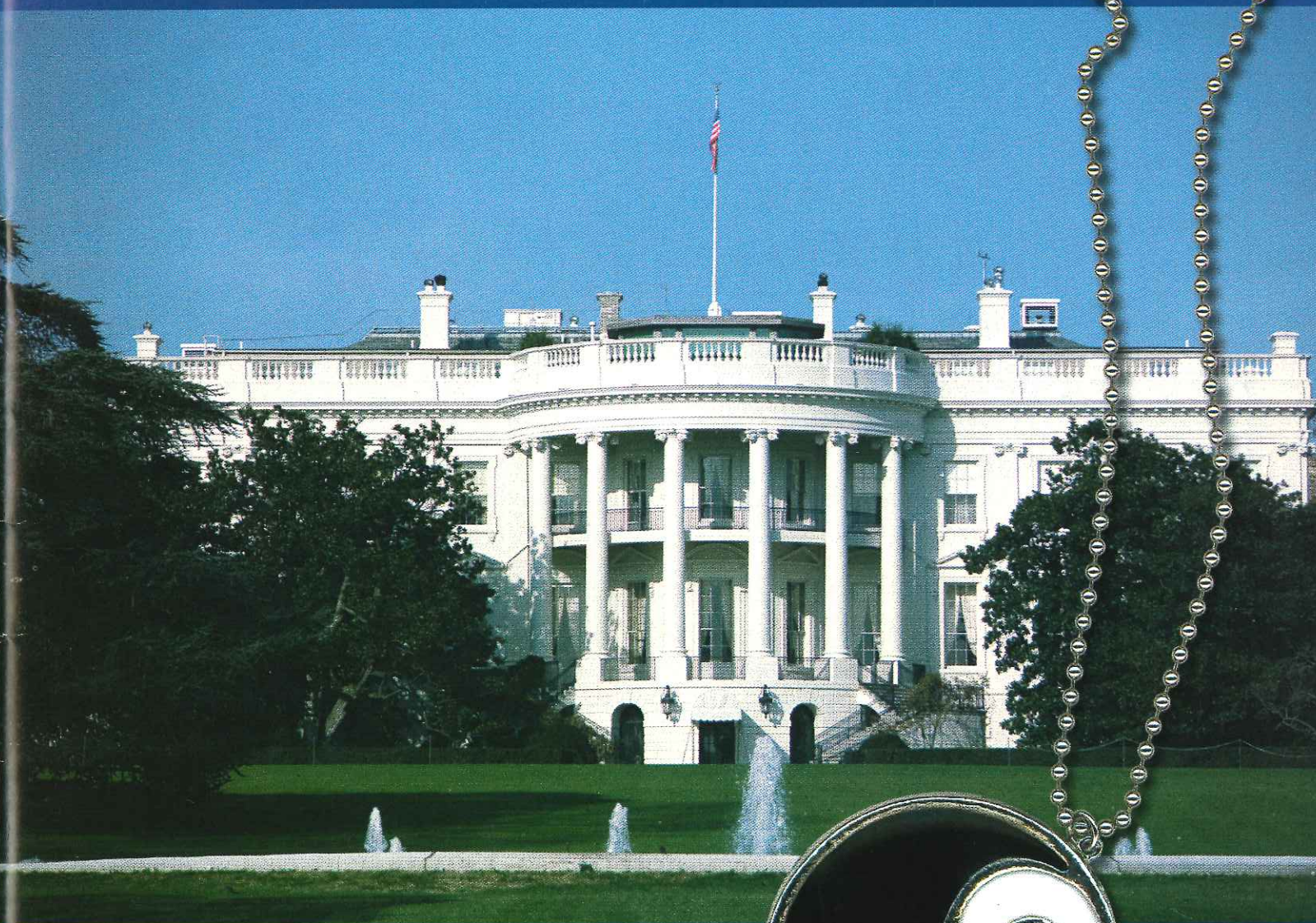


THE AAO JOURNAL



A Publication of the American Academy of Osteopathy

VOLUME 6 NUMBER 4 WINTER 1996



Conflicting visions

see page 9...



HARVARD MEDICAL SCHOOL

DEPARTMENT OF CONTINUING EDUCATION

and



**The Mind/Body Medical Institute,
Deaconess Hospital**

Present

Spirituality
Healing
IN MEDICINE-II

**Healthcare professionals are invited
to explore the relationship between
spirituality and healing in medicine
at a continuing medical education
course sponsored by Harvard
Medical School. Spirituality and
healing will be examined from the
perspective of major world religions.**

**The latest scientific evidence
supporting the effects of spirituality
on healing will be discussed.**

**Under the Direction of:
Herbert Benson, MD**

December 15 - 17, 1996

The Westin Hotel
Copley Place Boston
Boston, Massachusetts

March 15 - 17, 1997

The Westin Bonaventure
Hotel and Suites
Los Angeles, California

For course brochure or
additional information contact:

Professional Meeting Planners

Tel: (800) 378-6857

(617) 279-9887

Fax: (617) 279-9875

E-mail: PMPMeeting@aol.com

*The courses are supported in part
by an educational grant from the*

**JOHN TEMPLETON
FOUNDATION**

American Academy of Osteopathy

3500 DePauw Boulevard
Suite 1080
Indianapolis, IN 46268-1136
(317) 879-1881
FAX (317) 879-0563

1996-1997

BOARD OF TRUSTEES

President	Michael L. Kuchera, DO, FAAO
President Elect	Ann L. Habenicht, DO, FAAO
Immediate Past President	Boyd R. Buser, DO
Secretary-Treasurer	Anthony G. Chila, DO, FAAO
Trustee	Mark S. Cantieri, DO
Trustee	John C. Glover, DO
Trustee	John M. Jones, DO, III
Trustee	Judith A. O'Connell, DO, FAAO
Trustee	Karen M. Steele, DO, FAAO
Trustee	Melicien A. Tettambel, DO, FAAO
Executive Director	Stephen J. Noone, CAE

Editorial Staff

Editor-in-Chief	Raymond J. Hruby, DO, FAAO
Supervising Editor	Stephen J. Noone, CAE
Editorial Board	Barbara J. Briner, DO Anthony G. Chila, DO, FAAO James M. Norton, PhD Frank H. Willard, PhD
Managing Editor	Diana L. Finley

The AAO Journal is the official quarterly publication of the American Academy of Osteopathy (3500 DePauw Blvd., Suite 1080, Indianapolis, Indiana, 46268-1136). Third-class postage paid at Carmel, IN. Postmaster: Send address changes to American Academy of Osteopathy 3500 DePauw Blvd., Suite 1080, Indianapolis, IN., 46268-1136

The AAO Journal is not itself responsible for statements made by any contributor. Although all advertising is expected to conform to ethical medical standards, acceptance does not imply endorsement by this journal.

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

THE 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.

Feature:	Page
From the Editor	5
<i>by Raymond J. Hruby, DO, FAAO</i>	
Message from the President	6
<i>by Michael L. Kuchera, DO, FAAO</i>	
Message from the Executive Director	8
<i>by Stephen J. Noone, CAE</i>	
Conflicting visions (Thomas L. Northup Memorial Lecture)	9
<i>by Edward G. Stiles, DO, FAAO</i>	
Letter to A.T. Still	14
<i>by Raymond J. Hruby, DO, FAAO</i>	
Ethan R. Allen, DO named 1996 Educator of the Year	14
A challenge to the concept of craniosacral interaction	15
<i>by James M. Norton, PhD</i>	
Calendar of Events	16
In Memoriam: Wilbur V. Cole, DO, FAAO	21
From the archives	22
Pilot study to establish whether osteopathy reduces general practice consultation rate of musculoskeletal problems based on patient perception of effectiveness of the osteopathic treatment – Part II	23
<i>by Mary Banihasem, DO</i>	
Planning research on ambulatory care	35
<i>by Deborah M. Heath, DO and Albert F. Kelso, PhD</i>	
AAO Case History: Iatrogenic injury to the cranial mechanism	37
<i>by Richard W. Skurla, DO, CSPOMM</i>	
1996 AAO Journal Index	38

Advertising Rates for the AAO Journal

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

Call: The American Academy of Osteopathy
(317) 879-1881 for an Advertising Rate Card

Subscriptions: \$50.00 per year

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, MSU-COM, Dept. of Biomechanics, 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.

Permissions

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

References

1. References are required for all material derived from the work of others. Cite all references in numerical order in the text. If there are references used as general source material, but from which no specific information was taken, list them in alphabetical order following the numbered journals.
2. For journals, include the names of all authors, complete title of the article, name of the journal, volume number, date and inclusive page numbers. For books, include the name(s) of the editor(s), name and location of publisher and year of publication. Give page numbers for exact quotations.

Editorial Processing

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

From the Editor

by Raymond J. Hruby, DO, FAAO



Osteopathic medicine: Now is the time

When A. T. Still founded the profession of osteopathic medicine, many of the ideas that formed the principles of his system of therapeutics were not new. It was not new to use a hands-on approach to treat the patient. Nor was it new to recognize that the body had within it in the power to heal itself, or that there was a nutritive quality to the blood. It was also not new that air was essential to life.

But it WAS new to have a system of treatment that placed primary emphasis on the inherent repair processes of the body which maintain health. It was new to recognize that mechanical defects or derangements interfere with the normal functions of the body, and if persistent can cause disease.

This system of therapeutics, embraced by the osteopathic profession for over a century, is now being "discovered" by modern medicine. In spite of the great advances made in standard medical technology, other healthcare professions are finding that there are limits to what they can offer the patient. A more complete approach is needed. In their own way, these practitioners are finding their answers in the principles and philosophy we have practiced for so long.

For example, Andrew Weil, MD, author of *Spontaneous Healing*, recently gave a talk which I was privileged to attend. He is a strong supporter of osteopathic medicine and of osteopathic manipulation, and much of what he said reflected A. T. Still's principles. He spoke of the body's potential for self-healing, and of the amount of time he

has spent studying ways in which this self-healing power can be activated. He also talked about the body's need for proper nutrition, and for balance between mind, body and spirit.

Likewise, Depak Chopra, MD, the modern proponent of Ayurvedic medicine, has made similar comments regarding self-healing. In his book, *Quantum Healing*, he states: "The frustrating reality, as far as medical researchers are concerned, is that we already know that the living body is the best pharmacy ever devised. It produces diuretics, painkillers, tranquilizers, sleeping pills, antibiotic and indeed everything manufactured by the drug companies, but it makes them much, much better. The dosage is always right and given on time; side effects are minimal or nonexistent; and the directions for using the drug are included in the drug itself, as part of its built-in intelligence."

Didn't A. T. Still say this and much more? Did he not refer to the human body as "God's drug store"? Did he not say that osteopathy was "the law of mind, matter and motion"? He founded a whole system of diagnosis and treatment based on the fundamental principles of body unity self-healing and the interrelationship between structure and function. And all before any of these other folks were around!

The point of all this is that what was rejected in Still's time is now felt to be just what is needed for our healthcare system today and for the future. The general public and the medical-profession-at-large is searching for exactly

what the osteopathic profession already has. It is time for us to help them find what they are looking for and end their search. These other practitioners are beginning to believe that the osteopathic approach is the foundation upon which all physicians should practice, and they are asking us to teach them to be like us. It is time for us to take action. If this is the healthcare of the future, then we should make ourselves known to the world as the "keepers of the flame." Let us take the lead in this effort. Now is the time! □

ENCOURAGE
YOUR COLLEAGUES
TO BECOME
OMM CERTIFIED!
DATES TO REMEMBER

May 15, 1997
Application Deadline

July 15, 1997
Case History Deadline

November 15-16, 1997
AOBSPOMM Examinations

 **American
Academy of
Osteopathy**

3500 DePauw Blvd., Suite 1080,
Indianapolis, IN 46268-1136
Phone: (317) 879-1881 or FAX: (317) 879-0563

Message from the President

by Michael L. Kuchera, DO, FAAO



Distinctly growing – fulfilling professional needs

With the number of osteopathic physicians certified in osteopathic manipulative medicine (OMM) having increased by 177 percent since 1990, the field “clocks in” as the most rapidly expanding osteopathic specialty. These clinicians are role models additionally valued by the profession for their extensive contributions in furthering osteopathic research and education as well as billing and practice rights. While some of these DOs limit their practice to musculoskeletal conditions most OMM-certified specialists practice their art in a distinctly primary care setting. In fact, over 30 percent are dually certified in family practice and OMM.

What the profession needs

One of the most persuasive arguments for expanding the OMM-certified pool is its disproportionate contribution of expertise and effort in advancing osteopathic research and education. The profession needs the leadership and person power in these areas to continue to succeed and develop.

An OMM-certified specialist has been a member of 3/4 of the 78 AOA-funded clinical research projects conducted since 1985. In fact, 60 percent of all clinicians listed in AOA-funded projects are OMM certified. Of 37 physician-initiated research projects earning funding, 40 percent have OMM-certified primary investigators. In education, OMM-certified clinicians also stress research involvement. In the past 10

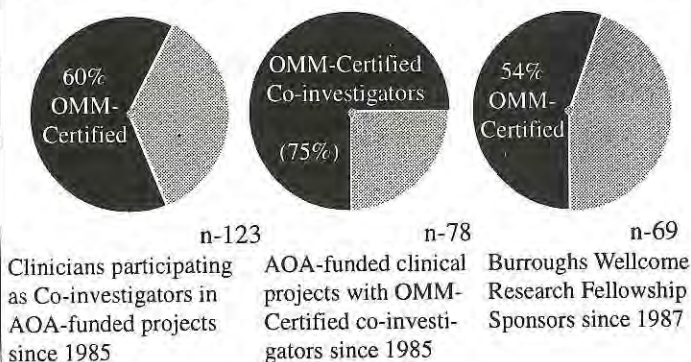
years, 54 percent of Burroughs Wellcome Research Fellowship sponsors have been OMM certified.

Education of distinctive osteopathic physicians is a major professional undertaking occupying the full attention of many OMM-certified practitioners. Most osteopathic colleges are actively seeking to hire more OMM-certified faculty. Furthermore, in one of their most visible and respected programs, NOF funds OMM-certified visiting clinicians (requested by all osteopathic colleges) as teaching role models. It is no small recognition of their educational contribution that four of the past eight NOF “Educators of the Year” have also been OMM-certified physicians.

Ongoing education throughout the profession integrating advances in distinctive philosophy and osteopathic manipulative treatment is also vital the profession. I recently surveyed 40 state conventions which collectively provided 900 hours of CME in 1993-94. They provided 155 hours of OPP-related CME; 92 of these hours taught hands-on OMT skills. Thus, the average state convention offered 22.5 hours of CME with 17 percent of those hours emphasizing uniquely osteopathic principles or practice. Almost all of these CME hours were delivered by OMM-certified clinicians and their involvement is a growing trend as specialty colleges embrace their own distinctiveness.

The demand for OMM-certified individuals outstrip the supply in the clinical as well educational arenas. The “vertically integrated seamless osteopathic curriculum” and proliferation of osteopathic postdoctoral training institutes (OPTIs) are predicted to increase this demand for OMM-certified practitioners, teachers and role models even further. Even outside the profession a textbook designed for guiding osteopathic and medical residents notes that OMM practitioners have more demand for patient care than can be supplied. OMM Recruiting, Inc., a wholly-owned subsidiary of the American Academy of Osteopathy specializing in placing OMM practitioners, received over 130 inquiries this past year. The average salary quoted by clients for these practitioners range from \$90,000 to \$180,000 annually.

Research Contributions of OMM-Certified Specialists



Routes to certification in OMM

American Osteopathic Association certification in OMM is available by passing oral, written and practical examinations administered by the American Osteopathic Board of Special Proficiency in Osteopathic Manipulative Medicine (AOBSPOMM). Candidates must be OMM residency-trained DOs and MDs, graduates of family practice/OMM or internal medicine/OMM combined residency programs, and nonresidency-trained AOA certified family practitioners with additional OMM training through the year 2005. Until the AOBSPOMM closes any grandfather clause, interested DOs with special expertise in OPP and OMT can also apply for certification. In 1980, the first OMM residency was opened. Originally it, like family practice, extended one year after an AOA-approved internship. In 1991, the residency was expanded by an additional postdoctoral year focusing on continuity of care in family practice, internal medicine, rheumatology, orthopedics, physical medicine/rehabilitative medicine, OB-Gyn and pediatrics.

In 1991, a "Residency Plus One" program allowed any AOA-approved residency trained physicians to add an additional postdoctoral OMM year to create dual eligibility for certification in both OMM and their primary specialty. In 1996, a pilot three-year residency program was authorized for a combined integrated family practice/OMM program which will lead to dual certification. A pathway for MDs to enter our OMM residencies was also created in 1996. This year the AOA additionally approved a "Plus One" program for nonresidency trained but AOA-certified family practitioners through 2005 after which time this option will be closed.

Actively striving to meet the demand of clinical role models, the AAO's Postdoctoral Standards and Evaluation Committee is meeting with other specialty colleges at their request to draft new integrative programs. At the time this article is going to press, COPT is considering approval of a combined integrative program leading to dual eligibility as specialists in OMM and internal medicine.

Summary

OPP and OMT are taught to all osteopathic undergraduates. Furthermore, surveys show significant increasing interest and participation in integration of OPP and OMT by primary care practitioners and specialists alike. Representing one-third of the existing profession, undergraduate and postdoctoral students offer the greatest potential contribution to this increasing trend. Nonetheless, the role of teaching, researching and writing about OPP and OMT has benefited significantly from the expanding cadre of OMM-certified specialists. They

seem much more ubiquitous than the one percent niche they numerically occupy in the osteopathic family because statistics show OMM-certified specialists are multiplying rapidly while contributing heavily in areas vital to leadership and professional growth.

