within as a unified vital mechanism that renders the value of osteopathic knowledge so significant. In one sense, structure is basic to be sure, but in another it is the antipodes of the indwelling and organizing principle that makes the mechanism what it is. And the correct interpretation of this fundamental biologic truth constitutes the epoch-making discovery of Dr. Still.

To be taught one of the greatest lessons in handicraft we have but to refer to that wonderful century, the thirteenth. Here was a blending of science and art that has never been equaled. The key to it is not only a deep insight into nature and things spiritual but a full realization of how knowledge may be rendered truly practical and beautiful. And, environment is the master key. Centralization and organization are well and good, but there is always something else back of an institution that makes it truly great, and that is the environment created by its active workers. Even with the individual practitioner, his method and success is in no small part due to the environment he creates, for it represents not only his scientific concept and personality but his very art reflects his understanding of the work he attempts to actually do. This is the actualization of whatever greatness or merit he possesses. It is only a method or power taken by itself, but it is at least representative of someone's creative power plus that of his own individuality. Verily, the responsibility, in its inner meaning, of a teacher is tremendous. No one can deny that environment may mean either weal or woe to the student. It is just this environment that has most to do in the making of the osteopathic operator.

A number of years ago, Dr. Still said: ". . . for days, months, and years, many of them in which I have examined and criticized the normal and the abnormal position of all bones of the whole system. By this extensive study, I have formed in my head a perpetual image of every articulation in the framework of the human body." He does not claim perfection by any means, but progress and development have been gradual until he has reached the point where a distinct and comprehensive method of procedure has established an art that will be exceedingly difficult to equal. He is truly a master in his work.

Although the mechanical phases of the body have been studied for centuries, no one seemed to grasp the importance of this thought in applying it comprehensively as an art. The very science of surgery is applied mechanics, and no small part of physiology has a distinct physical basis, still the full mechanistic conception was not grasped. One would naturally think that so much that has been known of the bodily mechanism would have borne fruit in the clinical field. Still without doubt the actual sense experience was lacking; this →

experience gradually developed, is the key to the art of osteopathy.

The problem should always resolve itself into one of diagnosis and consequent indicated mechanical principle. The bondage of manipulative routinism is the direct opposite to skillful and precise methods. This is the essential point that Dr. Still has repeatedly emphasized. He writes, "An osteopath requires a mechanical brain. If he has not one, he had better quit because he will not comprehend the cause of disease." Tissue resistance in all its manifestations from simple detection of the static condition to appreciation and realization of the changing resistance or tension during the operative procedure includes a wide field. If ill health is a question of disorder of mechanics, as palpation and adjustment clearly reveal, the actualizing of this procedure, the one of mechanical order, constitutes no mean art. To develop it and carry forth the same after a scientific manner evidently represents a consideration of the innumerable factors that enter the problem. This extensive and comprehensive detail constitutes the art of osteopathy. Thus, it is seen that the art of osteopathy expresses a biologic value and interpretation distinctly different from that of drug practice.

Dr. Still has given us a new method, a new viewpoint and a new interpretation. Without any exaggeration, he stands in a similar relation to medicine as Copernicus does to the astronomy of Ptolemy. He has extended knowledge and given a new valuation. We may idealize him, but is not the magnificence and magnitude of his work fully worthy of it?

Dr. Still writes: "we must reason as architects, act as mechanics, work as builders and engineers and the results will be satisfactory in proportion to the thoroughness of our work. . .the living person is the engine nature the engineer, and you the master mechanic."

Gentleness and firmness reflect the skill of either the osteopathy, or surgeon; gouging, pushing, pulling, and severe kneading no matter of what region of the body, belongs to no part of osteopathic technique.

Osteopathic manipulation is the method whereby the adjustment principle is expressed or actualized. The problem is one of mechanical correction of the anatomical. This demands a precise diagnosis of the mechano-anatomical detail in evaluating the condition to be treated and a definite mechanical method of adjustment procedure. It requires considerable observation and experience. It is not a difficult thing to appreciate the philosophy, but it is a quite different world to put the idea into practice. It is the comprehensiveness of the idea to every detail of the bodily tissues that to the novice constitutes the stumbling block in actual practice. The human organism is by far the most complex and complicated that the mind has to deal with, and naturally to put this knowledge into practical effect with the sick and ailing demands ability and efficiency. To interpret the data of ill health and correctly evaluate the same, and then to utilized this knowledge in order to establish perfection of structure and function and not get lost in the maze of detail, comprises skillful osteopathic practices.

Vitality is an expression or function of the organism, a moving principle, and thus requires, upon broad biologic grounds, a proper adjustment of internal and external conditions and influences. Osteopathic anatomical adjustment is simply an expression of this postulate. This is the essence of osteopathy.

The future is full of promise. There is not a practitioner that by careful knowledge based upon the osteopathic principle and through the aid of diagnostic methods but that can do most meritorious work of a creative type in the treatment of disease.

The Legacy of Robert C. Fulford, DO continued from page 20

yard. Now this day, two days after Doc's passing, this normally timid squirrel was directly overhead wagging his tail, scolding me ...psst...psst... Then, he started eating a pear dropping the skin not more than two feet away from my head. I instantly knew that Doc is OK!! The story that Dr. Still tells that he had barely got the squirrel by the tail and it was up to us to get the rest of the squirrel out of the hole in the tree came to my mind. Here was the entire squirrel scolding me! All the anguish, loss, and grief were lifted. A great sense of peace and happiness came over me. . .