Based on available educational, clinical and research data, "OMM"-certified appropriately designates the osteopathic clinician who behaves as an "Obvious Model and Motivator." Please consider adding *this* appellation to your inner C.V. regardless of whether or not you earn the AOA certification. □

Those interested in an osteopathic residency in OMM can make contact at the following osteopathic medical schools which offer these programs:

Chicago College of Osteopathic Medicine;

Kirksville College of Osteopathic Medicine;

Michigan State University College
of Osteopathic Medicine;

NOVA Southeastern College
of Osteopathic Medicine;

New York College of Osteopathic Medicine;

Ohio University College
of Osteopathic Medicine;

Pennsylvania College of Osteopathic Medicine;

University of North Texas Health Sciences/
Texas College of Osteopathic Medicine; and

University of New England College
of Osteopathic Medicine.

•••••

Allopathic physicians who are interested in fulfilling pre-requisites for enrollment in an OMM residency should contact Delann Jaynes at the Academy's headquarters for more information; (317) 879-1881.

Those who are seeking an OMM specialist to teach or to practice should contact Executive Vice President Deborah DiStasio at OMM Recruiting, Inc. at (317) 337-0786.

Message from the Executive Director

by Stephen J. Noone, CAE



Strategic plan serves the AAO well

The American Academy of Osteopathy is approaching the half-way mark of its Long Range Plan (LRP). Adopted by the Board of Governors in March 1992, the LRP identifies goals and objectives to guide the Academy through July 2000. The AAO Long Range Planning Committee will be meeting in February to review and revise this strategic plan and make recommendations to the Board of Governors in March. AAO members might want to review the plan and make their own evaluations on the AAO's progress in meeting its goals and objectives.

As the Academy's Executive Director, I have the privilege of working with the AAO leadership in implementing their strategic plan. I am pleased to share a few of my own observations on individual goals within the plan. If you have reactions and/or insights which you would like to communicate to the Academy's Long Range Planning Committee, I invite you to put your thoughts in writing and send them to AAO headquarters in care of Committee Chairperson Boyd Buser.

Mission

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.

Goals

1) *To develop, implement and evaluate a policy of fiscal management which will assure the financial stability of the Academy.*

The Board of Trustees outlined a fiscal management plan to balance the AAO budget by the 1997-1998 fiscal year. I reviewed the progress on this strategy in my column in the last issue of *The AAO Journal*.

2) *To establish the AAO as the pre-eminent, worldwide source of education on Osteopathy by the year 2000.*

The definition of "Osteopathy" in this goal parallels the Academy's Mission — "osteopathic principles, palpatory diagnosis and osteopathic manipulative treatment." The Academy has scheduled 23 continuing medical education programs in the 1996-1997 fiscal year (compared to three in 1991-1992 when the plan was adopted.) The goal also includes objectives which seek to improve and augment the Academy's publications, e.g. moving *The AAO Journal* to a juried quarterly. Working in conjunction with the American Osteopathic Association, the Academy's leadership is discussing worldwide osteopathic educational standards with representatives of many foreign countries. In fact, the AAO held the first International Forum as part of its 1996 Convocation.

3) *To develop, implement and evaluate a communications program which will*

increase the visibility of osteopathy within the health care professions and the public at large.

The leadership has consistently worked to position the Academy as a dynamic and responsive organization within the health care professions, including the osteopathic profession itself. The results illustrate some success in that the AOA and other practice affiliates routinely look to the Academy for leadership in osteopathic manipulative medicine. Contacts from other health care organizations indicate that these groups also recognize the leadership and valuable contributions of the Academy in both mainstream and alternative/complementary medicine. The Academy is listed in a growing variety of publications as a source of information on osteopathic manipulative medicine.

4) *To cooperate with agencies and institutions for the advocacy of osteopathic practice in health care policy and to ensure public access to osteopathic health care.*

Perhaps the most pressing area for the Academy's attention has been medical economics and its relationship to the utilization of osteopathic manipulative treatment in patient care. The AAO leadership has placed considerable resources into the development of educational materials to assist both individual members and osteopathic organizations in their efforts to advocate

continued on page 21

Conflicting visions

by Edward G. Stiles, DO, FAAO

Editor's Note: Edward G. Stiles, DO, FAAO, graduated from Kirksville College of Osteopathic Medicine in 1965. He interned at Waterville Osteopathic Hospital. Dr. Stiles has been certified in OMM since 1975 when he earned his Fellowship in the American Academy of Osteopathy. He has been an active member of the AAO and has served on the Academy's Board of Governors as well as various committees. Dr. Stiles developed the five-level coding system for manipulative therapy and reimbursement for Maine Medicare Intermediary. This since has become the nationally accepted system. He served on the ADA Liaison Committee – PSRO for the development of osteopathic criteria for hospital admissions during which he authored *Model Critical Screening for Professional Standards Review Organization*, published by the U.S. Department of Health, Education, and Welfare.

It is with a great sense of honor that I present this lecture today. In 1968, I assumed

the practice of Perrin T. Wilson, DO. Dr. Wilson served as president of this organization from 1938-46 and was a great admirer of Thomas L. Northup. Dr. Wilson related many stories about the early days of this organization as well as the conviction and dedication of "Dr. Tom" to osteopathic principles. Therefore, with this personal and historic background of this Academy, I am honored to have been selected to make this presentation.

Recently I read an interesting political book entitled "conflict of visions" by Dr. Thomas Sowell. The premise of the book is that our basic visions frequently dictate our actions. For example, have you ever noticed that in political debates the same people are usually on opposite sides of any given issue? It matters little what the topic might be; the people involved are usually on opposite sides. The debate can involve;

1. Individual vs. Government responsibility to prevent or solve problems

- 2. Big or small government solutions*
- 3. Tax incentives or government stimulation of job markets*
- 4. a large or small military and various weapons system*

The individual's vision of the human and its potential will determine on which side of the debate they will participate. This realization helps one to watch, with fascination, the current political campaigns and debates.

After reflecting on this vision concept, I came to realize how our vision, our mental structure or frame work, can dictate and often determine the outcome, or function, of our clinical practice. This is yet another application for the osteopathic principle of structure and function being inter-related.

My desire today is to briefly review the history of our academy and examine how its vision may have influenced our development and role today.

In the late thirties, many osteopathic physicians were unhappy with the direction being taken by the American Osteopathic Association. Several former AOA presidents, including Drs. Northup and Wilson, literally stormed into an AOA Board of Trustees' meeting and asked the trustees to alter the direction in which the profession was being taken. It was determined that a new organization should be established within the osteopathic profession. The newly formed organization, Osteopathic Therapeutic and Research Association was established in 1938 in Cincinnati, Ohio.

I find the name fascinating in relationship to vision. Does the name accurately reflect the vision of the founders? The definition of therapeutic is: that branch of medicine concerned with the remedial treatment of disease.

In the original general objectives and purpose statement we read, "osteopathic manipulative or adjustive therapy, properly and accurately applied, is the most important single factor in the therapeutic world." Therefore, this group or organization, believe that a Renaissance of these tenets is not only imperative, but should be definitely and immediately undertaken. In article 2, we read about the "treatment and cure of disease by manipulative or adjustive therapy." This represented the clinical model in which Wilson operated in his practice. Remember, few specific pharmacological agents were available at that time.

In the purpose section we read, "this organization is banding together those who are primarily interested in manipulative therapy" and it goes on to state, "to carefully guard the reputation

of the osteopathic profession." Contemplate the vision and burden this founder held. How did their vision effect the decisions and activities of this new organization?

Academy of Applied Osteopathy became the name of the organization in 1944. At that time in the profession's history, specialty colleges were developing and the expanding pharmacopoeia was being integrated into the college curriculums. Did the new name reflect these vision changes within the profession?

Now lets investigate the change in clinical vision, just during my 35-year career, in relation to our developing physiological understanding of osteopathic management.

I matriculated at the Kirksville College of Osteopathy and Surgery in

→

1961. We were taught the manipulative problem was a skeletal structure which was "out of place." The solution was to "pop it back in place," therefore, being viewed primarily as a mechanical problem. The diagnostic term to describe this clinical entity was "the osteopathic lesion." Look at the definition for lesion: an alteration, structural or functional, due to a disease. Thus the problem continued to be viewed as a disease process but at least the functional aspects were becoming appreciated.

Clinical experience has suggested to me this 'out of place' concept can victimize the patient as well as the physician. This diagnostic vision can encourage a mind-set of; when your back goes out you must come to me; you must avoid bending, twisting, etc. or your back will go out; you must do, whatever specific instructions are given, to avoid having your back go out. Let me illustrate this realization by relating a personal experience.

Several months ago, I had an interesting experience which challenged me to reflect on how our vision can influence both our perceptions of the patient's clinical problem and management outcome. I taught several courses at a large allopathic hospital in Tulsa, which is one of five McKenzie training centers in the United States. The McKenzie practitioners believe the problem producing spinal pain is a shifting of the nucleus pulposus but without causing a disruption of the annulus. During that visit, I examined several patients in their clinic. When the McKenzie therapist diagnosed the problem as a nucleus which had shifted posterior laterally to the right; I found on motion testing that the vertebra was maintained in a flexed, sidebent and rotated left position. When the McKenzie diagnosis was that of a nucleus which had shifted anteriorly laterally to the left; I found on motion testing the vertebra was held in an extended, sidebent and rotated right

position. Therefore, my functional diagnosis correlated with their view of the nuclear shift. But the similarity ended there. One of the patients had been experiencing low back pain for several weeks. The patient was told the nucleus had shifted posteriorly and laterally to the right. The practitioner felt this explained why the patient was unable to extend, sidebend and rotate to the right. After completing the McKenzie treatment, the patient was warned to avoid any activity that required forward bending. Also, the operator had difficulty altering the low back mechanics. At this point, I was asked to examine and provide any appropriate

*We were taught
the manipulative problem
was a skeletal structure
which was "out of place."
The solution was to
"pop it back in place,"
therefore, being viewed
primarily as a
mechanical problem.*

treatment for this poorly-responding patient. The area of greatest restriction, or key area, was in the thoracic and rib cage regions. Once these areas were effectively treated, much of the acuteness subsided because the improved rib cage mechanics encouraged venous and lymphatic circulation from the painful lowback region. I then utilized a muscle energy technique to correct the L5 FRS left dysfunction. Immediately the patient was able to extend, sidebend, and rotate to the right. The improvement amazed the patient. Repeated flexion movements by the patient did not reproduce the clinical problem. I explained how it was more normal for the mobilized segment to function normally than abnormally and that the vertebra had not been out

of place, but only restricted within the normal range of motion.

Thus, the clinical vision of the McKenzie practitioner limited her clinical understanding and outcome, as well as, her instructions to the patient. The new perspective encouraged the patient. The practitioner's vision underestimated the patient's clinical potential. The supervisor reports that the introduction of muscle energy techniques, into that institution, has markedly increased their clinical effectiveness. This vision change enabled them to better integrate the McKenzie and muscle energy principles for the benefit of the patients. This experience also altered their vision of the osteopathic contribution and potential.

New educational initiatives were introduced into the Academy in the late 1960's. Fred Mitchell, Sr., DO had attempted, without success, to teach his newly developed muscle energy principles. The lecture format of conventions proved ineffective for enabling physicians to learn this unique approach. Unless a different teaching format was utilized, several of Fred's colleagues convinced him that his work would not be appreciated or understood. Limited to six DOs, Fred agreed to teach a six-day course based on a tutorial format. It was a privilege to be included in that initial tutorial. My vision of the osteopathic potential took a quantum jump during that week. Also, my vision for a hospital-based osteopathic service began to develop during that tutorial; even though the opportunity to initiate such a service would not materialize for three more years.

During that tutorial, we were taught the manipulative problem was a restricted skeletal structure which was not out of place, but rather restricted within its normal range of motion. The problem was analogous to a door that was not off its hinges or out of place but unable to move through its potential

Conflicting visions . . . Edward G. Stiles, DO, FAAO

range of motion. It was restricted, opened or closed. He taught us techniques utilizing patient generated corrective forces as compared to operator thrusting forces that I had been taught at Kirksville and by Dr. Wilson. He explained how muscle energy techniques functionally reversed the origin and insertion of the utilized muscles. Fred taught us a specific diagnostic system correlating skeletal landmarks with motion testing. He then taught us specifically designed muscle energy techniques. He illustrated treatment strategies with case reports. He vigorously emphasized he did not utilize manipulation to treat disease but only to treat the patient who had a disease. I vividly remember Fred's response to the inquiry as to whether he utilized the "lymphatic pump" technique. His response changed my vision. He replied, "I usually do not use that technique." If, on the other hand, the operator assists the rib cage to properly function, then each breath of the patient will provide a lymphatic pumping effect. On the other hand, the benefits of the lymphatic pump technique will cease once the operator discontinues that procedure on a dysfunctional rib cage. Thus my vision of osteopathic management was changing. As the tutorial progressed, we observed amazing clinical changes during patient demonstrations. Fred further explained how these clinical outcomes were due to the fact that a muscle energy technique utilized several seconds of corrective activity, both mechanically and neurophysiologically, and, therefore, could generate tremendous work-related forces. My vision was, again, challenged and expanded.

As a result of that first tutorial, Fred became encouraged when he realized this small group of physicians was beginning to understand how to apply this new clinical approach.

With encouragement by the

Academy, Larry Jones also started teaching strain-counterstrain tutorials. Again, the outcome was an expansion of the understanding of the mechanisms and benefits of that unique osteopathic application for patient management.

Renewed interest in osteopathic manipulation was generated as a result of these new educational programs. I can illustrate this reality from personal experience. I attended my first Academy Conclave in 1970 at The Broadmoor in Colorado Springs. Academy officials were delighted because 35 osteopathic physicians attended that conference. I believe the subsequent increase in attendance at Academy Conclaves can be directly traced to our expanded educational vision and the impact it had on Academy members, as well as, the undergraduate students.

At about the same time, the first new osteopathic school was established. For the first time, an osteopathic school affiliates with a major university. Michigan State University-College of Osteopathic Medicine instituted these new educational concepts since they provided a diagnostic and management model to which the University's scientific community could relate.

Interestingly, as the educational and technique models were changing, a nomenclature change also occurred. This was the result of forces from both within and outside the profession. The term somatic dysfunction replaced the older term of osteopathic lesion. I would suggest that as our physiological, educational and clinical understanding matured, the vision of the musculoskeletal problem evolved and required the development of a new nomenclature.

Look at the definition of somatic dysfunction: an impairment or alteration of function of related components of the somatic (body framework) system. We had by now progressed from a vision of disease, remedial care, out of place, etc. to one of altered function that went

beyond the neurological model to include both vascular and lymphatic functions in addition to the neural elements. Another driving force for this nomenclature change came from outside the profession by the developing coding system (the ICD system). Cooperation between the osteopathic profession and the coding agency enabled the somatic dysfunction terminology to develop. Therefore, our expanding clinical vision was also reflected in this nomenclature change which encouraged better understanding with other health professions and related industries.

I believe the educational, conceptual and clinical advances altered the academy's vision and resulted in another name change for our organization in 1970. Our newly selected name was the American Academy of Osteopathy. The new name correlated better with the names of the various specialty colleges within the osteopathic profession. Also, the earned fellowship program was being proposed as a certification program to the American Osteopathic Association. The new name would encourage and strengthen this policy modification. Neurophysiological research, conducted outside our profession, expanded our understanding of the function and role of the muscle spindles, golgi tendon organs, pacinian receptors, mechanoreceptors and nociceptors in the 1970's. This body of knowledge gave our profession many explanatory tools and models. It helped us to better understand and explain the possible mechanisms involved in both the development and maintenance of somatic dysfunctions, as well as, the benefits realized with manipulative care.

Within our own profession, Korr and his multi-departmental research team enabled Academy members to better understand the neurophysiological concepts of neurological facilitation and neurotrophic axionic flow. This research group also expanded our understanding



concerning the uniqueness of the sympathetic nervous system. We came to appreciate the sympathetic system as the sole innervator of the musculoskeletal system, by its innervation of the muscle spindles, in addition to its vasomotor controlling function of the whole body. Our understanding of the neurophysiology of vasomotor control by the sympathetic system further expanded our understanding of the long-held A.T. Still concept of "the rule of the artery is supreme." Now we began to understand the neurophysiology involved in that foundational truth.

Korr further expanded our clinical understanding and applications related to the developing research data. His prolific writings expanded our vision concerning possible mechanisms involved in manipulative management. Korr wrote about the "neurological lens" that caused a physiological focus at the dysfunctional areas, but also magnified the clinical responses. He taught us to view the cord as an organizer of disease processes. He helped us to understand how the mechanisms of the sympathetic nervous system could potentially become common denominators in maintaining many disease processes.

One of the most clinically profound concepts stressed by Korr involved his discussions concerning the functional unity of the body. Korr stressed how the neuromusculoskeletal system represents that system in which we act out our unique human experience; thus he called it the primary Machinery of Life. As we increase the activity of the musculoskeletal system or primary machinery, there is a secondary increase of activity by the visceral systems in order to meet the increased metabolic demands being placed on the whole system. In this model, the viscera could then be viewed as the secondary Machinery of Life or "boiler works." If one component of the secondary machinery is unable meet this increase

of metabolic demands, that system might begin to fail. This expanded our understanding of the primacy of the musculoskeletal system in the economy of the body. This conceptual model also helps to better understand the beneficial role of physical exercise since it not only strengthens and tones the muscles of the primary machinery of the body but also results in an increase of visceral activity; which naturally can also be beneficial.

Therefore, our neurophysiological understanding expanded because of research conducted both within as well as outside our profession. Our clinical vision involving the mechanisms of somatic dysfunction and changes following manipulative care expanded and matured. The 70's were an exciting period for the clinical development of our osteopathic vision. During the 80's and 90's, our neurophysiological understanding expanded beyond the cord level to that of supraspinal modulation involved in somatic dysfunction. During that period our understanding of the role played by stress and limbic system expanded.

Since the sympathetic system innervates the muscle spindles, we came to understand the neurophysiology of the common phase that "stress gets you up tight." Activating the sympathetic system during stressful events, the spindles are stimulated and the response is an increase tone within the innervated muscles. Sympathetic hyperactivity may also cause a facilitation of the proprioceptors of the body, complicating the clinical picture, and assisting in either the production or maintenance of somatic dysfunction. Our vision of the complexity of somatic dysfunction continued to mature.

In addition, we were learning that the limbic system is the emotional brain, which acts as a switchboard allowing the emotions and feelings to be expressed in the musculoskeletal system. The limbic system also neurologically can impact on the hypothalamus, plus the

pituitary and endocrine organs, and therefore, the autonomic systems. Pain the limbic system can alter modulation. Some feel the limbic system is also the region that stores abusive and traumatic memories. This region is the area where we think appraising of new situation, as to whether they are safe or threatening, occurs. This realization helps us to understand why many patients seem unable to benefit from cognitive understanding of abusive events. Interestingly, many patients do improve once they begin to work through the emotions and feelings related to the traumatic life events. To Academy members, this insight may have profound implications. Let me illustrate this reality by discussing a challenging research study.

A group of highly respected orthopedic surgeons at the San Francisco Spine Center made an interesting observation. Eighty-six patients met their criteria of having either CT or MRI findings of surgically significant disc disruption and/or stenosis. The findings considered psychological factors. Unexpectedly, the surgical outcomes were very disappointing. After further analysis of their data and protocol, they discovered five risk factors that would predict the surgical outcomes. Interestingly, the five applicable risk factors to these adult patients were all related to their childhood home of origin. The risk factors were:

1. A history of substance abuse;
2. Abandonment and rejection;
3. Emotional abuse;
4. Physical abuse; and
5. Sexual abuse.

Patients experiencing three or more of these risk factors in their home of origin had an 85 percent surgical failure rate. Those experiencing two risk factors had a 26 percent surgical failure rate.

continued on page 31



**Osteopathic Manipulative Medicine Clinician
Ohio University - College of Osteopathic Medicine
Athens, Ohio**

The Ohio University College of Osteopathic Medicine is seeking a physician (D.O.) for a full-time, tenure track, clinical faculty position in osteopathic manipulative medicine. The successful candidate will have special interest and qualifications in the practice and teaching of osteopathic principles and manipulative medicine. The position is in the Department of Family Medicine, Section of Osteopathic Manipulative Medicine.

Qualifications: Graduate of an AOA-approved osteopathic college, satisfactory completion of an AOA-approved internship, Board eligible or Board certified in an AOA-approved residency program. Additional certification by the American Osteopathic Board of Special Proficiency in Osteopathic Manipulative Medicine is desirable. Ohio licensure or credentials allowing same. DEA licensure.

Responsibilities:

1. Teach courses assigned to the Department of Family Medicine with priority given to the teaching of osteopathic manipulative medicine.
2. Participate in the ongoing programs and program development of the Section of Osteopathic Manipulative Medicine including pre- and postdoctoral training, research, and other scholarly activities, as appropriate.
3. Maintain, demonstrate, and teach the clinical application of osteopathic principles and manipulative medicine in ambulatory and hospital-based practice.
4. See patients twelve (12) to sixteen (16) hours weekly in the Osteopathic Medical Centers.

Rank and Salary: Practice plan incentive salary plus base University salary at the Assistant/Associate/Full Professor rank commensurate with experience and credentials.

Benefits: Excellent fringe benefits. Research facilities available. Rural environment with cultural advantages of university town.

Information regarding this position may be obtained by calling Anthony G. Chila, D.O., F.A.A.O., Head, Section of Osteopathic Manipulative Medicine, at the following numbers: 614/593-2210 (office), or 614/593-8660 (home).

Application Deadline: Review of candidates will begin immediately upon receipt of applications and continue until a suitable candidate is identified. Formal letter of interest in position may be sent to:

William F. Duerfeldt, D.O., FAAFP
Chair, Department of Family Medicine
Grosvenor Hall
Ohio University College of Osteopathic Medicine
Athens, Ohio 45701-2979

OHIO UNIVERSITY IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER
High priority is placed on the creation of an environment supportive
of women, minorities, and persons with disabilities

Letter to A.T. Still

Dear Doctor Still,

I recently read (again) Chapter XV of your book *Philosophy of Osteopathy*. This chapter is entitled "Osteopathic Treatment," but I find that it contains much more information than is implied by the title. In one section you refer to the fact that this is the most important chapter of the book. And why? You tell us that it is "because at this point the engine of life is turned over to you as an engineer and by you it is expected to be wisely conducted on its journey."

When I look at it from this perspective the whole chapter reads like the advice you would give to a student just before he or she begins practice. There are so many important things said in this chapter that one must read it over and over in order to

absorb all the wisdom contained here.

For example, you give advice on the frequency of treatment needed for most patients: "To treat the spine, and thereby irritate the spinal cord oftener than once or twice a week will cause the vital assimilation to be perverted, and become the death-producing excreter, by producing the abortion of the living molecules of life, before full matured, while in the cellular system, which lies immediately under the lymphatics."

You also point out one of the unique aspects of osteopathic training: "Your osteopathic knowledge has surely taught you that with an intimate acquaintance with the nerve and blood supply, you can arrive at a knowledge of the hidden

cause of disease, and conduct your treatment to a successful termination. This is not by your knowledge of chemistry, but by the absolute knowledge of what is in man. What is normal, and what is abnormal, what is effect and how to find the cause."

I never cease to be amazed at the wisdom contained in your writings. In my opinion, if one would like a summary of all that is contained in osteopathic philosophy and principles, this chapter, in itself, would provide all the information one would need.

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



Ethan R. Allen, DO named 1996 Educator of the Year

Ethan R. Allen, DO, founding chair of the board of directors of the College of Osteopathic Medicine of the Pacific, now the Western University of Health Sciences (WUHS), and an active civic leader, has been named 1996 Educator of the Year by the National Osteopathic Foundation and the American Osteopathic Association. Dr. Allen accepted the award during a ceremony at the July AOA House of Delegates meeting in Nashville.

Dr. Allen was nominated by WUHS' Dr. Mitchell Kasovac in recognition of his contribution to osteopathic medicine and education, and to public health. The award is given annually to one outstanding educator in osteopathic medicine who exemplifies and encourages the principles of the profession. Dr. Allen is the 14th recipient of the NOF/AOA Educator of the Year Award.

Dr. Allen has been in private practice for 42 years, and since 1985 has been the sole owner of the Osteopathic Medical Clinic in Norwalk, CA. He is a member of the American Academy of Osteopathy, American College of Osteopathic Family Physicians, a Life Member of the AOA and a member of the Osteopathic Physicians and Surgeons of California. He was chair of the board of directors of the College of Osteopathic Medicine of the Pacific in 1978 and currently serves as treasurer of the board. He has been a member of the Osteopathic Progress Fund since 1982, a position he was elected to by the AOA House of Delegates.

He received the 1983 Physician of the Year Award from the Osteopathic Physicians and surgeons of California, an honorary PhD in 1982 from the College of Osteopathic Medicine of the Pacific, and a commendation from the Los Angeles

County Board of Supervisors for 20 years' service in its drug treatment program. Currently, he is president of the Los Angeles Centers for Alcohol & Drug Abuse, Recovery House, in Sante Fe Springs, CA. In 1984, he was appointed commissioner to the California Health Manpower Policy Commission.

He received a doctor of osteopathy degree from the College of Osteopathic Physicians and Surgeons in Des Moines.

Educator of the Year recipients are selected by one of the nation's colleges of osteopathic medicine (on a rotating basis), in conjunction with the NOF Osteopathic Progress Fund/Seals Committee, comprised of osteopathic physicians, osteopathic educators and AOA representatives.

Editors' Note: *This is the third consecutive year in which the NOF presented this award to an Academy member. Congratulations, Dr. Allen!*

A challenge to the concept of craniosacral interaction

by James M. Norton, PhD,
Department of Physiology
University of New England College of Osteopathic Medicine

Editor's Note: *James M. Norton, PhD, is Professor and Chairman of the Department of Physiology at the University of New England College of Osteopathic Medicine, 11 Hill's Beach Road, Biddeford, ME 04005. Address all correspondence and requests for reprints to Dr. Norton.*

This study was approved by the Institutional Review Board of the University of New England, and was supported by grant #9114-345 from the American Osteopathic Association.

Abstract

Current understanding of the primary respiratory mechanism includes the concept of a linkage between the movements of the cranium and the sacrum via the spinal dura. To test this model for craniosacral interaction, methods were developed to document and analyze the timing of cranial and sacral cycles in healthy human subjects. A dual-examiner protocol was utilized for a portion of this study, in which two examiners, one at the cranium and one at the sacrum, could simultaneously and independently document the cranial mechanism. A significant correlation was found between cranial and sacral cycle lengths documented separately by individual examiners, but pairs of examiners monitoring cranial and sacral cycle lengths of subjects simultaneously did not agree. These findings support predictions of the tissue pressure, or interactive, model for the cranial rhythm and do not support the concept of craniosacral interaction as described in the osteopathic literature.

Introduction

Rhythmicity within the neural, respiratory, cardiovascular, endocrine and other systems plays a major role in the maintenance of stable and appropriate conditions within the internal environment of the body. One such rhythm is the "cranial rhythmic impulse" (CRI)¹ or "primary respiratory mechanism,"² described as a rhythmic impulse arising within the cranium that is separate and distinct from any previously known pulsation and that is discernible on the external surface of the head with gentle palpation.² The movements of the cranium are thought to be linked with movements in the sacrum through mechanical forces transmitted through the spinal dura.² The resultant rhythmic activity of the sacrum is manifested by a slight rotation around a transverse axis slightly anterior to the second sacral segment.¹

A recently published model for the palpation of the cranial rhythm³ is based on the assumption that cardiovascular and respiratory rhythms and their contributions to soft tissue pressures of both subject and examiner are the primary determinants of the cranial rhythm as perceived during palpation. Experimental validation or refutation of this (or any other) model for the craniosacral rhythm requires data on frequency that are reproducible and accurate. Our laboratory developed an approach to studying the cranial mechanism of healthy human subjects that addresses these important issues,

and began a series of experiments designed to test the interactive tissue pressure model and to assess inter-examiner agreement in the palpation of the cranial mechanism.

Preliminary findings recently reported by our laboratory indicate that the occurrence of rhythmic cranial cycles can indeed be directly documented by examiners^{4,5,6,7} using an unobtrusive, examiner-operated knee switch. Mean frequencies for healthy human subjects were found to be in the range of 3-6 cycles/min and examiner experience did not seem to affect the ability to palpate the frequency of the cranial mechanism. These early results suggested that the cranial mechanism's cycles could indeed be reliably documented and that the basic timing of these cycles could be detected even by relatively inexperienced examiners.

If the cranial mechanism produces an independent and palpable physiological rhythm as has been suggested,⁸ then different examiners should be able to agree on the basic timing (cycle length and frequency) of the cranial rhythm in a given subject under a constant set of experimental conditions. Furthermore, if the linkage between cranial and sacral motion is real, then different examiners palpating the cranium and sacrum should document essentially the same frequency. In order to investigate this hypothesis, a dual-examiner palpation protocol was developed in which subjects were monitored by two examiners simultaneously, one at the



cranium and the other at the sacrum. This protocol was designed to investigate the presence of palpable craniosacral interaction, as well as provide an indication of the extent of inter-examiner agreement.

Materials and Methods

Subjects and examiners:

Subjects were students, faculty or staff at the College of Osteopathic Medicine of the University of New England. The 4 men and 5 women ranged in age from 22-28 years, claimed to be in good general health, and were not suffering from any acute or chronic illness at the time of their participation in the study. All subjects participated voluntarily in the study, gave their informed consent to cranial palpation only (no treatments were given), and received no compensation. All of the 6 examiners

were osteopathic physicians with extensive training and experience in cranial osteopathy.

General methods:

Silent switches activated by examiner knee pressure were attached to a leg and to the side of a fixed-height, wood-frame examining table. Examiners seated at the head of the table and at its side were asked to depress the switch at the beginning of the flexion (or inhalation) phase of the cranial mechanism and keep it depressed until the end of the flexion phase. For the cranium, the beginning of flexion was defined as the point at which the examiner felt a qualitative change in the direction of cranial movement toward "expansion"; the end of flexion was defined as the point at which the direction of movement reversed itself again. For the sacrum, the

definitions were similar and were related to the rocking motion of the sacrum during the cycle. If the cranial mechanism is viewed as a succession of flexion and extension movements, then this protocol allowed documentation of the duration of one phase of the cycle (flexion or inhalation) and of the entire cycle (from the beginning of one flexion to the beginning of the next). The knee-switches were designed to provide simple, basic information about the timing of the cranial mechanism and was not intended to describe more complex information such as amplitude or the presence of restrictions or torsions.

A permanent record of the flexion phases was obtained using a chart recorder (Physioscribe, Stoelting, 620 Wheat Lane, Wood Dale, IL 60191). Activation of the knee switch produced an upward deflection in a time/event channel corresponding to the flexion

CME Calendar

January 10-12

Annual Winter Convention
Massachusetts Osteopathic Society/Rhode Island Society of Osteopathic Physicians and Surgeons
Sturbridge Host Hotel
Sturbridge, MA
Contact: Northeast Osteopathic Consortium
(800) 982-7247

January 11-12

Entrapment Neuropathy
The Cranial Academy
Santa Monica, CA
Hours: 12 Category 1A
Contact: Patricia Crampton, Exec. Director
(317) 594-0411

January 31-February 2

Annual Ski-CME
New Hampshire Osteopathic Association
Loon Mountain
Lincoln, NH
Contact: Northeast Osteopathic Consortium
(800) 982-7247

February 13-17

Mid-Winter Basic Course
The Cranial Academy
Old Westbury, New York
Hours: 40 Category 1A
Contact: Patricia Crampton, Exec. Director
(317) 594-0411

February 19-23

36th Annual Convention & Scientific Exhibit
Osteopathic Physicians & Surgeons of Calif.
Hyatt Regency, San Francisco
Hours: 35-40 Category 1-A anticipated
Contact: OPSC
(916) 447-2004

May 9-12

100th Annual Convention
Indiana Association of Osteopathic Physicians & Surgeons
Radisson Plaza & Suite Hotel
Indianapolis, IN
Contact: IAOPS
(800) 942-0501 or (317) 926-3009

May 16-18

5th Annual Spring Seminar
Inn at Napa Valley, Napa
Hours: 20-22 Category 1-A anticipated
Contact: OPSC
(916) 447-2004

June 14-18

June Basic Course
The Cranial Academy
Chicago College of Osteopathic Medicine
Hours: 40 Category 1A
Contact: Patricia Crampton, Exec. Director
(317) 594-0411

June 19-22

Golden Anniversary Conference
The Cranial Academy
Hotel Inter-Continental
Chicago, IL
Contact: Patricia Crampton, Exec. Director
(317) 594-0411

phase of the craniosacral cycle. The paper speed used was 2 mm/sec in all measurement sessions; this speed was sufficient to allow direct measurements of flexion duration to the nearest 0.5 sec or estimates of flexion duration to the nearest 0.25 sec. Cycle lengths were routinely 15-20 sec in duration; measurement error was therefore in the range of 2.5 – 3.3 percent.

The basic data obtained for each measurement session using the protocol described above consisted of the duration of flexion (in seconds) and cranial cycle length (in seconds, from the beginning of one flexion to the beginning of the next) for 8-10 cycles. Cranial frequency (cycles/min) was calculated as 60 ÷ the mean cycle length in seconds. Calculated frequencies were validated by visually counting the number of flexions (or extensions) over a period of one minute on the permanent record.

For the dual examiner protocol, 6 examiners trained and experienced in craniosacral techniques were paired and asked to monitor the cranial mechanism of subjects simultaneously, with 1 examiner at the cranium and the other at the sacrum. The 2 examiners were asked not to speak or otherwise communicate with one another and were prevented from picking up audible or visual cues from one another by a combination of soft background music and a large hanging curtain separating the examiners at the level of the subject's chest. During a measurement session, simultaneous records of flexion determined at the 2 sites were obtained using the separate knee switches for each examiner. Following a 1-2 min rest, the examiners switched positions and the measurements were repeated. Four subjects were monitored at the cranium and sacrum by all 6 examiners, and 5

other subjects were monitored at the cranium and sacrum by 2 examiners. A complete summary of the experimental data, expressed as frequency (cycles/min) is shown in **Table 1**. The protocol used allowed comparisons between cranial and sacral cycle lengths determined on a subject by the same examiner within a short period of time, and between cranial and sacral lengths determined simultaneously on a subject by 2 examiners.