Then a colleague of mine reminded me of a section of Dr. Fulford's book: "There are numerous ways to find that spiritual side. But, first you need to develop a sense of your life's ultimate purpose. And, what is that purpose? . . I would guess my own purpose has been to develop my skills as a healer and an osteopath; perhaps that's why I was turned down by medical school, to help me get on the right track. How important is it for you to figure out your purpose? I don't know of anything more important. To feel genuine satisfaction at your life's end, you must try to leave something behind that has been truly beneficial for the general welfare of humankind." Robert C. Fulford, DO (*Dr. Fulford's Touch of Life*, pg. 164)

Dr. Fulford continues to be a presence and a force, still teaching even in his passing. I know now that he is at peace, getting the rest he so rightfully deserves, that his work is pronounced not only good, but *very good*!! His work has indeed been truly beneficial to all of mankind.

> We will miss you, Doc, but we will continue to learn. We will let you go . . . God has blessed you, and we are all the more blessed for having shared a few moments with you. Time to time, I hope you will check up on us (as Dr. Still said he would in his autobiography); guide us when we need help, and continue to help us answer those imponderable questions as to the mysteries of life and healing.
>
> Your loving student,
> Richard W. Koss, DO

An OMM rotation down under:

The tale of Dr. Andy Sclar, DO

by Dr. Melanie Cameron, B.App.Sc., (Osteopathy)

During November 1996, the author travelled to the United States to visit a geographically selected sample[1] of colleges of osteopathic medicine (COM). The purpose of this visit was twofold; primarily to collect data for a research degree in osteopathy, but also to forge ties with American COMs such that a student exchange program might be established. I am still working for my research degree, but student exchange has begun.

The third of April dawned a mild, sunny day in Melbourne. Andy Sclar (MS-IV: CCOM) emerged from customs tired yet enthusiastic, having slept very little but with the prospect of a new experience of osteopathic medicine before him.

Andy Sclar, by special arrangement between Victoria University and the CCOM, chose to spend his final MS-IV rotation in Australia. While on rotation, Andy was supervised by osteopathic staff at Victoria University, Melbourne, Australia.

The Osteopathic Medicine Unit at Victoria University boasts a well- equipped teaching clinic which is open to the Melbourne public, offering osteopathic manual therapy at very reasonable fees. Senior students, supervised by qualified, registered Australian and British osteopaths and medical doctors staff this clinic weekdays between 9:00 am and 7:00 pm.

Since Andy was an "almost DO," the Victoria University staff decided that he would gain the greatest benefit from spending as much time as possible in the teaching clinic. His weekly timetable also included classes in OMT, particularly articulatory technique and direct soft tissue technique, which do not feature prominently in the USA training of DOs.

Victoria University staff and students made Andy most welcome. Andy was entertained with visits to the beach, the Healsville Wildlife Sanctuary and country regions of Victoria. Dr. Sclar has video evidence to prove he met many unusual Aussies, including a wallaby, kangaroo, wombat and emu. Andy was exposed to such delicacies as Vegemite,[2] a meal in Melbourne's Chinatown and a great Australian barbecue.

Student exchange is a two-way street. Victoria University students learned a great deal from meeting an American colleague. I remember with fondness, a tutorial class with year two students, in which far more attention was paid to "Andy's way" of palpating cervical lymph nodes than my own. Such interaction produces broader-minded osteopaths.

Osteopathic students interested in completing a rotation in OMM in Australia should contact their clinical coordinator in the USA and then address inquires to the author at Victoria University.

References:

1. One COM on the west coast, four in the midwest, two central – south and two north; and two on the east coast.

2. A black, salty, yeast extract; usually spread thinly on hot buttered toast.

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1998

Annual Convocation

March 26-29, 1998

The Broadmoor Hotel, Colorado Springs, CO

"Remembered, Revisited, and Renewed"

Osteopathy as an Art and Science has been our legacy for over one hundred years. We have the wisdom of Andrew Taylor Still, MD, DO to thank for its discovery, a method of understanding and treating patients. He claimed osteopathy was always present yet not comprehended to such an extent beforehand. We also have those who came after Dr. Still for expanding upon the concept and keeping it alive and nurturing its growth, even during difficult times and situations. There is much which still needs to be discovered or rediscovered. The goal of this convocation is to evoke remembrance of that which has come before, revisit techniques, philosophy and principles and ultimately renew our skills, our spirits, thinking and, hopefully, our resolve to carry on the work. Convocation is also a time to renew relationships with those who are our colleagues, friends, and teachers. The process of passing on of knowledge and skill to those who will follow us preserves the continuity and refreshes our profession. You are invited to participate and contribute in all ways possible.

Dennis Dowling, DO, Program Chairperson

Program

Tuesday, March 24, 1998

8:00am- 5:00pm AAO Board of Trustee's Meeting

Wednesday, March 25, 1998

9:00am- 5:00pm AAO Board of Governor's Meeting
7:00pm- 9:00pm AAO Opening Reception with Exhibitors
9:00pm- 11:00pm Evening with the FAAOs - open to all

Thursday, March 26, 1998

7:30am- 4:00pm Registration Hours
8:00am- 4:00pm OD&TS (closed 11am-1pm)
9:00am- 3:30pm Exhibit Hours

AM Lectures

8:00am Anatomical and Histological Evidence of Somatic Dysfunction
Frank Willard, PhD

9:00am The History of Manipulation: Ancient times to 1874
John Jones, DO

9:45am Break with Exhibitors

10:15am Andrew Taylor Still in Print: what is the legacy?
Raymond J. Hruby, DO, FAAO

11:00am Nociception and the Persistence of Somatic Dysfunction
Richard L. Van Buskirk, DO

11:45am Adjourn for lunch

12:00pm Gavel Luncheon

PM Workshops:

1-3:00pm
- A1 Zink Techniques
  Gary Ostrow, DO, FAAO and Boyd Buser, DO
- B1 Muncey Techniques
  Joel D. Stein, DO
- C1 Osteopathic Rhythmic Resistive Technic
  Harold Magoun, Jr, DO, FAAO
- D1 Still Technique: Practical Application
  Richard L. Van Buskirk, DO