Statistical analysis:

Statistical analyses were performed using commercially available software (SigmaStat, Jandel Scientific, 65 Koch Road, Corte Madera, CA 94925). The tests utilized included one- and two-way analysis of variance, Pearson product moment correlation, Spearman rank order →

Table 1.
Dual-Examiner Data Summary for Cranial and Sacral Frequencies^{a,b}

EXAMINERS AND SITES	SUBJECTS								
	S1	S2	S3	S4	S5	S6	S7	S8	S9
E1 cranium	5.50	5.17	5.49	6.70		4.68	6.32	5.06	4.32
E2 sacrum	3.43	2.85	3.65	3.56		2.91	3.48	2.91	3.44
E1 sacrum	7.38	5.06	6.18	6.59		4.97	7.26	5.22	4.35
E2 cranium	3.35	2.86	4.44	3.90		2.96	3.79	3.57	3.35
E3 cranium						2.60	2.47	2.06	2.20
E4 sacrum						4.08	4.26	4.72	4.09
E3 sacrum						2.15	2.20	2.14	2.15
E4 cranium						4.06	6.13	5.53	4.61
E5 cranium					4.89	4.10	4.93	4.09	3.63
E6 sacrum					6.47	5.38	6.82	4.34	7.06
E5 sacrum					4.47	3.93	4.72	3.50	2.94
E6 cranium					5.58	5.23	7.35	4.78	5.71

a Frequencies are expressed as cycles/min and were calculated as 60 divided by the mean cycle length (in sec) determined for a subject by an examiner.

b Subjects are designated as S1-S8, and examiners and E1-E6. Examiner pairings were E1 and E2, E3 and E4, E5 and E6. Data are grouped by session, with examiners switching positions between the cranium and the sacrum.

continued on page 29

correlation, linear regression, StudentNewman-Keuls test for multiple comparisons, and Student's *t*-test. Sample size requirements for a power of 0.8, an α of 0.05, and a mean difference in cycle length of 1 sec were met for the statistical tests used in this study.

Results

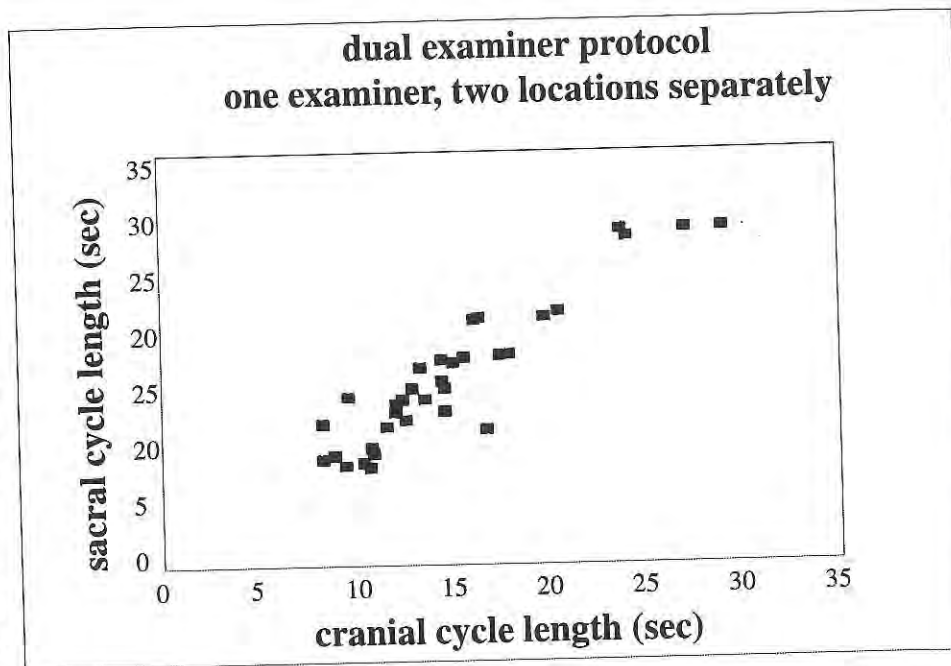
- A significant correlation was found between the cranial cycle lengths measured separately at the cranium and at the sacrum by the same examiner.

In the dual examiner protocol, the 2 examiners first palpated the cranial and sacral rhythms of a subject and then switched positions for a second set of measurements. Each examiner was therefore able to monitor the cranial mechanism of a subject at two separate sites, the cranium and the sacrum, within a very short period of time, usually less than 10 min. A highly significant correlation was found between cycle lengths (and therefore frequencies) documented separately by individual examiners at the cranium and at the sacrum of subjects, as shown in Figure 1 (top panel) and Table 2.

Concept

- Agreement among examiners with respect to cranial and sacral cycle lengths was low.

Although cranial and sacral cycle lengths of subjects determined separately by individual examiners are correlated with one another, inter-examiner agreement was low among the experienced examiners utilized in the dual-examiner protocol with respect to cycle lengths measured at the cranium or the sacrum. Two-way analysis of variance of the dual-examiner data revealed statistically significant degrees of variability in cranial cycle length attributable to both subjects ($F = 4.54$, $p = 0.003$, 7 degrees of freedom) and examiners ($F = 20.006$, $p < 0.001$, 5 degrees of freedom). These results indicate not only that the subjects differ



Scatter plots of data obtained during the dual-examiner experiments. Each point represents average values for cranial and sacral cycle lengths for a single measurement session. The upper panel compares cycle lengths from all subjects at the two locations documented separately by the same examiner; the lower panel compares cycle lengths documented by two different examiners simultaneously.

Table 2.
Correlation^a of Cranial and Sacral Cycle Lengths^b

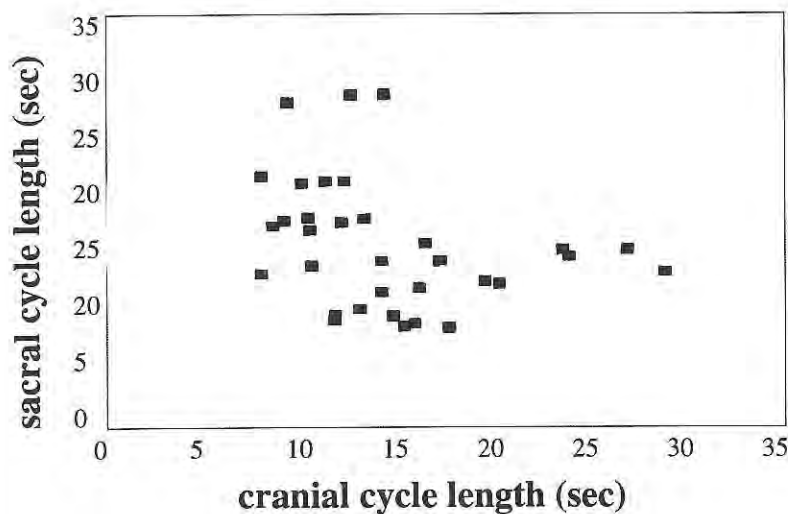
	sacral (A) ^c	cranial (B) ^c	sacral (B) ^c
cranial (A) ^c	0.926 <0.001 34	-0.275 0.115 34	-0.296 0.089 34
sacral (A) ^c			-0.318 0.067 34

^a The Pearson product moment correlation was utilized to produce this table; the data given for each comparison are the correlation coefficient, the P value, and the number of samples compared.

^b Data shown is from 34 measurement sessions utilizing the dual-examiner protocol as described in the text.

^c The comparisons made in this table are: cranial (A) to sacral (A), pairs of measurements made separately at the cranium and sacrum of a subject by the same examiner during a measurement session; cranial (A) to cranial (B), pairs of measurements made at the cranium of a subject by two different examiners during a measurement session; cranial (A) to sacral (B), pairs of measurements made simultaneously on a subject by two different examiners during a measurement session; sacral (A) to sacral (B), pairs of measurements made at the sacrum of a subject by two different examiners during a measurement session.

dual-examiner protocol two examiners simultaneously



from one another with respect to cranial cycle length but also that variability among the examiners in the documentation of cranial cycle length is greater than would be expected by chance even after accounting for the differences among the subjects.

When pairs of examiners document the cranial and sacral rhythms of a subject simultaneously, their findings do not agree.

In contrast to the highly significant correlation between the cranial and sacral-cycle lengths of a subject determined separately by the same examiner, no significant correlation could be demonstrated between the cranial and sacral-cycle lengths of a subject determined simultaneously by different examiners in the dual-examiner protocol (Figure 1, bottom panel, and Table 2). In addition, as also shown in Table 2, no statistically significant correlations were found between cycle lengths measured separately at the cranium or the sacrum of a subject by the two examiners during a session. Furthermore, no consistent temporal relationship could be established between the onset of flexion as documented by the 2 examiners on the chart record of the experiment. There was no visual evidence of a time delay or phase shift (suggesting a fluid or mechanical wave moving caudally) or

of one rhythm being a simple multiple or harmonic of the other.

Discussion

Our protocol required the examiners to document their subjective palpatory findings in a manner that produced a permanent record for subsequent analysis. Spoken words, nods of the head, or other gestures used to indicate palpatory findings might be heard or observed by subjects and other examiners, and would require the assistance of an assistant to record the signals. We wanted the permanent record to represent as accurately as possible the examiners' actual perceptions, and chose the knee switch as the vehicle for making the most direct link between examiner perception and permanent documentation.

The knee-switch method used to collect the data described in this report did not appear to interfere at all with the interaction between the examiners and the subjects. Subjects were usually completely unaware of the means by which the recordings were obtained. The slight movement of the examiner's leg required to depress the switch was nearly imperceptible to a person lying on the treatment table. When questioned informally after the measurement sessions were completed, new examiners admitted that it took several cycles to get used to the switch, but from

then on the experimental hardware and setup did not interfere with their ability to palpate the cranial mechanism of a subject. All examiners felt that the switch allowed them to record their palpatory findings directly and accurately.

Several control studies were performed to assess the ability of examiners to document the timing of cranial cycles using the knee switch. First, it was shown that examiners could use the knee switch to palpate and document accurately the timing of the inspiratory phase of the respiratory cycle, using subjects whose respirations were monitored and recorded using a pneumograph. Respiratory cycles were shorter than the cranial cycles observed in this study and, therefore, would theoretically have a larger measurement error using our system. Nevertheless, the correlation between respiratory cycle lengths recorded directly and those documented by an examiner was highly significant (Pearson's $r = 0.934$, $p < 0.001$).

In a second test of the measurement system, 1 examiner was asked to document the cranial cycles of 3 subjects by marking first flexion phases for 6-8 cycles and then extension phases for a similar number of cycles. Mean cycle lengths determined using the flexion and extension phases were 24.5 ± 4.5 sec and 25.2 ± 5.6 sec, respectively, with no significant difference between the 2 sets of measurements. Thus, regardless of the phase used by the examiner to document the timing of a subject's cranial mechanism, the mean cycle lengths (and therefore the frequencies) were the same.

Cranial cycles do not have to be regular in order for their timing to be documented accurately. Fourier analysis can be used to analyze signals with a varying periodicity,⁹ and this method can also be applied to time-domain signals that are square waves (periodic step functions) similar to the chart records produced in our protocol. In a third type of control experiment designed to assess



our protocol, the cranial mechanism of 1 subject was monitored by an experienced examiner for a period of more than 11 min, allowing documentation of 40 cycles with an average duration of 17.19 sec (corresponding to a frequency of 3.49 cycles/min). Fourier analysis of the record transcribed into a digital form (1 = flexion, 0 = no flexion) at 0.5 sec intervals (a total of 1,344 data points) produced a sharp peak in the frequency spectrum at 3.4 cycles/min. Such agreement supports the use of our knee-switch system to record digitally the timing of an analog process with the potential for varying periodicity.

The overall cycle length was chosen as the measurement for comparison because it was felt to be less sensitive to differences in examiner palpation skills than the duration of flexion alone. The underlying assumption was that differences in examiner skill or experience might affect the point in the cycle at which flexion is perceived to begin, but that this point would be essentially the same from cycle to cycle. Since the beginning and ending of flexion is sensed as a qualitative change in the direction of movement, documentation of the timing of a subject's cranial mechanism by the experienced examiners utilized in this study should not be grossly affected by variations in the base-line amplitude of the mechanism itself. All examiners so questioned stated that the cranial rhythms of the subjects used in this study were readily palpable and no different than those regularly encountered in their practice.

Although cycle length is not usually discussed formally or informally as an important feature of the cranial mechanism, it is directly related to frequency, considered to be an important characteristic. As described above, the data analyses in this report were performed on original cycle length data rather than on calculated frequencies, in order to enhance statistical validity. Since the time and frequency domains simply represent different ways to describe a rhythmic process, conclusions

drawn from cycle length can be readily applied to frequency and vice versa. In support of the findings presented here, two recent investigations of the cranial rhythm in which the methods for documenting frequency are clearly described have yielded average frequencies in the same range as those described above.¹⁰⁻¹¹

It is difficult for this author to reconcile the lack of inter-examiner agreement seen in this study with the existence of an independent, easily palpable physiological rhythm generated within the cranium of a subject and transmitted to the sacrum, since simultaneous measurements of cycle length obtained on a subject at the two locations by different examiners were not correlated at all (Table 2). Furthermore, the results seem much more consistent with a rhythm that is only perceived by an examiner to come from a subject but that actually arises somehow from the interaction between subject and examiner. This statement is supported by the fact that measurements of cycle length obtained separately at the cranium and sacrum of a subject by the same examiner were significantly correlated with one another, but the cranial (or sacral) cycle lengths of a subject determined by multiple examiners did not agree. These findings are consistent with the interactive tissue pressure model,³ according to which an examiner would be expected to perceive the same rhythm in the soft tissues of a subject regardless of the site of palpation. Different examiners would not be expected to perceive the same cranial rhythm on a given subject because the persons involved in the interaction are different and, therefore, the physiological rhythms combining to produce the palpated cranial rhythm would be different.

These data do not support the "membrane pulley model"¹ or "spinal reciprocal tension membrane"² hypotheses for craniosacral interaction, which would predict that movements or rhythms at the cranium would be causally and temporally related to

movements at the sacrum, with respect to both mean frequency and the point of onset of the flexion phase.^{12,13} We could demonstrate no significant correlation between cranial and sacral rhythms as palpated simultaneously by two examiners, either statistically or by visual inspection of the experimental records.

In conclusion, our results do not support the existence of a craniosacral rhythm that arises within a subject and that is capable of being consistently documented by experienced examiners. Several possible explanations of our data come to mind: 1) the cranial rhythm does not exist, as suggested in several recent publications on the subject;^{14,15} 2) inter-examiner reliability in cranial palpation, an essential prerequisite for any meaningful clinical trials of the efficacy of craniosacral therapy,¹⁶ is very poor; and 3) the perception of motion arises from some aspect(s) of the interaction between an examiner and a subject, in which case interexaminer agreement would be expected to be low and the ability of practitioners of craniosacral therapy to share accurate and objective information would therefore be limited.

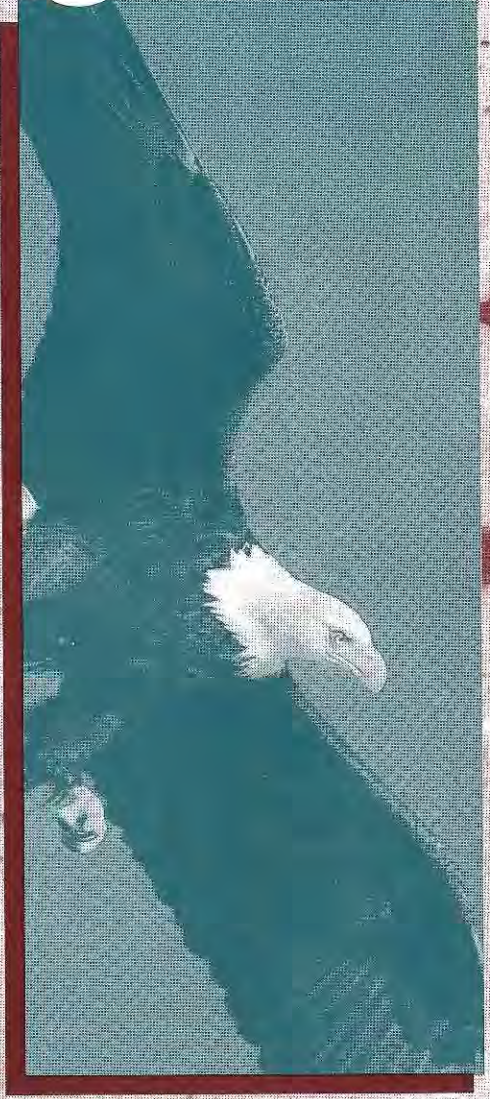
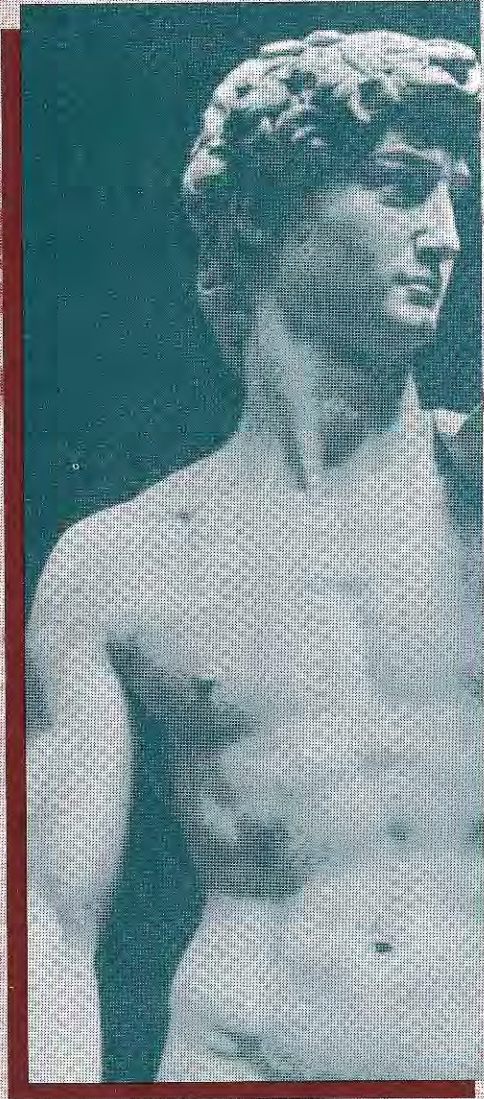
Craniosacral therapy continues to be practiced in various forms by physicians, physical therapists and others. Such widespread use of this modality demands further research to confirm the existence and nature of the cranial mechanism, to establish the reliability of information obtained during cranial palpation, to define the characteristics of a normal mechanism, and to generate criteria for determining the efficacy of craniosacral therapy.

Acknowledgements

The author would like to acknowledge the significant contributions to this study of Richard Broder-Oldach, DO, and Gretchen Sibley, DO, both students at the University of New England College of Osteopathic Medicine at the time the experiments were performed.

**The American Academy
of Osteopathy
presents**

BODY MIND & Spirit



1997 Annual Convocation

The Broadmoor Hotel
Colorado Springs, Colorado
March 19-22, 1997

Registration Invitation

1997 Co

BODY, MIND, & Spirit

March 19-22, 1997
The Broadmoor Hotel,
Colorado Springs, CO

Program Theme

Where does one factor end and a second or third begin? Actually, they all overlap, superimposed, if you will, in the same space. To affect one component is to affect the other two. The goal of this convocation is to expose Academy members to ways in which each of these three factors can be used to facilitate the healing process in the total human being.

John M. Jones, III, DO, Program Chairperson

Monday, March 17, 1997

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

Tuesday, March 18, 1997

9:00am- 5:00pm AAO Board of Governor's Meeting

7:00pm- 9:00pm AAO Opening Reception

8:30pm- 11:00pm Evening with the Stars I

Wednesday, March 19, 1997

7:30am- 4:00pm Registration Hours

7:30am- 4:00pm Exhibit Hours

AM Lectures

8:00 am Body, Mind and Spirt: Research
John M. Jones, III, DO

9:00 am Lower Extremities Anatomy
Patrick M. Coughlin, PhD

10:00am Break

10:30am Lower Extremities Problems/Manipulation
Michael L. Kuchera, DO, FAAO

11:30am Challenging Homeostasis: Treatment Down Under
Terence C. Vardy, DO

PM Workshops:

- | | | |
|-----------|----|---|
| 1-3:00 pm | A1 | Counterstrain
Edward K. Goering, DO |
| | B1 | Myofascial Release
Judith A. O'Connell, DO, FAAO |
| | C1 | HVLA
Joel D. Stein, DO |
| | D1 | Meditation/Autohypnotic Techniques
Jim Spira, PhD, MPH |
| | E1 | Techniques from Down Under
Terence C. Vardy, DO |
| 3-5:00 pm | A2 | Counterstrain
Edward K. Goering, DO |
| | B2 | Myofascial Release
Judith A. O'Connell, DO, FAAO |
| | C2 | HVLA
Joel D. Stein, DO |
| | D2 | Meditation/Autohypnotic Techniques
Jim Spira, PhD, MPH |
| | E2 | Techniques from Down Under
Terence C. Vardy, DO |

5:00pm- 7:00pm AAO Membership Meeting/Elections

8:00pm- 10:00pm Evening with the Stars II

Invocation Program

Thursday, March 20, 1997

6:00am UAAO Fun Run
7:30am- 4:00pm Registration Hours
7:30am- 4:00pm Exhibit Hours

AM Lectures

8:00 am Upper Extremities Anatomy
Frank H. Willard, PhD
9:00 am Upper Extremities Problems/Manipulation
Joel Stein, DO
10:00am Break
10:30am Triggerband Treatment
Stephen Typaldos, DO
11:30am Mental imagery/hypnosis
Jim Spira, PhD, MPH

PM Workshops:

1-3:00 pm F1 Techniques of Andrew Taylor Still
Richard L. Van Buskirk, DO
G1 Muscle Energy
Walter C. Ehrenfeuchter, DO, FAAO
H1 Triggerband Technique
Stephen Typaldos, DO
J1 Meditation/Autohypnotic Techniques
Jim Spira, PhD, MPH
K1 Extremity Techniques
Anthony G. Chila, DO, FAAO
L1 Education Committee Forum

3-5:00 pm F2 Techniques of Andrew Taylor Still
Richard L. Van Buskirk, DO
G2 Muscle Energy
Walter C. Ehrenfeuchter, DO, FAAO
H2 Triggerband Technique
Stephen Typaldos, DO
J2 Meditation/Autohypnotic Visualization
Jim Spira, PhD, MPH
K2 Extremity Techniques
Anthony G. Chila, DO, FAAO
M1 Fellows Forum (FAAO/NUFA)

5:00pm- 7:00pm UAAO Auction (everyone welcome)
6:00pm- 7:30pm Alumni Receptions

Friday, March 21, 1997

(no exhibit hours today)
7:30am- 4:00pm Registration Hours

AM Lectures

8:00 am Bodymind Connections
Frank H. Willard, PhD
9:00 am Biofeedback
9:45 am Attention Deficit Disorder/
Attention Deficit Hyperactivity Disorder
Mary Ann Block, DO
10:30 am Break
11:00 am Chronic Fatigue/Immune Deficiency Syndrome
Carlisle E. Holland, DO
11:45 am New Ideas Forum
12:30 pm Lunch

PM Workshop

2:00 pm N1 Coding and Reimbursement
Osteopathic Medical Economics Committee

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

Saturday, March 22, 1997

(No registration or exhibits today)

AM Lectures

8:00 am Meditation/Prayer in Medicine
Sister Anne Brooks, DO
9:00 am Differential Diagnosis: Musculoskeletal Problems
in Systemic Disorder
Jennifer Pallone, DO
9:45 am Break
10:15 am Nutritional Support in Musculoskeletal Disorders
Near Death Experience Research
11:15 am
12:00 am Lunch

PM Lectures

1:00 pm Afternoon with the AAO Fellows (everyone welcome)
Edward Stiles, DO, FAAO, Program Chair

CME Credits – Category 1-A

28 Hours – AAO Program
2 Hours – Friday Workshop
3 Hours – Exhibit Visitation

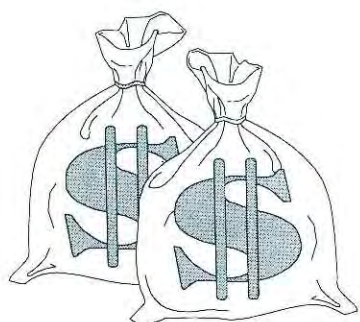
FYI

REGISTRATION AND PACKET DISTRIBUTION:

7:00 - 9:00 pm, Tuesday, March 18, 1997 at the "Opening Reception." Pre-register so that you may pick up your packet during the Tuesday evening reception. The registration hours for Wednesday, Thursday and Friday will be from 7:30 am until 4:00 pm.

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.

TRAVEL ARRANGEMENTS - The Academy has retained the services of Globally Yours (in association with Brookshire Travel Management) to handle our air fare arrangements. To take advantage of this service, contact Tina Halfman, 800-274-5975.



**Save Dollars ...
Register Early**

CLASSIFICATIONS AND REGISTRATION FEES

	AAO Members Before 02-18-97	Non-Members Before 02-18-97	AAO Members After 02-18-97	Non-Members After 02-18-97
Active	\$ 445	\$ 620	\$ 545	\$ 720
Associate	445	620	545	720
2nd Year	325	443	425	543
1st Year	265	324	365	424
Retired	265	324	365	424
Resident	210	228	310	328
Intern	210	228	310	328
Student	95	135	145	185
PhD	95	135	145	185

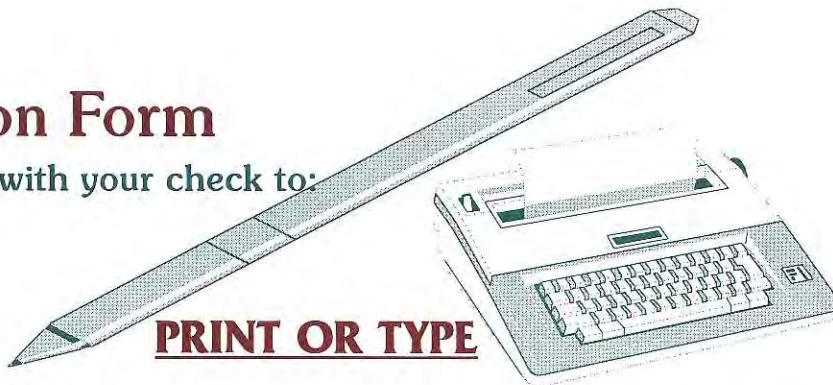
REFUND POLICY FOR AAO CONVOCATION

- ** All cancellations must be received in writing at least (4) weeks prior to the opening day of the educational program.
- ** An administrative fee of 15 percent of the total registration fee will be charged for all cancellations made prior to 2-18-97.
- ** No-shows and cancellations received after the cut-off date established above will receive no refund.
- ** Meal tickets included with the registration fee are not refundable. There is no discount for not wishing to attend food functions.

1997 Convocation Physician Registration Form

Please return this registration form with your check to:

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



Please complete ALL information requested.

Name _____
 Street _____
 City _____ State _____ Zip Code _____
 Telephone (Office) _____ (Home) _____ FAX _____
 AOA No. _____ College and Year Graduated _____
 Board Certification _____
 Spouse/Guest Name for Badge _____

I will participate in Evening with the Stars:
 You can count on me Tuesday _____ Wednesday _____

(AAO Member or AAO Non-Member and classification):
 AAO Member _____ AAO Non-Member _____

Active _____ 2nd Year _____ Resident _____
 Associate _____ Retired _____ Student _____
 1st Year _____ Intern _____ PhD _____

_____ Registration Fee (includes (1) Banquet Ticket) \$ _____

_____ Extra Banquet Tickets @ \$45.00 each \$ _____

Please specify your meal preference: Regular _____ Fish _____ Veg. _____

_____ Fellows Dinner Tickets (limited to FAAOs and specified guests)
 @ \$40.00 each \$ _____

_____ Gavel Club Luncheon (limited to AAO Past Presidents & Guests)
 @ 30.00 each \$ _____

_____ Tax Deductible Contribution to Subsidize Student Attendance at
 Convocation \$ _____

_____ UAAO Fun Run (\$25) \$ _____

Total Amount \$ _____

AAO accepts MasterCard or Visa (circle one)

My Credit Card Number is _____

Expiration Date is _____

Signature _____

or make check payable to: American Academy of Osteopathy

Workshops

Please select your workshop preferences;
 choose (1) in each category,
 keeping in mind that some workshops are duplicated.

Wednesday

- 1-3:00 pm
- A1 Counterstrain
 - B1 Myofascial Release
 - C1 HVLA
 - D1 Meditation/Autohypnotic Techniques
 - E1 Techniques from Down Under

- 3-5:00 pm
- A2 Counterstrain
 - B2 Myofascial Release
 - C2 HVLA
 - D2 Meditation/Autohypnotic Techniques
 - E2 Techniques from Down Under

Thursday

- 1-3:00 pm
- F1 Techniques of Andrew Taylor Still
 - G1 Muscle Energy
 - H1 Triggerband Technique
 - J1 Meditation/Autohypnotic Techniques
 - K1 Extremity Techniques
 - L1 Education Committee Forum

- 3-5:00 pm
- F2 Techniques of Andrew Taylor Still
 - G2 Muscle Energy
 - H2 Triggerband Technique
 - J2 Meditation/Autohypnotic Techniques
 - K2 Extremity Techniques
 - M1 Fellows Forum (FAAO/NUFA)

Friday

- 2:00 pm
- N1 Coding and Reimbursement

Welcome to the 1997 Annual Convocation of the American Academy of Osteopathy in Colorado Springs, Colorado

Transportation –

Travel to and from Colorado Springs is a breeze. Colorado Springs Airport boasts one of the nation's best on-time records, with more than 100 direct, major carrier flights arriving and departing each day via Chicago, Phoenix, Dallas-Fort Worth, St. Louis, Salt Lake City and other cities. The Broadmoor Hotel has a desk at the airport for shuttle transportation which runs \$20.00 round-trip. You may also make pick-up arrangements by calling The Broadmoor in advance at (719)634-7711. Planning to drive? Travel on Colorado's scenic highways is always a pleasure, with Interstate 25 providing direct north/south access between Denver and Pueblo.

A Proud Military and Space Heritage –

With one out of every five workers in the City employed by the military, Colorado Springs embodies a strong sense of patriotism and American pride. The city is home to Fort Carson, an army post of strategic and historic importance, as well as to the U.S. Air

Force Academy, Peterson Air Force Base, Falcon Air Station and the North American Air Defense Facility in Cheyenne Mountain. An important center of space technology and exploration, Colorado Springs is also home to the U.S. Space Foundation, a learning center and museum, and the Consolidated Space Operations Center, which tracks and communicates with satellites.

An Enjoyable and Temperate Climate –

The climate is always great in Colorado Springs and the Pikes Peak Region. The Rocky Mountains and the alpine desert environment are perfect for outdoor fun all year round!

A winter visit to Colorado Springs is guaranteed to delight you and your family. Carefully plowed and well-maintained roads make travel convenient and safe, and you may choose from a wide selection of winter-time activities. From ice skating and cross country skiing, to winter hikes through the snow, the fun never stops! The world's finest downhill skiing is just two hours away.

Colorado Springs Facts and Figures

Description:	2nd largest city in the state	Average yearly precipitation:	15.73 inches
Elevation:	6,035 feet above sea level	Average yearly humidity:	45 percent
Population:	281,140	Average yearly days of sunshine:	Over 250
Founded:	1871 – General William Jackson Palmer	Average yearly snowfall:	42.5 inches
County:	El Paso	Shopping Centers:	30
Square miles:	136	Hospitals:	4 Civilian and 2 Military
Climate:	Moderate temperatures throughout the year. Colorado Springs is protected from harsh weather by two natural barriers; The Rocky Mountains to the west and Monument Divide to the north. March Temperature: Average low, 24; Average high, 59	Golf Courses:	13 (4 public)
		Parks:	119 City and County Parks/ 6,488 acres
		Major area attractions:	Over 50
		Universities:	3
		Colleges:	12
		Major Industries:	Military, Tourism, Manufacturing, Space Technology, Computers & Electronics, Printing & Publishing

A Note to Physicians from UAAO

Dear Members and Friends of the AAO,

Amazing how it is already time to begin thinking about Convocation in Colorado Springs! We have an excellent program in the works for the Undergraduate members. This year's theme is taken from A. T. Still's quote, "The Grand Machinery of Life." UAAO will be holding its traditional events throughout the week. We would like to invite you to join us in as many activities as you wish (or can afford!).

Our most popular event, "Evening with the Stars" will, again, be held on Tuesday and Wednesday evenings. Please consider sharing your skills and experience with us on those nights. Students appreciate learning from such a diverse group of Osteopaths.

We will also be having the 5th Annual UAAO 3K/5K Fun Run-Walk on Thursday morning. I would like to encourage everyone to come out and join us for a little exercise. This is not just a running event - walkers are welcome too! If you are interested, please indicate so on your registration form. A light breakfast will be served afterwards.

On Thursday evening, UAAO will be having the Auction and Table Raffle Drawing. It will be in the early evening with a cash bar, refreshments and snack. There will be many items donated by the school chapters available to bid on. If you have any "Osteopathic items or services" to donate, contact the AAO office. Please come with your generous spirit and a free flowing wallet!

Some other activities of interest include the "A. Hollis Wolf Case Presentation Competition" and UAAO Keynote Lecture/Workshop, both held on Friday afternoon. This year's case competition will prove to be very exciting and competitive due to the new first place prize. The European Register of Osteopaths has generously donated an all expenses paid trip to Europe for eight days to the winner of the competition. Afterwards we have asked Dr. Hugh Ettlinger to lead a lecture and workshop on how to treat asthma patients, and how to approach and treat the patient with chest pain.

Lastly, I would like to say that the UAAO Council and all of the local chapters greatly appreciate your involvement in any of our events (see, we don't just want your money!). We have a lot of fun during the week, so please feel free to join us. We look forward to meeting you all in Colorado Springs.

Sincerely,

Carrie Carlson
Vice Chair, UAAO Council

American Academy of Osteopathy Undergraduate Program “Grand Machinery of Life”

Monday, March 17

11:00 am - 1:00 pm UAAO Council Meeting

Tuesday, March 18

8:00 am - 12:00 pm ****Business Meeting**** of Council and National Representatives to begin official business.
Open nominations for Council, and take applications for Regional Representative positions.