3-3:30pm Break with the Exhibitors

3:30-5:30pm
- A2 Zink Techniques
  Gary Ostrow, DO, FAAO
- B2 Muncey Techniques
  Joel D. Stein, DO
- C2 Osteopathic Rhythmic Resistive Technic
  Harold Magoun, Jr, DO, FAAO
- D2 Still Technique: Practical Application
  Richard L. Van BusKirk, DO

5:30pm- 7:00pm AAO Membership Meeting/Elections
8:00pm- 10:00pm Evening with the Stars

Friday, March 27, 1998

6:00am UAAO Fun Run
7:30am- 4:00pm Registration Hours
8:00am- 4:00pm OD&TS (closed 11am-1:00pm)
9:00am- 3:30pm Exhibit Hours

AM Lectures

8:00am The Anatomy of the Lymphatics
Frank Willard, PhD
9:00am The History and Development of Lymphatic Techniques
Hugh Ettlinger, DO
9:45am Break with Exhibitors
10:15am The History of Manipulation: 1874 to the present
John Hohner, DO
11:00am Cranial Biomechanics and the Progress of Knowledge Since Sutherland
Patrick Coughlin, PhD
12:00pm Adjourn for lunch

PM Workshops:

1-3:00pm
- A3 Seated and Standing Applications of HVLA
  Robert Kappler, DO, FAAO
- B3 Balanced Ligamentous Strain Technique
  Thomas Crow, DO
- C3 Lymphatic Techniques of the Whole Body
  Hugh Ettlinger, DO
- D3 The Integration of LVLA, LVHA, and HVLA in a Clinical Setting
  John M. Jones, DO
- E3 Education Committee Forum

3-3:30 pm Break with Exhibitors

3:30-5:30pm
- A4 Seated and Standing Applications of HVLA
  Robert Kappler, DO, FAAO
- B4 Balanced Ligamentous Strain Technique
  Thomas Crow, DO
- C4 Lymphatic Techniques of the Whole Body
  Hugh Ettlinger, DO
- D4 The Integration of LVLA, LVHA, and HVLA in a Clinical Setting
  John M. Jones, DO
- E4 Fellows Forum (FAAO/NUFA)

5:30pm- 7:30pm UAAO Auction (everyone welcome)

7:00pm- 8:30pm Alumni Receptions
7:00pm- 7:30pm Fellows (FAAO) Reception
7:30pm- 9:00pm Fellows (FAAO) Dinner

29 CME Credits for Main Program
3 CME Credits for Exhibits

Saturday, March 28, 1998

7:30am- 4:00pm Registration Hours
8:00am- 4:00pm OD&TS
9:00am- 12:00pm Exhibit Hours (UAAO tables only)

AM Lectures

8:00am Concepts of Somatic Dysfunction: then and now
Irvin Korr, PhD
8:45am The OMM Specialist: History and Ramifications
Anthony Chila, DO, FAAO
9:30am The History and Utilization of Orthotic Devices
Michael L. Kuchera, DO, FAAO
10:15am Break with exhibitors
10:45am Parallel and Distinctive:
Perspective from Three Years Later
Norman Gevitz, PhD
11:30am New Ideas Forum
12:15pm Lunch

PM Workshop

2:00pm - 5:00pm E5 Coding and Reimbursement
Osteopathic Medical Economics Committee

6:30pm- 7:30pm President's Reception
7:30pm-10:00pm President's Banquet

Sunday, March 29, 1998

(No registration or exhibits today)

AM Lectures

8:00am The Application of Osteopathy to Children
Jane Carreiro, DO
8:45am American Systems of Manual Medicine
Marvin Wieland, DC, DO
9:30am Break
10:00am Osteopaths in the Military
Todd Dombroski
10:45am Osteopathic Psychiatry
David Baron, DO
11:30am Women in Osteopathy
Melicien Tettambel, DO, FAAO
12:00pm Convocation Adjourned

WHO MAY ATTEND

Educational objectives for AAO are to provide programs aimed to improve understanding of philosophy and diagnostic and manipulative skills of DOs and individuals who possess credentials required for full licensure as physicians.

Case history: Low back pain with a radiating "electric shock"

by Claudia L. McCarty, DO, CSPOMM

Chief Complaint

Patient is a fifty-year-old female who presented with a chief complaint of low back pain with a radiating "electric shock" like sensation going into her anterior left leg. She also has similar symptoms going into her left arm. She has noted a twitch in the left side of her face and some facial drooping on the right.

History of chief complaint

Patient reports that the symptoms have been present off and on for about a year, but have been increasing in frequency of late. The electric sensations wake her up at night and her leg is becoming increasingly weak to the point that she sometimes has difficulty walking or standing. She is very frightened by the facial twitching. Patient denies any trauma.

Past Medical History

No serious illness.

Past Surgical History

Denies.

Family History

Osteoporosis: mother.

Allergies

Tetracycline (Hives).

Social History

Denies alcohol use, 30 pack-year of smoking, denies recreational drugs.

Physical Examination

BP-120/7O P-82 R-14 T-98.8

HEENT: Normocephalic, atraumatic. Right facial droop noted at corner of mouth. Flat right nasal fold.

EYES: PERRLA, EOM's intact, sclera non icteric. FUNDI: no AV nicking, no papilledema, no engorged vessels, no cotton wool spots. Nasal septum midline.

EARS: TM's intact, canals clear.

THROAT: No erythema, no injection. Glands normal. Thyroid not palpable. Trachea midline.

COR: Regular rate and rhythm, no murmur heard.

LUNGS: Clear to auscultation bilaterally, no rales, rhonchi or wheezing.

ABD: Soft, non tender, non distended, positive bowel sounds, no masses palpated.

EXT: No motor or sensory changes, no cyanosis, no clubbing, no edema.

NEURO: CN 5 and 7 weak on right. Left knee jerk hyper-reflexive.

OSTEO: CRI 7, Restriction of left occipital mastoid suture. OA E SR RL, C3 F SR RR, C7 E SL RL, T2 F SR RR. Positive paravertebral muscle spasms on left in CS, TS. Positive standing flexion test on right, positive seated flexion test on right. Negative spring test. Positive Jones tender points are found at left mid-pole sacrum and left piriformis. Unable to reproduce shock like symptoms.

Initial Assessment

This is a 50-year-old female patient with multiple neurological-type symptoms in addition to her osteopathic dysfunctions. Brain tumor, stroke, and TIA must be ruled out, although there is not usually an "electric like" radiculitis associated with them. She has craniosacral dysfunction, cervical dysfunction and multiple Jones tender point dysfunctions.

Treatment Plan

The initial approach to this patient was to order an MRI of the brain and discuss the patient with a neurologist. Since the symptoms had been present for a year, the likelihood of something acute was lessened. No infarct or demyelinating lesions were demonstrated on the MRI and so she was treated with manipulative therapy.

Treatment included myofascial, muscle energy, facilitated positional release, counterstrain and craniosacral release. Exercise regime included modified Williams routine and complete rest position. The patient tolerated the treatment well and returned in one week. At that time she reported less pain in the leg and fewer episodes of facial twitching during the preceding week, until she went to a casino and played the slots. The patient is left handed and had to reach across the machine and twist to pull the lever. Within several weeks the fascial twitching had stopped completely. After four weeks of treatment, the patient continued to experience the left leg pain with difficulty sleeping at night. It was noted at that time that the patient had driven to Maryland for four hours without stopping. At that time she was treated with myofascial, muscle energy, and high velocity/low amplitude techniques. The patient reported pain and symptom relief with the exercise regime. The patient returned several weeks after the high velocity/low amplitude treatment and reported that she had had no further symptoms or pain and had been able to sleep well. She was reevaluated three weeks later and being symptom free she was discharged from care.

Discussion

This interesting case presented some unusual problems in diagnosis and treatment. It was necessary to rule out neurological causes of her symptoms. While the symptoms had been present for sometime, they were increasing and indeed led her to seek treatment. The patient is a practicing psychologist and so the facial twitching was interfering with her work. Treatment with craniosacral manipulation relieved many of the facial symptoms quickly probably by freeing the cranial nerve exits to the face. When the low back radiculitis persisted the patient was given a very thorough lumbosacral high velocity treatment after having been prepared with myofascial and muscle energy to soften and relax the surrounding tissues. This seemed to have been the most efficacious way to relieve these remaining symptoms. The patient was able to get relief of symptoms that had been present for a year with just a few months of therapy. She is now a believer. ❐

OMT: Practice Use . . .

. . . continued from page 19

manipulative methods of treatment, 75 percent of respondents felt adequate time was given in medical school for training OMT. Of the same respondents, 67 percent felt too few hours were spent in OMT training at the intern level, and 56 percent felt too few hours were spent in OMT training at the resident level. For continuing education, 59 percent felt too few hours were spent in OMT training at the CME level.

Conclusion

The types of diagnoses for which OMT is utilized as reported by the responding G/FP physicians demonstrates a much wider spectrum of indication for OMT use than might be expected for those not "specializing" in osteopathic manipulative treatment. Given that the average responding G/FP physician had been in practice seven years at the time of this study, the use of OMT in practice, as shown by this study, may indicate a perceived effectiveness of OMT on the part of the physicians utilizing these treatment modalities. This study has revealed that OMT is being used by a majority of TCOM graduates prior to 1992, that the treatment methods being utilized are quite varied, and that the graduates have received some postgraduate training in OMT at some level.

Indeed, the widespread use of OMT by G/FP physicians and the dissatisfaction with postgraduate training in OMT identify a wide gap in manipulative training. Perhaps a further study should be done to find out the source of the dissatisfaction. This would be important because too many physicians are using OMT in their practice for the postgraduate training not to address more fully the manipulative training needs of interns, residents, and practicing physicians.

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Osteopathic manipulative treatment of Bell's palsy

by Robert F.Ulrich, MS-III, University of North Texas Health Sciences at Fort Worth/TCOM

Introduction

Bell's palsy is defined as paralysis or weakness of the muscles supplied by the facial nerve (CN VII) due to inflammation and swelling of the nerve within the facial canal. It is almost always unilateral, most common in people over the age of thirty, and affects approximately 1 in 65 people over the course of a lifetime. A diagnosis of Bell's palsy implies an idiopathic cause, but antecedent factors include exposure to cold or viruses, and head trauma. Associated diseases include the Ramsay Hunt syndrome, which is Bell's palsy along with vesicles in the external auditory canal or behind the auricle and is due to herpes zoster infection of the geniculate ganglion. Bilateral facial paralysis is highly unusual and should prompt a search for conditions such as Guillian-Barre syndrome or chronic meningitis.

Clinical Manifestations

Onset of Bell's palsy is fairly abrupt, occurring suddenly or over a few days with maximum weakness usually attained by 48 hours. Pain behind the ear may precede paralysis by a day or two. CN VII supplies all muscles of facial expression and this is manifested clinically by drooping of the corner of the mouth, flattening of skin creases and folds of the face and forehead, inability to close the eyelid on the affected side, and sagging of the lower lid which allows the punctum to fall away from the conjunctiva, resulting in tearing. The site of the lesion determines the clinical presentation, so it is necessary to focus on the anatomy of the facial nerve.

Anatomy

CN VII is primarily motor, supplying the muscles of facial expression and muscles of the scalp, auricle, buccinator, platysma, stapedius, stylohyoid, and the posterior belly of the digastric. It has a small sensory component (nervus intermedius) which conveys taste sensation from the anterior two-thirds of the tongue and cutaneous sensation from the anterior wall of the external auditory canal. It also supplies parasympathetic secretory stimulus to the submandibular, sublingual, and lacrimal glands. The facial nerve originates in the pons, where the motor nucleus is located. Upon leaving the pons it enters the internal auditory meatus with the acoustic nerve. It courses through the middle ear in the temporal bone where it gives off a small branch, the nerve to the stapedius, which performs a dampening function. The nerve exits the skull at the stylomastoid foramen, passes through the parotid gland and subdivides into five branches to provide the facial muscles.