1:30 pm - 3:00 pm ******

Business Meeting** continues

4:00 pm - 6:00 pm

Display Setup in Exhibit Hall

6:00 pm - 7:00 pm

UAAO Informational Meeting (open to all members)

7:00 pm - 9:00 pm

AAO Opening Reception (pre-registration packets can be picked up at this time)

8:30 pm - 11:00 pm

Evening with the Stars I

(students are able to work with experienced DOs in a casual workshop setting)

Wednesday, March 19

12:00 pm - 2:00 pm ****Business Meeting**** Continue nominations

12:00 pm - 1:00 pm NUFA Working Lunch including Nominations for Officers

8:00 pm - 10:00 pm **Evening with the Stars II**

Thursday, March 20

6:00 am Fun Run

12:30 pm - 2:00 pm ****Business Meeting**** Close nominations, begin National Council Elections

3:00 pm - 5:00 pm Fellows Forum

5:00 pm - 7:00 pm UAAO Auction

9:00 pm Night out at “The Bee”

Friday, March 21

12:00 pm ****Business Meeting**** Finish Council Elections

12:00 pm - 1:00 pm NUFA Working Lunch and Elections

1:00 pm - 2:30 pm **Keynote Lecture/Workshop: Dr. Hugh Ettlinger, DO**

“OMT Approach to the Asthma Patient and the Patient with Chest Pain”

2:30 - 5:30 pm **A. Hollis Wolf Case Presentation Competition**

5:30 pm Finish Elections (if necessary)

6:30 pm - 7:30 pm AAO President’s Reception

7:30 pm - 10:00 pm AAO President’s Banquet

Presentation of Chapter Awards and A. Hollis Wolf Case Presentation Competition Winner

Saturday, March 30

6:30 am New and Old National Coordinators and Regional Representatives Meeting

7:00 am UAAO New and Old Council Breakfast Meeting

****National Representatives or someone standing in should be present at all business meetings and elections. Please note that any UAAO member is welcome to attend the business meetings and elections**

NOTE TO ALL STUDENTS

Edward Stiles, DO, FAAO, chairperson

for the “Afternoon with the AAO Fellows” would like to invite and encourage ALL students to attend the Saturday afternoon lecture session beginning at 1:00 pm.

1997 Convocation Student Registration Form

Avoid a Late Fee: Return this form no later than **February 28, 1997**

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

UAAO Student Attending-- Please **PRINT** or **TYPE** when completing **ALL** information requested

Name _____
 Street _____
 City _____ State _____ Zip Code _____
 Osteopathic College _____ Year of Graduation _____
 Acknowledged by _____
 (Dean or designated representative)

REGISTRATION FEE:

<u>AAO Member</u>		<u>AAO Non-Member</u>	
Before 2/18/97	\$95	Before 2/18/97	\$135
After 2/18/97	\$145	After 2/18/97	\$185
AMOUNT			\$ _____

BANQUET TICKET:

Before 2-18-97	\$25.00	
After 2-18-97	\$45.00	\$ _____

MEAL PREFERENCE:

Regular _____ Fish _____ Vegetarian _____

FUN RUN: (\$ 15.00) \$ _____

Deduct \$30.00 if you are bringing a treatment table) \$ _____

TOTAL AMOUNT \$ _____

Membership Classification:

1st Yr. _____ 2nd Yr. _____
 3rd Yr. _____ 4th Yr. _____
 Student Fellow _____

Workshops

Please select your workshop preferences;
 choose (1) in each category,
 keeping in mind that some workshops are duplicated.

Wednesday

- | | | |
|-----------|-----------------------------|------------------------------------|
| 1-3:00 pm | <input type="checkbox"/> A1 | Counterstrain |
| | <input type="checkbox"/> B1 | Myofascial Release |
| | <input type="checkbox"/> C1 | HVLA |
| | <input type="checkbox"/> D1 | Meditation/Autohypnotic Techniques |
| | <input type="checkbox"/> E1 | Techniques from Down Under |
| 3-5:00 pm | <input type="checkbox"/> A2 | Counterstrain |
| | <input type="checkbox"/> B2 | Myofascial Release |
| | <input type="checkbox"/> C2 | HVLA |
| | <input type="checkbox"/> D2 | Meditation/Autohypnotic Techniques |
| | <input type="checkbox"/> E2 | Techniques from Down Under |

Thursday

- | | | |
|-----------|-----------------------------|------------------------------------|
| 1-3:00 pm | <input type="checkbox"/> F1 | Techniques of Andrew Taylor Still |
| | <input type="checkbox"/> G1 | Muscle Energy |
| | <input type="checkbox"/> H1 | Triggerband Technique |
| | <input type="checkbox"/> J1 | Meditation/Autohypnotic Techniques |
| | <input type="checkbox"/> K1 | Extremity Techniques |
| | <input type="checkbox"/> L1 | Education Committee Forum |
| 3-5:00 pm | <input type="checkbox"/> F2 | Techniques of Andrew Taylor Still |
| | <input type="checkbox"/> G2 | Muscle Energy |
| | <input type="checkbox"/> H2 | Triggerband Technique |
| | <input type="checkbox"/> J2 | Meditation/Autohypnotic Techniques |
| | <input type="checkbox"/> K2 | Extremity Techniques |
| | <input type="checkbox"/> M1 | Fellows Forum (FAAO/NUFA) |

Friday

- | | | |
|---------|-----------------------------|--------------------------|
| 2:00 pm | <input type="checkbox"/> N1 | Coding and Reimbursement |
|---------|-----------------------------|--------------------------|

Registration Policy for Students:

ALL students must register through their UAAO chapter. All registration forms and fees must be submitted to the AAO 30 days prior to the meeting date. Registration fee does not include a banquet ticket. If a student wishes to purchase one, he/she must indicate his/her order on the registration form and include the payment along with the Convocation registration fees. **ONE CHECK WILL BE SUBMITTED FROM EACH SCHOOL FOR ALL STUDENTS ATTENDING FROM THAT SCHOOL.**

Please Lend Us Your Helping Hands

Osteopathic Diagnosis & Treatment Service

Dear Academy Members:

The Osteopathic Diagnosis & Treatment Service will be offered during Convocation from 8:00 - 11:00 am and 1:00 - 4:00 pm Wednesday, March 19 through Saturday, March 22. Your friends, colleagues and students will appreciate any time you can donate to this service. Please complete the form at the bottom of this page and return it to the Academy office at your earliest convenience.

Students and physicians may wish to observe your techniques. The decision to allow others to be present during treatments belongs to you and your patients.

As always, we thank you for your consideration and support.

With great appreciation,



Guy DeFeo, DO
Chairman, OD&TS

Hours	Wednesday	Thursday	Friday	Saturday
8:00- 9:00 am	_____	_____	_____	_____
9:00-10:00 am	_____	_____	_____	_____
10:00-11:00 am	_____	_____	_____	_____
1:00- 2:00 pm	_____	_____	_____	_____
2:00- 3:00 pm	_____	_____	_____	_____
3:00- 4:00 pm	_____	_____	_____	_____

Printed Name

Date

Hotel Reservation Form

American Academy of Osteopathy • 1997 Annual Convocation • March 19-22, 1997

THE BROADMOOR HOTEL
P.O. Box 1439
Colorado Springs, CO 80901-7711
(719) 634-7711

Arrival: _____ / _____
 Day Date

Depart: _____ / _____
 Day Date

Rooms are not available for check-in until 4 pm. Check-out time is noon. Sorry, no pets. A first night advance deposit is required. Please enclose a check or fill in the credit card information provided. Written confirmation will be sent to you upon receipt of this reservation. Advance deposit is refundable only if reservation is cancelled (7) days in advance.

Please be sure your reservation reaches the hotel by the cut-off date of February 18, 1997. Otherwise, accommodations will be on a space available basis only and higher rates may apply.

PLEASE TYPE OR PRINT LEGIBLY:

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime Phone: (____) _____

Sharing room with: _____ *

PLEASE RESERVE:

Main Complex:

_____ Standard Room	\$110.00	
_____ Deluxe Room	\$120.00	Extra-sized, w/wet bar or city view
_____ Superior Room	\$130.00	Mountain/Lake View
_____ Premier Room	\$140.00	City View/Mountain View

West Complex

_____ Deluxe Room	\$150.00	Mountain or Lake View with Balcony (higher floors)
_____ Superior	\$160.00	Extra-sized Mountain or Lake View
_____ Premiere	\$170.00	Extra-sized Mountain or Lake View (higher floors)
_____ Tower Suite, Mountain and/or Lake View		\$255.00
_____ Moor Suite, w/ wet bar		\$270.00
_____ Southlake Suite		\$310.00
_____ Patio Suite		\$425.00

ALL rates are based on single or double occupancy.

For your convenience, a daily charge of \$10.00 per room, single occupancy, and \$12.50 per room, double occupancy for the following services: Unlimited access to the Spa Fitness Center and fitness classes; daily gratuities for house-keeping personnel; valet parking; local phone calls; long distance and 800 access fee charges; all incoming faxes; in room coffee and tea; and daily newspaper delivery.

CREDIT CARD INFORMATION:

Credit Card Type: _____

Credit Card Number: _____

Expiration Date: _____

Cardholder Name: _____

Authorized Signature: _____

**Reservations can be mailed to,
 FAX to or called in to:**

The Broadmoor Hotel, Reservations Department
 P.O. Box 1439, Colorado Springs, CO 80901-7711
 FAX: (719) 577-5700
 Phone: (719) 634-7711

DON'T BE CONCERNED about getting the accommodations you required for the best possible rate! **DO NOT** wait to make your hotel reservation. **DO IT NOW!** The AAO cannot guarantee the lowest rate of \$110.00 after the room block for that rate has been filled.




STUDENTS ONLY

* To avoid duplication of reservations, please submit only one form when sharing accommodations with one or more individuals.

Sharing room with: _____
 _____ *
 _____ *
 _____ *

A block of rooms have been reserved for **STUDENT DOCTORS** (quadruple occupancy) at the rate of \$110.00 per night. **There are a limited number of rooms available.** Register early so you can take advantage of this special **4-to-a-room FOR STUDENTS ONLY** offer.



American Academy of Osteopathy

3500 DePauw Boulevard, Suite 1080
Indianapolis, Indiana 46268-1136
Phone: (317) 879-1881
Fax: (317) 879-0563

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

Make Hotel Reservations!

The Broadmoor Hotel, Reservations Department
P.O. Box 1439, Colorado Springs, CO 80901-7711
FAX: (719) 577-5700
Phone: (719) 634-7711

**Don't wait until the last minute,
AAO block of rooms is released
to the public
February 18, 1997**

.....

Reminder!

To qualify for the
Pre-registration fee,
mail registration form
prior to February 18, 1997

.....

References

1. Upledger JE, Vredevoogd JD; Craniosacral Therapy; Chicago; Eastland Press; 1983, p.6.
2. Magoun, HI; Osteopathy in the Cranial Field; The Journal Printing Company, 1976.
3. Kirksville; Norton JM; A tissue pressure model for the palpatory perception of the cranial rhythmic impulse; JAOA; 1991;91(10):975-994.
4. Norton JM, Sibley G, Broder-Oldach R; Quantification of the cranial rhythmic impulse in human subjects; JAOA; 1992;92(10):1285.
5. Sibley G, Norton JM, Broder-Oldach R; Inter-examiner agreement in the characterization of the cranial rhythmic impulse; JAOA; 1992; 92(10):1285.
6. Norton JM, Sibley G, Broder-Oldach R; Characterization of the cranial rhythmic impulse in healthy human adults; AAO Journal 1992;2(3):9-12, 26.
7. Norton, JM; Documentation of the cranial rhythmic impulse, STILL Alive; 1(1):January 1996. (an electronic journal, URL is <http://www.rsc.com/osteo/journal/stalive.htm>.)
8. Upledger JE; The reproducibility of craniosacral findings: a statistical analysis; JAOA; 1977; 76:890-899.
9. Noggle JH; QuickBasic programming for scientists and engineers; Ann Arbor, MI; CRC press; 1992; pp. 301-310.
10. Hanten, WP; personal communication.
11. Wirth-Pattullo, V. and KW Hayes; Interrater reliability of craniosacral rate measurements and their relationship with subjects' and examiners' heart and respiratory rate measurements; Physical Therapy; 1994; 74 (10) 908-920.
12. Lee RP; Primary and secondary respiration, Part II; AAO Journal; 1993; 3 (1) :17-19, 27.
13. Lee RP; A report to the statutory advisory committee on medical care: craniosacral manipulation; AAO Journal; 1991; 1 (1) :13-14.
14. Wirth-Pattullo, V.; Inter-examiner reliability of palpating the craniosacral motion in the clinical setting. Phys Ther 1993 73(6):S10.
15. Ferre JC, Barbin JY; The osteopathic cranial concept: fact or fiction?; Surg Radiol Anat; 1991; 13:165-170.
16. Johnston WL.; Inter-examiner reliability studies: spanning a gap in medical research; Louisa Burns Memorial Lecture; JAOA; 1982; 81:819-29.

continued from page 8
AAO Executive Director's Message

for consistent and appropriate reimbursement for osteopathic manipulative treatment.

5) *To develop, implement and evaluate a long range fund raising program to generate at least \$10 million to supplement the operations of the Academy.*

Last March, the AAO Board of Governors adopted the Academy's endowment program — **TRUST 2000: A Legacy for the Osteopathic Profession.** The AAO Finance Committee has accepted the challenge to implement this program successfully in the next four years. Have you seriously considered your personal participation in this endowment program? Now is the time to remember your "mentors" who gave you the gift of osteopathy! The Academy is determined to preserve the legacy of Osteopathy for the osteopathic practitioners of the future.

6) *To develop, implement and evaluate a program to promote ongoing research on the efficacy of Osteopathy.*

Since 1992, the combined efforts of the Louisa Burns Osteopathic Research Committee and the Education Committee have brought a new focus on research of osteopathic manipulative treatment. The LRP ambitiously calls for the publication of ten outcome studies on osteopathic manipulative medicine by the year 2000.

7) *To develop and implement an ongoing leadership process within the Academy.*

The AAO Board of Trustees and Governors are fully cognizant that the future of the Academy lies in their ability to cultivate members who demonstrate outstanding potential leadership abilities. The LRP works to identify strategies to ensure that leadership is open to all AAO members who have both the interest and the talent to make significant contributions to the Academy's future.

In Memoriam: Wilbur V. Cole, DO, FAAO

Wilbur V. Cole, DO, FAAO, 83, died on October 21 in Prospect Harbor, Maine. He is survived by his wife of 60 years, Julia, sons Dr. Wilbur V. Cole III, Dr. James W. Cole, daughter Dorothy Schultz, eight grandchildren, and four great-grandchildren. Memorial gifts may be made to the Wilbur V. Cole Scholarship Fund at the University of Health Sciences College of Osteopathic Medicine, 2195 Independence Avenue, Kansas City, MO 64124, or to the Prospect Harbor Methodist Church Building Fund, Prospect Harbor, ME 04669.

Dr. Cole earned his Doctor of Osteopathy degree from the Kirksville College of Osteopathic Medicine in 1943 and completed a three-year residency in neuropsychiatry. He joined the staff at the Kansas City College of Osteopathy in 1951 where he worked until his retirement in 1980 from the position of Dean and Chairman of the Department of Psychiatry and Neurology. He was an active member of the American Academy of Osteopathy and had earned fellowship in both the AAO and the American College of Neuropsychiatry.

In 1984-1985, the Academy dedicated its annual Yearbook to Dr. Cole entitled *The Cole Book of Papers Selected from the Writings and Lectures of Wilbur V. Cole, DO, FAAO.* He was a noted researcher who collaborated with Dr. Louisa Burns and served as the Chairman of the American Osteopathic Association's Bureau of Research. The following quote from the Forward of *The Cole Book* describes Dr. Cole's research contribution to the osteopathic profession:

"Dr. George W. Northup characterized Dr. Cole's contribution to osteopathic research as unique in that along with (Dr. Stedman) Denslow, he introduced modern research techniques and tools to the study and search for basic answers distinctive to osteopathic medicine. He validated some of the Louisa Burns' early experiments, and was creative in the development of methods to demonstrate cellular changes. More important, Dr. Northup states, Wilbur Cole was a research scientist who had a clinical viewpoint, which motivated his research activity by a quest to provide insights to questions, particularly as they related to somatic dysfunction."

From the archives

From Principles of Osteopathy

Leon E. Page, DO

The practice of osteopathy consists of various prophylactic, diagnostic and therapeutic measures designed to maintain or restore structural integrity and thus insure physiological function. The rational application of therapy requires a comprehensive knowledge of normal structure and function and familiarity with those structural and functional perversions which constitute disease.

The vast body of demonstrable facts which have been accumulated by observation and experiment through the centuries constitutes current scientific knowledge. Much of this information applies directly to the problems of therapy and is collectively known as basic medical science. It deals with various aspects of the human body—its structure, development, functions, reaction to environment and causes and physical manifestations of disease. The scope of basic medical science is constantly enlarging, and daily additions are being contributed to this vast body of knowledge by hosts of researchers who devote their energies to biologic investigation. The basic sciences most directly concerned with problems of therapy are anatomy, physiology and pathology with their factual connotations.

Anatomy is the study of the development and growth of the human body from the fertilization of the ovum to maturity. It deals with the cytological architecture and gross arrangement of tissue. It embraces the subsidiary

sciences of embryology and histology. Anatomy is the foundation of osteopathic therapeutics, because the restoration of structural integrity is the primary objective of the osteopathic physician.