If the lesion is at the stylomastoid foramen, only the muscles of facial expression are affected. If the lesion is in the middle ear portion, taste is lost over the ipsilateral anterior two-thirds of the tongue. If the nerve to the stapedius is interrupted, the patient experiences hyperacusis (painful sensitivity to loud sounds) and may experience unilateral ear pain. Lesions in the internal auditory meatus can also affect adjacent auditory and vestibular nerves causing deafness, tinnitus, or dizziness.

Case Presentation

The patient is a 39-year-old white female who initially presented to the core clinic in March 1997, with a chief complaint of chronic right ear pain which she described as a "deep ache." She also complained of a feeling in her right ear "like a broken speaker" approximately once a day, aggravated by noisy environment; and of right facial weakness with right eye irritation when she became tired. She stated that all these symptoms were residual from having Bell's palsy three years ago. At the onset of her disease, she visited her family doctor and was placed on NSAIDS with no relief of symptoms. She suffered from complete unilateral facial paralysis for three months, at which time she began to gradually improve. During this time she also suffered from chronic right ear pain and "crackling" in her ear which persisted until she visited the OMT clinic. Trauma history was significant

for being knocked unconscious by a baseball as a child without any evidence of skull fractures. She disclosed that she had studied martial arts for a couple of years with numerous falls. She also reported a bad middle-ear infection approximately 12 years ago which resolved with antibiotics. Physical examination at the time of her initial visit to the OMT clinic revealed a slight flattening of facial creases and folds. Palpation of her skull revealed absence of motion. She was diagnosed with sphenobasilar compression and treated with supine-indirect-inherent force at the sphenobasilar symphysis and condylar decompression with good response. Since that time she has visited the core clinic weekly and states that her ear problems have improved tremendously. She now gets the "broken speaker" sound and ear pain about once a week. The right side of her face still shows some evidence of crease flattening. On her most recent visit (April 30, 1997) she reported no ear pain or hearing problems over the previous week.

Treatment

Approximately 80 percent of cases recover completely over a period of weeks to months. Traditional therapy is primarily supportive and consists of keeping the affected eye patched and moistened to prevent corneal drying and abrasions. Medical treatment consists of starting Prednisone 80mg po qd for three days and tapering this by 20mg every three days. Steroid treatment should begin immediately – there is little benefit in using steroids after four days. One author reports using high-voltage electrical stimulation of the facial muscles with successful results.

There is a paucity of literature regarding osteopathic manipulative treatment for treatment of Bell's palsy, although much anecdotal evidence exists. Most documented evidence points to an etiology of trauma. The most common somatic dysfunctions reported are sphenobasilar compression and external fixation of the temporal bones. Trauma can easily disrupt the "rocker bearing" mechanism of the temporal jugular surface on the occipital jugular tubercle, which is in close approximation to the facial nerve. In addition, any shifts of the temporal bone can cause dural tension at the internal acoustic meatus. Irritation of nerve roots can result in histamine release, which causes peripheral vasodilation, fluid exudation, and continued irritation. Somatic dysfunction of the sphenoid, occiput, and temporal bones; and restriction of cervical and thoracic myofascial elements inhibit lymphatic drainage. The edema in the unyielding bony canal results in a pressure neuritis which manifests its symptoms depending on the location of the lesion as described earlier. Although there is no OMT mentioned for specifically treating Bell's palsy, it is implied that by restoring cranial motion, treating any fixed restrictions of cranial bones (particularly the temporals), and improving lymphatic drainage, the pressure on the facial nerve can be decreased or eliminated and allow the nerve to function properly.

Discussion

The origin of the Bell's palsy of the patient in this study was idiopathic, but likely secondary to the head trauma experienced as a child. Perhaps, the ear infection as a young adult contributed also. At the time she visited the OMM clinic her facial paralysis had largely resolved, but the ear pain and dysfunctional hearing continued to trouble her daily. Based upon these symptoms, it is almost certain that her CN VII was affected fairly high up in the facial canal. Head trauma can result in shifts in position of the occiput and temporal bone, resulting in dural tension, restriction of physiologic motion, and edema. In the limited space of the bony facial canal, this can lead to ischemia and eventually degeneration from compression. This is essentially an entrapment neuropathy. With the cranial treatment this patient received, physiologic motion was restored, tension was relieved from the nerve, and she has obtained complete relief of her symptoms. Bell's palsy is a fairly common condition, one that practicing physicians are likely to see often. As osteopathic physicians, cranial treatment is an important modality that can be used to provide relief to these patients, particularly when allopathic methods fail.

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News from the UAAO...

by Mindy Barratt, Chairperson
UAAO National Council

Greetings from the 1997-98 UAAO Council. My name is Mindy Barratt, the new UAAO Council Chairperson. I am excited and looking forward to a great and productive year!

As you know, the UAAO is the Undergraduate American Academy of Osteopathy. We are a component society of the AAO. Our purpose is to help osteopathic students acquire a better understanding of osteopathic principles, theories, and practices. This includes attaining a maximum proficiency in osteopathic structural diagnosis and manipulative treatment, and fostering a clear concept of the clinical application of osteopathy in health and disease.

Our annual meeting is at the AAO's Convocation. The next Convocation is being held at the beautiful Broadmoor Resort in Colorado Springs, CO on March 26-29. The students find it a wonderful experience. There are many opportunities to learn; from lectures and labs and the physicians are always willing to teach and guide the students. The students are grateful to those physicians. It is important for us to have role models in this revolutionary time in the osteopathic medical field.