Physiology is the study of the dynamics of living anatomy. It deals with the reactions of the organism to its environment and the balance between internal and external forces which constitutes homeostasis. It is concerned with the circulation of vital fluids within the body, the absorption of nutrition, the elimination of waste, the chemical reactions which constitute metabolic processes, the contraction of muscles, and the distribution of energy through the nervous system. The sum total of these activities produces the phenomenon of a sentient human being. Osteopathic therapeutics is concerned with the relation between structure and physiological function.

Pathology is the study of the causes and manifestations of disease. It is concerned with animate and inanimate factors which cause perversion of anatomical structure with consequent interference with physiological function. Pathological processes include alterations in cellular structures, disturbances in metabolic chemical reactions, the effects of toxins upon vital tissues, and gross anatomical injuries or abnormalities. In osteopathic therapeutics the manner in which primary changes in structure may bring

about typical pathological perversions is considered of great importance.

The factual foundation provided by the basic sciences constitutes a substantial groundwork upon which to erect a system of rational therapeutics. Therapy itself is an art and reflects the ability of the practitioner to utilize the combined experience of himself and others in dealing with the intricate clinical problems which are complicated by such intangible elements as human personality, unusual environmental circumstances, and many physical and psychic aspects which are, as yet, unknown to factual science.

The art of practice consists in an attempt to reconcile trial-and-error experience with the factual data provided by the basic sciences. The history of therapeutic art indicates that theory usually precedes scientific demonstration. Even so, sound a theory as that the body is potentially self-healing and that function depends upon structural integrity may suggest forms of treatment that are useless or even harmful if they are not checked against basic scientific data. A theory, however valid it may be in principle, must take into account all of the known facts and must predicate the existence of undiscovered data, which, when discovered, are found to fit the frame of reference proposed by the theory.

[Published by Academy of Applied Osteopathy, Kansas City, MO, 1952]



Pilot study to establish whether osteopathy reduces general practice consultation rate of musculoskeletal problems based on patient perception of effectiveness of the osteopathic treatment – Part II

By Mary Banihasem, DO
Old Westbury, New York

Methods

Korr³⁴ suggests that in the normal situation, the importance of the musculoskeletal system is such that it is the “primary machinery” of life, and that the so called visceral systems are in supporting capacity. In other words it is the requested activity of the musculoskeletal system that dictates when blood vessels have to dilate with increase in heart rate and general rise in metabolic rates, together with a myriad of other compensatory changes throughout the body. This is in addition to the vital function of the organ. In other words, the effectiveness of the musculoskeletal system is also dependent on the vital organs. The removal and cessation of pain via osteopathic treatment leads to a healthier individual. This approach, in a way, encapsulates the essence of osteopathic philosophies. This is essentially achieved through a range of manual techniques. These are the fundamental requisites through which the osteopathic clinician operates.

The body is seen as a largely one way flow of activity, originating in the central nervous system and psyche, enabled and moderated by the “vital” organs and finally expressed through the musculoskeletal machinery.³⁵ The job of the osteopath is to enable this final part to operate as efficiently and comfortably as possible. This is conceptually alien to Still. He understood osteopathy to be a system of healing which could reverse that flow. By altering mechanical and structural parts of the body, he believed that other body systems would be improved. There is no consensus of opinion over the role of osteopathy within the total health care.

The osteopathic lesion has many



aspects and effects, some local and some distant. They are listed below:

1. Hyperesthesia, especially of muscles and vertebrae;
2. Hyper-irritability, reflected in the altered muscular activity and altered states of muscular contraction;
3. Changes in tissue texture of muscle, connective tissue, and skin;
4. Changes in local circulation and in the exchange between blood and tissues; and
5. Altered visceral and other autonomic functions.

It has been experimentally shown that manipulative procedures³⁶ applied by osteopathic physicians induce relaxation of muscles which has been maintained in a continually contracted state. Since an osteopathic lesion may have not only local effects on the musculoskeletal system but also distant effects, it causes irritation of the visceral functions and hence leads to manifestation of organic pathologies.³⁴

Hence, if an osteopathic physician gives treatment to a lesion area, the manipulative relaxation of the muscles will not only effect the local musculoskeletal problem but may prevent organic pathologies from developing in the future. This will improve the general health of the patients.

Based on the above arguments it is postulated that the hypothesis is true.

1. Osteopathic intervention will have a direct effect on the number of musculoskeletal consultations the patient may require.
2. The number of musculoskeletal consultations after treatment should be reduced.
3. The total number of non-musculoskeletal consultations should be reduced for patients having had osteopathic treatment.

The design below was non-randomized, with a retrospective bias, with subjects acting as their own control.

A once-weekly osteopathic clinic was

set up in the Lisson Grove Health Centre, London, NW1 where a group general practice serving a population of 7,000 in the North East Westminster locality was based. The North East Westminster is the largest locality in Kensington, Chelsea and Westminster and is divided into 9 ward areas. The Lisson Grove Health Centre is situated in Church Street and has the highest density in the locality and the highest rate of overcrowding in the area. Church Street has the highest rented accommodation. There is also the highest rate of unemployment in North East Westminster at 16.1 percent of the total population per year. 20.5 percent of the total population per year of private households are from an ethnic minority group, who live mainly in Church Street ward. Church Street has the highest rate of long term illness and hospital admission rate in North East Westminster at 23.8 percent of the population per year.

All patients presenting to their general practitioners with pain, spinally or peripherally were included in the pilot study unless it was known or became apparent that they were suffering from one of the following:

1. Inflammatory joint disease;
2. Skeletal metastases or infection;
3. Spondylolithesis;
4. Neurological deficit in structures innervated by lumbar or sacral roots that could not be ascribed to a previous resolved episode or other pathology;
5. Osteomalacia or osteoporosis;
6. Visceral pathology that could refer pain to the lower-back; and
7. Pregnancy.

Also excluded were:

8. Those who intended to seek physical treatment outside the practice for their present episode.

At presentation, the general practitioners carried out their usual assessment, including medical investigations. If they decided the patient was eligible for the trial, she or he was told that the practice now has an osteopath and they could be offered an

appointment. If agreeable the patient's name was given to the practice manager who randomly allotted the patients either to the control group C or the treatment group A. A control was set up to estimate the efficacy of the treatment. It has been established that patients improve with time.³⁷ The control group C were told there was a waiting time of 4 to 6 weeks. The appointment date and a questionnaire to fill out on the evening before attending the clinic was sent to the patients. This included inquiries into 1) the duration; 2) nature of symptoms; 3) a visual anagram marking the amount of improvement (0 - no percentage of improvement, 10 - one hundred percent improvement); and 4) present treatment. The points 1 to 4 are each explained:

1. here it was intended to establish if the symptoms are recent, i.e. are the patient's problems chronic or acute in nature;
2. the next question inquired if the symptoms were improving within the 4 to 6 weeks whilst awaiting treatment? This will allow us to support or disprove the work of Eysenck as to the fact that symptoms improve with time;³⁷
3. A visual anagram was provided for the patients to mark on the amount of improvement; and
4. Whether the patient was undergoing treatment was vital as it would indicate if the patient was improving due to treatment and not by chance, as suggested by Eysenck.³⁷

Group A patients were given an appointment within one week of their general practitioner's referral date.

Physical examination followed, including both orthodox and osteopathic methods. The orthodox methods would include cardiovascular, respiratory and abdominal examinations where appropriate. The osteopathic examination would include a standing examination, i.e. a general view of the patient's posture and muscular balance, an active examination, i.e. observing the spine through ranges of physiological

movements and finally a passive examination which would include palpation and a passive assessment of movement within each appropriate spinal segment. Once the absence of excluding factors was confirmed, and the findings at examination recorded, a working diagnosis was attempted and discussed with the patient with whom a strategy for future management and treatment was agreed on. The following points were discussed with each patient.

1. The number of treatments each patient may require for improvement of the condition.
2. The expectation required of the patient were pointed out and explained, i.e. exercise, rest, hydrotherapy . . .

The treatments given were somewhat stereotyped to aid reproducibility and aimed to use a classical range of osteopathic maneuvers of the type most likely to be delivered to a patient in the U.K. from a registered osteopath. The following elements were used in each case:

- direct pressure;
- stretch to involved musculature;
- cross-fibre and longitudinal soft tissue techniques;
- low velocity high-amplitude oscillatory movements to hypomobile joints; and
- high-velocity low-amplitude thrust techniques to hypomobile vertebral motion segments.

After the first treatment the patients were required to judge the percentage of improvement so far. The second assessment stage was at 3 weeks into treatment (the average number of treatments within the 3 weeks was between 2-3). Group A was given a questionnaire to fill out after 3 weeks of commencing treatment. The questionnaire (Q) was sent to Group A patients by the practice manager in the post with a pre-paid envelope. The practice manager recorded all the patients taking part in the pilot study on her computer

along with the number of treatments they each had. The questionnaire included inquiry into 1) treatment expectation, benefit and 2) a visual anagram of the amount of help (0 - no help at all and 10 - very much help) - refer to patient questionnaire. Each question is explained below:

1. This question gave us an idea of each patient's understanding of osteopathic treatment. The visual anagram gave an objective measurement into the amount of improvement from the treatment.
2. The last question would give an indication as to whether the patient would choose this type of therapy again in the future. The treatment was continued until the patients deemed themselves recovered or it was decided that further treatment was unlikely to produce benefit (usually when three consecutive treatments had not been accompanied by any improvement in the patients conditions). The same questionnaire (Q) was sent to Group A patients three months after the discharge date. This was sent by the practice manager who kept a record on each patient's last treatment. The procedure for contacting patients who failed to return the questionnaire was carried out by the practice manager who would send a second copy of the questionnaire followed with a phone call. During the phone call the practice manager would inquire into progression of symptoms, and whether the questionnaire had been received.

The second part of the data collection was information gathered from the osteopathic case history of the patient participating in the pilot study:

- Age and sex of the patient;
- Occupation;
- Date of referral from the GP;
- Clinical diagnosis;
- Total number of osteopathic treatments;
- Duration of treatment;
- Percentage of improvement on the first treatment;

- Past treatments; and
- Time elapsed since last treatment .

The final part of the data collection was information from the general practitioner notes at the Lisson Grove Health Centre. This would have included complete information on each patient's illnesses. The following data was obtained from the notes:

Total number of visits made to the general practitioner (including musculoskeletal and organic problems) in;

1991 (no osteopathic treatment was yet available)

1992 (osteopathic treatment was made available for a period of 3 months within that year)

1993 (osteopathic treatment was available for over a year)

Total number of musculoskeletal related visits to the general practitioner in 1991, 1992, 1993.

This information was obtained by reading through notes made by the general practitioner. If the patient had been to the GP for the renewal of their prescription this was not counted as a visit.

Analysis

The data were treated using descriptive and inferential statistics. A summary of percentage of improvement sustained three weeks into treatment and three months post-discharge. These were supplemented via use of graphs (bar chart). A non-parametric Wilcoxon (matched pair) test was used to compare data related to general practitioner visits over varying time periods. The use of a non-parametric test was deemed necessary due to the non-randomized subjects used. A parametric test was not used as the subjects were not randomized.

Results

Composition of the study group.

On an original entry of 50 patients, 7 patients were excluded: 2 control and 5

→

treated patients did not return questionnaires, despite 4 attempts by the practice manager to write or contact the patients. There were thus 23 subjects in the control group and 20 in the manipulated group.

The main table of results shows the baseline characteristics of the treatment patients. The age of the patients at baseline ranged from 15 to 80 with a mean of 59 years. From the 20 patients 17 were female and 3 were male. They had a wide range of occupations as illustrated in the main table.

The patients presented with symptoms in the peripheral joints, cervical, thoracic or lumbar spine. Determining success of osteopathic treatment in relation to peripheral or spinal problems has not been considered because of the limited number of patients in this study.

On average the patients had 5 treatments over a period of 5 months before their symptoms had resolved and were discharged. The greatest number of osteopathic treatments required was 15 and this was over a period of 14 months. The least number of osteopathic treatments required was 2 and this was in a period of 1 month. This is shown in the table for duration of treatment.

The percentage of improvement on the first osteopathic treatment ranged from 0 to 100 percent, and the average percentage of improvement was 62 percent, the bar chart illustrates the percentage of improvement.

Discussion

This study aimed to show that osteopathic manipulation had a beneficial effect on patients with musculoskeletal problems presenting in the general practice setting.

Earlier studies have shown that there may be some advantage of manipulative therapy over conventional treatments^{5, 32, 33, 34} but the trials have been plagued by methodological difficulties^{20, 29}.

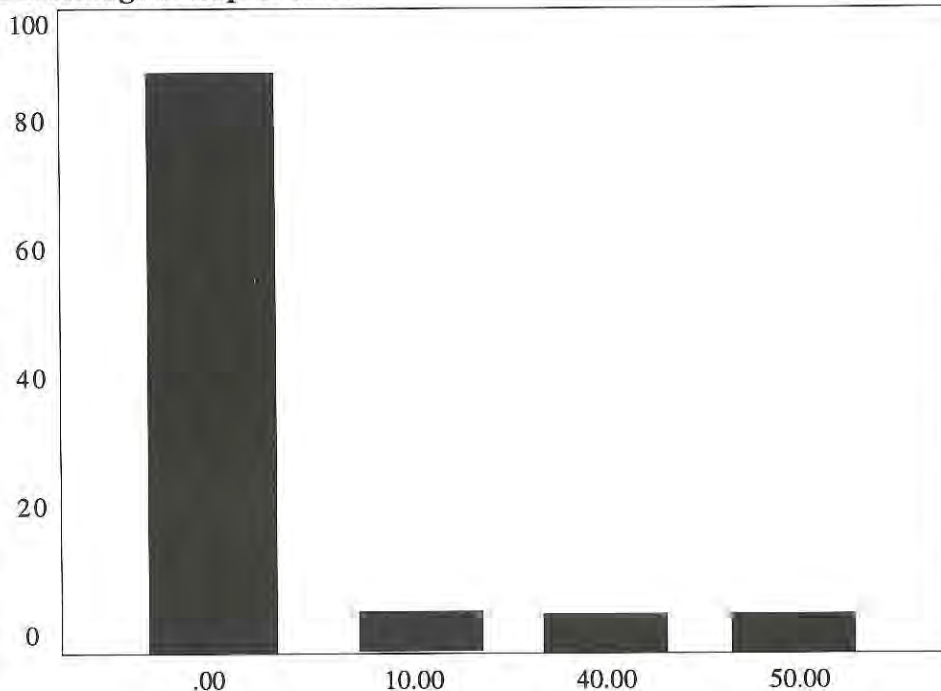
In the present study a randomized control design was used to eliminate bias and noise as much as possible. blinding was not possible as only one therapist was involved and all patients

Control group

The control group results are shown in Table 2. PI shows the percentage of improvement by the patient while they were waiting for treatment (on average 4-6 weeks).

Total number of patients was 23 of which 3 patients reported improvements of 40 percent, 10 percent and 50 percent. (shown on the bar chart below)

CONTROL GROUP Percentage of improvement



Percentage of improvement

The patient with 50 percent improvement was undergoing drug therapy (anti-inflammatory). The patient with 40 percent improvement was not undergoing current treatment but had undergone drug therapy in the past with no significant change in symptoms. The patient with 10 percent improvement was not undergoing current treatment but had also undergone drug therapy in the past. The remaining 20 patients reported no improvement during the 4-6 weeks whilst waiting for treatment

Figure 1

VISUAL ANAGRAM RESPONSE – 3 Weeks Percentage of Improvement

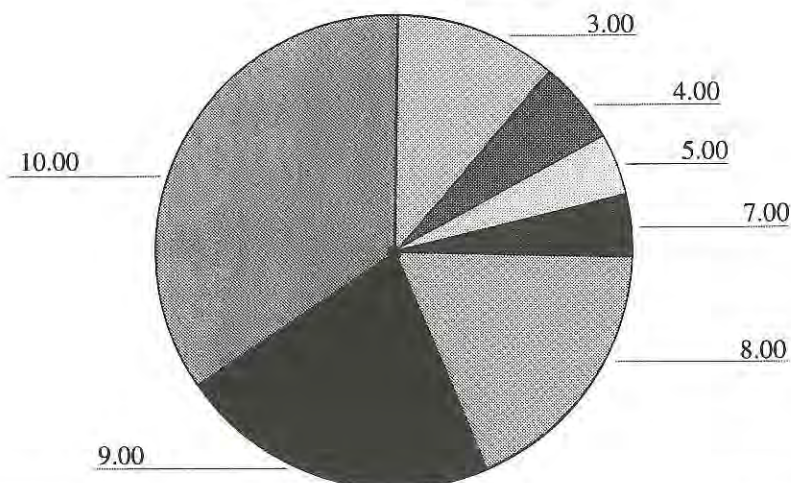
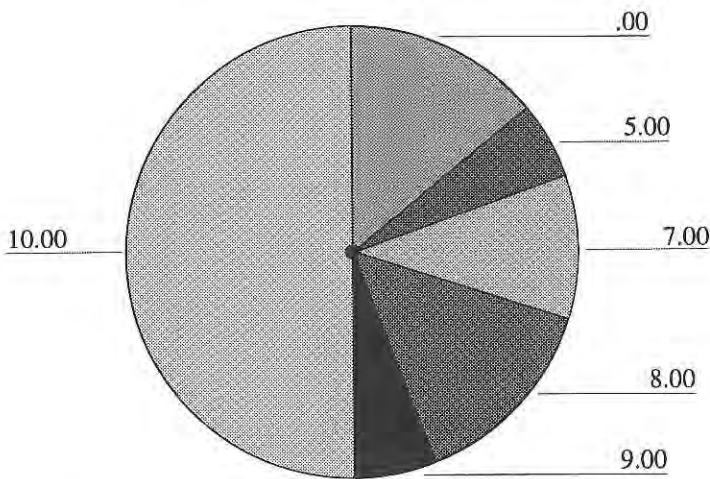


Figure 2

**VISUAL ANAGRAM RESPONSE – 3 Months
Percentage of Improvement**



This shows that the frequency for a response of 10 (very much help) at 3 weeks into treatment was greatest at 35 percent ie. 7 out of 20 patients. The frequency for a response of 10 at 3 months after discharge was more common at 50 percent.