The UAAO and SOMA have been working together on several projects this past year; one being the Vicki Dyson/ SOMA Scholarship Preceptor-ship program. This program was established to provide funding for students who are both UAAO and SOMA members and wish to do a rotation with a physician who does manipulation within their practice. There is one scholarship per school. If you are interested in being a preceptor for 3rd and 4th year students, please contact the AAO office or myself for the appropriate forms. We would welcome anyone and any field.

A second project is the Undergraduate Outreach Program. This is a presentation format for members of SOMA and UAAO to use at colleges and high schools. The presentation focuses on osteopathy with the intent of teaching the audience about the history, basic principles, accreditation, licensing, and variety of techniques used by various practitioners of Osteopathy. The purpose is to expose undergraduate students and others to osteopathy, whether it be for pursuing a medical career or choosing a practitioner.

The UAAO has, with the help of NUFA (National Undergraduate Fellows Association), put together a Part I National Board Review Book. The book is available through local UAAO chapters. The book was put together to facilitate studying for the OMM portion of the boards since at the time there was not a review book available.

The UAAO Council leaves it's door open at all times, so if you need more information please e-mail me at UAAOCHAIR@AOL.COM. I look forward to serving the UAAO this coming year. In the words of AT Still from *Philosophy of Osteopathy*, "Harmony only dwells where obstructions do not exist." ❐

Book Review

No prouder title can follow a human name

by Erik Austin, MS-I, Western Univeristy of Health Sciences/COMP

Sometime ago, I read the *Autobiography of A.T. Still*, which was originally published by Dr. Still in 1897 in Kirksville, MO. I read all 460 pages in two days, marvelling at the honesty of the writer and the fullness and importance of his life. Had I not experienced this historical work, I feel something would be missing from my own life.

Dr. Still's very first discovery of osteopathic principles came as a ten-year-old boy. Due to a terrible headache, he had to quit playing on the tree-swing in his yard. He lowered the homemade swing, laid a blanket on it, and used it as a sort of swinging pillow. The rocking motion, with his head and neck slightly uplifted from the ground, made him relaxed and he fell asleep for a short while. Upon waking, his headache was gone. About twenty years after his initial discovery, A.T. Still made some in-

terpretations: "I reasoned that I had somehow suspended the action of the occipital nerves and given harmony to arterial blood flow." This was the beginning of the science of osteopathy. Another forty years later, Dr. Still recollected in his autobiography that he had devoted his entire stay on earth "to obtain a more thorough knowledge of the workings of the machinery of life, to produce ease and health."

A. T. Still's autobiography chronicles the life of a dedicated pioneer physician in a turbulent world, from his early career as an allopathic (MD) on through his struggle to promote the new science of osteopathy in what was a very rugged frontier America. Dr. Still was castigated and reproached by many for opposing the teachings of his own father, also a physician. At many points in his life he inveighed against the social rigidity of his time and against medical treatments he referred to as "pills, purges, plasters, and poisons." He instead promoted new treatments which he demonstrated fulfilled the laws of nature and caused no harm, unlike the ill effects produced by the free use of the drugs of the day. Dr. Still promoted approaches which allowed the body's own natural compensatory and recuperative powers to operate, believing in the unity of the body and its capacity for self-healing. In short, Dr. Still's orientation was holistic and humanistic.

A.T. Still felt strongly that it is osteopathic medicine that should be "the lighthouse on which your eye must be continually fixed." He exhorted his followers to: "Live up to the great cause of osteopathy . . . Lift in sympathy and love the suffering brother from out of the depths of disease and drugs. Let your light so shine before men that the world will know you are an osteopath, pure and simple, and that no prouder title can follow a human name." There is something very rare about reading the words of A. T. Still himself, due to the profound depths of his belief in his new system of medicine and the forcefulness of his oratory.

We must learn the history well. For only through knowledge of our history can one obtain the complete osteopathic experience and a full appreciation of the determination and suffering of the founding fathers in bringing forth the vision of medical reformation. "With pen of truth dipped boldly in imagination's ruddy ink, I paint the picture as it came to me" (*A.T. Still, DO, 1897*). Only when the history is fully learned will we be able to teach our students well.

Note: *The Autobiography of A.T. Still* is available through the American Academy of Osteopathy, 317/879-1881.❐

The silver thread – The perennial aspect of osteopathic thought

by Zachary Comeaux, DO, CSPOMM, Laurelville, OH

In the exhilaration of anticipating beginning a new millennium, we most often preoccupy ourselves with our immediate accomplishments and our intentions for shaping the future. This is a good thing. Yet wise men have always noted that their achievements are possible with their vision from standing on the shoulders of those who went before.

The Osteopathic Certification Act, inclusion on the PRCP, inclusion of CPT osteopathic procedure codes, opening of new schools and the appearance of professional parity with the allopathic establishment seem to provide a secure future for us. Yet on the horizon we see two challenges to both patient and physician. One is the cultures frustration of finding an economic structure to deliver medical service. The fee for service era which persisted for centuries has been usurped by the banner of managed care. Now however, the managed care monolith is showing signs of sharing the frustration we realized all along.

To streamline practice and medical judgement, and contain cost, we overlay our judgement with controlled length of hospital stay, practice guidelines defining the standard of care, clinical pathways for more efficient. There is little room for reflection, thought, insight, discovery, or compassion. Essentially these are ways of limiting the amount or mode of care. The underpinnings of such a system is economic yet rests on a philosophy of science based in newtonian physics and the presupposition that all physiologic details are knowable with the current scientific method, enough time and enough money to feed schools and scientists and pharmaceutical houses.

The second challenge is the wave of interest in alternative medical approaches. Many in the field of subtle energy medicine, transpersonal →

medicine and spiritual healing champion the arrival of a new paradigm for understanding health, illness and medicine. These systems have begun to solidify as there is an accumulation of scientific data to challenge many of the scientific tenets previously held to be absolute. As a result phenomena such as remote psychic diagnosis, effective healing prayer, near death experiences become part of accepted medical lore and experience instead of quackery.

Osteopathy sees itself as distinctly different yet does not want to give up parity to claim strength as an alternative.

The quandary is not new.

Our esteemed founder, Dr. Still lived in an age of paradigm transition in medicine where the perennial contest between vitalism and materialism were, again, clashing as they had for two thousand years or more. In his day, the major power of allopathic medicine, enamored with the chemical or surgical approach to health care was at odds with several contenders. Magnetic healers, mesmerists and spiritualists were suggesting that other ways of viewing the human person other than an empiric material body had healing merit. Homeopathy contended that lesser quantities of drugs than those required for endothermic chemical reactions was the correct therapeutic approach. Eclectic medicine formalized the use of herbal remedies.

Still reviewed all the data and did not seek alliances. He demanded that the osteopath, "The explorer for truth must first declare his independence of all obligations or brotherhoods of any kind whatsoever. He must be free to think and reason. He must establish his observatory upon hills of his own... above the imaginary high planes of rulers, kings, professors of schools of all kinds and denominations."[1]

He was not recommending each of us be an ascetic hermit, yet rather that for the sake of intellectual honesty we trust our perceptions, deal with the data and the patient at hand, and intuit a solution. This should be the goal of real science yet Still saw the medicine of his day mired in a struggle for intellectual pride, economic gain, and political power. Sound familiar?

Still's cosmology and, therefore, his practice was centered on the conviction that the human person, including the body, was made by a Supreme Intelligence whose work was a marvel of perfection and that any system of treatment must seek to understand the creative pattern behind proper function. The secrets of effective healing and health could be discerned by careful, honest observation to discover the Mind of the Creator. Still defined the person as triune, "First there is the material body, second, the spiritual being; third a being of mind which is far superior to all vital motions and material forms, whose duty is to wisely manage this great engine of life."[2]

A. T. Still brought us a spark of insight and inspiration which has blossomed into a health care system which has soothed the wounds and ailments of a century plus of patients seeking our help. Yet in his Philosophy of Osteopathy he defines the osteopath not as a competent and effective technician, not as the possessor of the knowledge of the correct manipulative procedures but as the searcher for *truth*.

Only late in his writing and in hidden corners do we find descriptions of the Old Doctor's specific treatments. More typically we find descriptions of how to achieve effectiveness as in the quote by Carl Philip McConnell, DO, in his essay on *The Basis of Technique*. He quotes Still, "the student, before entering the clinic room, must be thoroughly acquainted with all that is meant by anatomy... and all the parts and principles." Dr. Still continues, "Once in the operating room they are in a place where printed books are known no more, forever. Your own native ability, with nature's books, are all that command respect in this field of labor. Here you lay aside the long words, and use your mind in deep and silent earnestness; drink deep from the eternal fountain of reason, penetrate the forests of that law whose beauties are life and death. To know all of a bone in its entirely would close both ends of an eternity."[3]

In other words, technique follows conscious awareness of the reality before us.

The silver thread of intellectual honesty, openness to observe and learn, compassionately sharing of whatever has been revealed to us for the service of the patient is our legacy. What is more, it is the key to the future of medicine.

A paradigm shift is inevitable. The question is, what forces will drive it. Although economic considerations are an important variable, efficacy of treatment is part of the secret of osteopathic success and its key place in the arena of health care reform. This must be based on our understanding of who we are as physician and patient.

Alternative or complementary medicine challenges the tenets of the allopathic medical establishment. International symposia deal with the reality and nature of the placebo effect, the efficacy of love in the healing relationship, the scientific case for prayer as a legitimate element of treatment. Yet, tenaciously funded osteopathic research is tied to finding anatomic and physiologic justification within the framework of conventional newtonian science.

If we look deeply into our own roots, we see a closer kinship to the energy paradigm. Key elements of our tradition notably the quality of freedom or restriction of motion when coupled with the concept of freedom to function (as in interrelationship of structure and function) carry us far into the new paradigm. Motion can be described as a system doing work.

Treatment approaches that are currently enamored with the catchword "energy" can benefit by asking what this energy is really all about. Energy is also the ability to do work, to move. Subtle energy medicine seems more sophisticated at discerning and treating restrictions of motion or energy on a variety of levels (including the spiritual, emotional and mental realm) until one recognizes the thread of subtle energy work in the osteopathic family.

HVLA, and articulatory, techniques deal with the body primarily from the gross mechanical point of view, congruent with classic biophysics. Counterstrain, muscle energy functional, focused oscillatory release, facilitated positional release, visceral, and myofascial release deal with more subtle freedom/restriction of motion dealing more directly with neurophysical organization. I would suggest that they manipulate mechanisms gently, below what Korr and Denslow would consider the reflex threshold of a facilitated segment.[4] By this means distorted proprioceptive mechanisms can be reset without autonomic or voluntary resistance to change. Yet further, Sutherland and followers as they refine their perceptions of the cranial rhythm acknowledge that they relate to a wisdom, a force, transcendent of the patient or physician. Upledger, with SomatoEmotional Release in refining this recognizes the reality of emotional trauma to restrict physical function, to leave palpable evidence as energy cysts and to be remediable to conscious intended manual communication. Further Still models such as Robert Fulford's Energetic Approach adapt the subtle palpatory skill to discern forces describable as the energetic body, congruent with the physical body which expresses physical, spiritual, emotional restrictions of respiratory motion which are amenable to intentional, empathic, manual release.[5]

All this brings us to a common ground with those looking for what Willis Harman calls an M-12 or M-3 metaphysics of science in which mind and matter have a more intimate interrelationship than passive matter and deductive logic – our current scientific mode.[6]

What should become clear is that each of these pieces of osteopathic insight have expanded the understanding of the nature of the person, the patient. Especially with these latter practitioners, they arise from the osteopathic tradition yet go beyond the previously understood concept of somatic dysfunction. They are the osteopathic way of keeping abreast of the expanded knowledge of the human person as in psychology/psychiatry Freud's concept of conversion reaction expanded to include Selye's concept of stress induced illness and more lately the power of prayer, love, and positive feelings have been noted to improve immune function, or as Dean Ornish suggests, remediate heart disease. Yet these thinkers follow the silver thread of Still's tenacity for observation of natural phenomenon, acceptance of the reality of their observations which enhance their ability to treat the whole person in a way that includes personal, manual intervention consistent with nature of the person.

The concept of somatic dysfunction is not eliminated, simply refined to the concept of personal dysfunction. Still claimed we were creatures of Body, Mind, and Spirit. We are finally catching up with him in being able to conceive of working on this level. Our concept of person has been broadened. We have much in common with those ushering in a new metaphysical paradigm.

We have all been schooled in the tales of Still's criticism of the medical methods of his day. A century later we are again in the midst of a maelstrom of conflicting, though complementary systems of thought. Allopathic medicine has survived; refined the concept of pharmacologic intervention while scientific understanding of cell receptor chemistry, immunology and genetics have expanded the horizons of this field of manipulation limited only by time and cost. Clinical osteopathy has survived evolving as a schizophrenic blend of classically applied structural manipulation techniques and anything else that works. I do not deny that very much of the scientific medicine of the last century has been a blessedly effective revelation. Yet, having achieved parity, we discover that what is lacking in this secularized age and the empiricization of science is a sense of an organized cosmology or philosophy which is open ended. But if we read Still deeply, follow the silver thread of reasoning, observation and discovery through his work and that of his disciples – that is us – we hold the key to an effective, affordable compassionate health delivery system. With this we face the new millennium and the challenges of those who say the only way to limit cost is to deny service and those who say that to heal we need to go outside the doctor's office. Onward!

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1997 AOA/AAO Convention

San Antonio, Texas
October 20, 22, 1997

Claudia L. McCarty, DO, AAO Program Chairperson

"Research 101"

Monday, October 20, 1997

8:00 am	AOA Opening Session - Keynote Speaker
9-11:00 am	Osteopathic Diagnosis & Treatment Service
9:00 am	Welcome: Claudia L. McCarty, DO Program Chairperson
9:15 am	Research in the Profession Howard Levine, DO
9:30 am	Opportunities for Osteopathic Physicians in Clinical Research David Baron, DO
10:30 am	Examples of Current Clinical Research Otitis Media Karen Steele, DO, FAAO
11:00 am	Examples of Current Clinical Research Carpal Tunnel Syndrome Anita Eisenhart, DO
11:30 am	Clinical Research Opportunities The Interface between Clinical and Basic Science Research
12:30 pm	Pharmaceutical Update and Exhibits
1:15 pm	Alumni Luncheons
2:30-5:00pm	Osteopathic Diagnosis & Treatment Service
2:30 pm	NOWPA Melicien Tettambel, DO, FAAO Stacey Bohlen, AOA Washington Office
3:00 pm	Workshop: Treatment of the Eustachian Tube with Osteopathic Manipulation Karen Steele, DO, FAAO
4:00 pm	Workshop: Treatment of Carpal Tunnel Syndrome with Osteopathic Manipulation Anita Eisenhart, DO
5:00 pm	Adjourn for the day

Tuesday, October 21, 1997

8:00 am	Tools: Research Instruments, Samples and Data Collection Michael Kuchera, DO, FAAO
9-11:00 am	Osteopathic Diagnosis & Treatment Service
9:00 am	How to Write a Research Proposal Lynn Miner, PhD
11:00 am	Pharmaceutical Update and Exhibits
12:00 pm	Lunch
1:00 pm	Workshop: Myofascial Release Judith O'Connell, DO, FAAO
2-5:00pm	Osteopathic Diagnosis & Treatment Service
2:30 pm	Workshop: Facilitated Positional Release Eileen DiGiovanna, DO, FAAO
4:00 pm	Workshop: Modification of OMM Techniques Charles Smutney, DO
5:00 pm	Adjourn for the day

Wednesday, October 22, 1997

8:00 am	Outcomes Research James Lipton, DO, FAAO
9-11:00 am	Osteopathic Diagnosis & Treatment Service
9:00 am	Research on an Emergency Room Schedule Theordore Geta, DO
10:00 am	Grant Opportunities inOsteopathy: Finding Dollars and Strategies for Getting Them Lynn Miner, PhD
11:00 am	Northup Memorial Lecture Edna Lay, DO, FAAO
12:00 pm	Lunch
1:00 pm	Workshop: How to Write an Outline and Develop a Protocol for Research Charles Smutney, DO David Yens, PhD
2-5:00 pm	Osteopathic Diagnosis & Treatment Service
3:00 pm	Workshop: Coding and Reimbursement Judith O'Connell, DO, FAAO
5:00 pm	Adjournment for AAO Program

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Thursday, January 15, 1998

5:00 pm	Registration Opens Reception
5:30 pm	Introduction to Course and Faculty
5:45 pm	History and Philosophy of Osteopathy
7:30 pm	Introduction to OMT
8:00 pm	Osteopathic Terminology, Palpatory Diagnostic Parameters, Barrier Concept
8:45 pm	Principles of HVLA Technique
9:15 pm	SUMMARY
9:30 pm	Adjourn

Friday, January 16, 1998

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

Saturday, January 17, 1998

7:00 am	Pathophysiologic Models
8:00 am	Thorax Diagnosis and Treatment
10:30 am	Small Group Discussion
10:45 am	Cervical Spine Diagnosis and Treatment
1:30 pm	Adjourn

Sunday, January 18, 1998

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

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