This shows that there is no significant change in patient general health in relation to the number of visits made to the GP. The 3 months during which osteopathic treatment had been available made no significant difference.

Making the same comparison between 1991 and 1992, then 1992 and 1993 showed a significant difference ($p < 0.009$). The 12 months of osteopathic treatment did make a significant difference in the number of GP visits. Tables III and IV.

Table III

GPM91 Number of MS related GP visits (1991) with GPM-93 MS related GP visits

Mean Rank	Cases
9.63	15 - Ranks (GPM-93 LT GPM91)
8.83	3 + Ranks (GPM-93 GT GPM91)
	2 Ties (GPM-93 EQ GPM91)

	20 Total

Z = -2.5695 2-Tailed P = .0102

Table IV

-----Wilcoxon Matched-Pairs Signed-Ranks Test

GPM_92 MS related GP Visits with GPM_93 MS related GP Visits

Mean Rank	Cases
9.12	17 - Ranks (GPM-93 LT GPM-92)
16.00	1 + Ranks (GPM-93 Gt GPM-92)
	2 Ties (GPM-93 EQ GPM-92)
--	
	20 Total

Z = -3.0267 2-Tailed P = .0025

The same pattern was repeated when comparing the total number of GP visits for musculoskeletal related problems. The 1991 and 1992 figures revealed no significant difference, ($p > 0.05$)—Table V— but 1992 and 1993 and 1991 and 1993 showed a significant reduction in the number of musculoskeletal related complaints in 1993. ($p < 0.05$)—Table VI and VII.

Duration of symptoms:

All patients in the control study had an onset symptomology at two month duration or longer. The patients in the pilot can be categorized as chronic patients since they all have had symptoms for longer than six weeks.

Improvement of symptoms:

Out of the 23 patients taking part in the pilot study, only 3 replied that their symptoms were improved spontaneously. See bar chart. (control group – percentage of improvement).

Present Treatment:

Only one patient in the control group was undergoing treatment. This was drug therapy, administered by the general practitioner.

Past Treatment:

Over 60 percent of the patients have had treatment in the past.

Total number of GP visits in 1991 vs total number of GP visits in 1992 – Table II

Comparing the total number of GP visits (GPV) in 1991 to 1992 revealed no significant difference. ($p > 0.05$).

Table II

----- Wilcoxon Matched-Pairs Signed-Ranks Test

GPM91 Number of MS related GP visits (1991) with GPM-92 MS related GP Visits

Mean Rank	Cases
11.57	7 - Ranks (GPM-92 LT GPM91)
8.18	11 + Ranks (GPM-92 GT GPM91)
	2 Ties (GPM-92 EQ GPM91)

	20 Total

Z = -1.960 2-Tailed P = .0446

Table V

GPV-91 Total GP visits in 1991
with GPV-92 Total GP visits in 1992

Mean Rank	Cases
10.00	8 - Ranks (GPV-92 LT GPV-91)
9.10	10+ Ranks (GPV_92 GT GPV-91)
—	2 Ties (GPV-92 EQ GPV-91)
—	20 Total

Z = -.2395 2-Tailed P = .8107

Table VI

----- Wilcoxon Matched-Pairs Signed-Ranks Test

GPV-91 Total GP visits in 1991 with GPV-93 Total GP visits in 1993

Mean Rank	Cases
11.50	11 - Ranks (GPV-93 LT GPV-91)
4.42	6 + Ranks (GPV-93 GT GPV-91)
—	3 Ties (GPV-93 EQ GPV-91)
—	20 Total

Z = -2.3669 2-Tailed P-.0179

Table VII

----- Wilcoxon Matched-Pairs Signed-Ranks Test

GPV-92 Total GP visits in 1992
with GPV-93 Total GP visits in 1993

Mean Rank	Cases
8.73	15 - Ranks (GPV-93 LT GPV-92)
11.00	2 + Ranks (GPV-93 GT GPV-92)
—	3 Ties (GPV-93 EQ GPV-92)
—	20 Total

Z = -2.5799 2-Tailed P= .0099

Table VIII

----- Wilcoxon Matched-Pairs Signed-Ranks Test

QFR Questionnaire (First response)
with QFR Questionnaire (Second response)

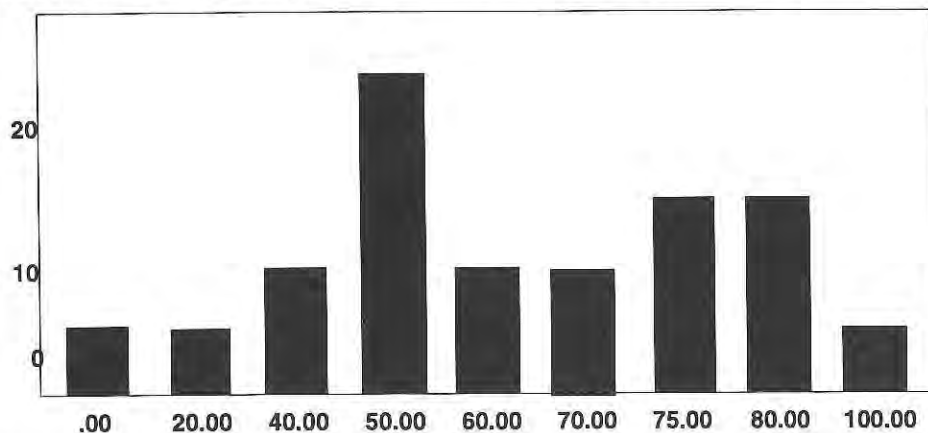
Mean Rank	Cases
11.00	5 - Ranks (QSR LT QFR)
5.56	9 + Ranks (QSR GT QFR)
—	6 Ties (QSR EQ QFR)
—	20 Total

Z = -.1569 2-Tailed P= .8753

Visual Anagram Responses

Comparing the questionnaires between the first response (3 weeks into treatment) and the second response (3 months after discharge) showed no significant difference (p of 0.8). As seen on table VIII.

This demonstrates that the beneficial effects of osteopathic treatment gained after 3 weeks was maintained at 3 months after discharging the patient. This is shown of the pie chart for visual anagram response at 3 weeks and 3 months (Figures 1 and 2)



Percentage of improvement on first treatment

60 percent of patients presenting for treatment had no previous treatment of any type.

eventually underwent treatment. Given that it was only a pilot study, the numbers involved were small and the follow-up period relatively short. In order to increase the number of patients available, all types of musculoskeletal problems were eligible, not just back pain sufferers, as many of the other larger trials have been used. Patient response was measured by means of a visual anagram at three weeks into treatment and 3 months after discharge.

The results showed that there was a large range of response to the first osteopathic treatment (0-100%), but with an average improvement of 62%. A similar picture was seen after the first questionnaire. Interestingly the patients in whom treatment was delayed showed no spontaneous improvement in symptoms. This goes against some of the earlier trials which suggested that, at least for back pain, it can be assumed that most must have been chronic. Indeed, the wait for treatment was sometimes two weeks even in the early treatment group (group A).

Hence, there was a definite beneficial effect of osteopathic manipulation after only a few sessions. The results of the second questionnaire (three months after discharge) were no different from the initial response indicating that any benefit accrued early on was maintained. This does not support earlier trials which suggested that manipulation may just hasten recovery and not influence long-term prognosis.²⁵ Unfortunately, the patients in the present study were treated until they no longer required, or felt they did not need any further treatment. Hence, some had treatments for several months which may have influenced the final results. This makes comparison with earlier work difficult, again emphasizing the methodological problems with trials in this area.

The data on the number of GP consultations is perhaps more useful in terms of health promotional activity. The osteopathic service was available for a period of just over one year from the end of 1992 through to 1993. Results

were obtained for 1991-1993. In the first year, 1991, no osteopathic treatment was available, and there was no difference between 1991 and 1992 in terms of the number of GP consultations and specific GP consultations for musculoskeletal problems. However, one must remember that manipulation only began in the last three months of 1992. Comparing 1993 to 1992 there were significant differences between the number of total GP visits and also the number of consultations for musculoskeletal problems. This would indicate that the osteopath had made a significant contribution in reducing the number of GP visits.

The effect on the total number of consultations could be viewed in two different ways. The osteopath may have reduced the number of musculoskeletal visits to such a degree that it influenced the total number. This would also support the view that the GP list in the Lisson Grove Practice had its fair share of chronic long-term problems of a nonspecific musculoskeletal nature. Alternatively, osteopathy is felt by its practitioners to be a total form of therapy and treatment may have improved health in other ways, so reducing visits for ailments such as coughs and colds. Obviously conclusions like the latter cannot be drawn from the available data but it would be interesting to investigate this further. If it were true, then osteopathic treatment would be useful in a health promotional role as well as in the sense that reduced numbers of GP visits probably equates to a healthier population. This last point is also open to debate.

From the available results one can now tentatively answer questions two and three in the introduction. It would appear that the osteopathic practitioner did help reduce GP consultation rates and also reduce the number of musculoskeletal consultations. Obviously, the numbers involved were small and hence results should be viewed with caution.

However, the implications for the health promotion of patients at the Lisson Grove Health Centre could be much

more important. If the reduction in total GP visits was due to the effects of osteopathy on general health, then osteopathy should be an integral part of primary healthcare. Hence question one concerning whether there is a place for the osteopathic practitioner in primary healthcare would have to be answered in the affirmative.

Another point which leads on from this theory would be the enormous potential for financial savings. In its simplest terms, in these days of budgets and GP fundholding, a cut in the number of consultations would be very welcomed. Similarly, problems alleviated by osteopathic techniques would mean less money needing to be spent on drug prescriptions. Also by reducing the number of musculoskeletal complaints there would be less referrals to hospital orthopaedic outpatients, again providing a financial saving.

Apart from the monetary savings one must also consider the patients view of osteopathy. The incumbent government is very keen on charters for citizens covering a wide variety of fields. If osteopathy alleviates sufferers symptoms then it is reasonable to assume that they will be satisfied from their treatment.

Hence, osteopathy would appear to score highly in Qaly terms and also be cost-effective. It would also provide an opportunity to discuss health promotional issues with patients as consultation times are usually twenty minutes. It could also enable the GP to use his/her time more productively with regards to health promotion since the rate-limiting step in this area appears to be time.

The final question needs more data to be answered properly. On the available evidence, future policy makers and health administrators would probably not be convinced that osteopathic treatment was necessary in the primary healthcare setting. Further studies would be needed to strengthen the findings.

Obviously, the first point would be to employ a larger study population and then to break this down into subgroups according to particular symptom or

complaint. Hence, one could then study neck pain, hip/knee pain and back pain separately. One would then be able to see if results matched those found by other investigators and so make the findings more reliable.

Follow-up for longer would be another important factor as then any long-lasting effects could be quantified. This may show that osteopathic therapy provides long-term benefits and so would strengthen the argument for having an osteopath in the GP setting on both Qaly and financial grounds.

Another interesting way of improving the power of further studies would be to employ crossover trials. These compare two different treatments in the same group of patients but each individual experiences both types, half the group start with treatment A and then crossover to treatment B and vice versa for the other half of the patients. This enables one to carry out studies in smaller groups of patients.

If all the further trials did show that osteopathy was unequivocally effective then one has to consider the practicalities of setting up a primary healthcare service. The initial costs would soon be recouped by the savings provided by the reduction in the GP visits and all its associated trappings. The service would have to be monitored by regular audit to ensure that it continued to show improvements in patient symptomology.

Geographical location is also important as well as the population determinants. Questions would need to be answered as to whether social class ethnicity and age influence the effectiveness of osteopathic treatment. Hence, an osteopathic service may be more appropriate in certain areas compared to others.

In conclusion this pilot study has shown that osteopathic service in the GP setting may be effective in terms of both patient benefit and cost effectiveness and in health promotion. Further studies are needed to elaborate on these findings and to pinpoint the areas where the greatest benefit is likely. Further studies

→

may include the use of larger sample of subjects. The study should be set up in other GP clinics simultaneously and the total results should then be analyzed. This would also allow figures for costing and savings to be published. This is especially so if one can elucidate further any health promotional benefit that osteopathy may confer.

References

1. Northup, G.N., 1979. *Osteopathic Medicine, An American Reformation*. Chicago: American Osteopathic Association.
2. North East Westminster locality profiles - City of Westminster Health Authority, 1994.
3. British Medical Association. *alternative therapy*. Report of the Board of Science and Education. Spaiding: Chameleon press 1986:77.
4. Department of Health and Social Security Working Group on Back Pain. Report to Secretary of State for social services. London: HMSO. 1979.
5. Meade, T.W., Dryer, S., Browne, W., Townsend, J., Frank, A.O., Low back pain of mechanical origin: randomized comparison of chiropractic and hospital outpatient treatment. *BMJ* 1990; 300; 1431-7.
6. Wilson, A., McDonald, P., Hayes, L., Cooney, J., Health promotion in the general practice consultation; a minute makes a difference. *BMJ* 1992; 304; 227-30.
7. Wallace, P.G., Brennan, P.J., Haines, A.P. Are general practitioners doing enough to promote healthy life styles? Finding of the Medical Research Council's general practice framework study on life and health. *BMJ* 1987; 294; 940-2.
8. Robinson, R. Economic Evaluation and Health Care. Cost-Utility analysis. *BMJ* 1993; 307; 859-62.
9. The Health of the Nation. White Paper HMSO 1991.
10. Hunt, S., McKenna, S.P., McEwan, J. Measuring health status. London: Croom Helm, 1986.
11. Buxton, M.J., Acheson, R., Caine, N., Gibson, S., O'Brien, B.J. Cost and benefits of the heart transplant programmes at Harefield and Papworth Hospitals. London: HMSO, 1985. (DHSS research report No. 12.)
12. O'Brien, B.J., Banner, N.R., Gibson, S., Yacoub, M. The Nottingham health profile as a measure of quality of life following combined heart and lung transplantation. *J. Epidemiol Community Health* 1988; 42; 232-4.
13. Brazier, J.E., Harper, R., Jones, N.M.B., O'Cathain, A., Thomas, K.J., Usherwood, T., et al. Validating the SF-36 health survey questionnaire: new outcome measure of primary care. *BMJ* 1992; 305; 100-4.
14. Rosser, R., Kind, P., Williams, A. Valuation of quality of life: psychometric evidence. In: Jones-Lee, M., Ed. *The value of life and society*. Amsterdam: Elsevier-North Holland, 1982.
15. Williams, A. Economics of coronary artery by-pass grafting. *BMJ* 1985; 291; 326-9.
16. Gudex, C., Williams, A., Jourden, M., Mason, R., Maynard, J., O'Flynn, R., et al. Prioritizing waiting lists. *Health trends* 1990; 22; 103-8.
17. Mason, J., Drummond, M., Torrance, G. Some guidelines on the use of cost-effectiveness league tables. *BMJ* 1993; 306; 570-2.
18. Wood, P.H.N., Baddley, L. Epidemiology of back pain. In: Jayson, M.I.V., Ed. *The lumbar spine and back pain*. Second Edn. Tunbridge Wells: Pitman, 1980: 29-55.
19. Weber, H., Burton, K. Rational treatment of low back trouble? *Clinical Biomechanics* 1986; 1; 160-167.
20. Bloch, R. Methodology in back pain trials. *Spine*. vol. 12. No. 5, 1987.
21. Sackett, D.L., Gent, M. Controversy in counting and attributing events in clinical trials. *N. Eng. J. Med.* 1979; 301; 1410.
22. Roberts, N., Smith, R., Bennett, S., et al: Health beliefs and rehabilitation after lumbar disc surgery. *J. Psychosomat. Res.* 1984; 28; 139-144.
23. Ejekkar, A., Nachemson, A., Herbert, P., et al: Surgery versus chemonucleolysis for herniated lumbar disc: A prospective study with random assignment. *Clin. Orth.* 1983; 174; 236-242.
24. Doran, D.L.M., Newell, D.J. Manipulation in Treatment of Low Back Pain: A Multi-centre study. *BMJ* 1975; 2; 161-164.
25. Sims-Williams, H., Jayson, M.I., Young, S.M., Baddley, H., Collins, E. Controlled trial of mobilisation and manipulation for patients with low back pain in general practice. *BMJ* 1978; 1338-1340.
26. Gibson, T., Harkness, J., Blagrove, P., Grahame, R., Woods, P., Hill, R. Controlled Comparison of Short-wave Diathermy treatment with Osteopathic treatment in Non-Specific Low Back Pain. *The Lancet* 1985; 1258-1260.
27. Ottenbacher, K., Defabio, R. Efficacy of Manipulation/Mobilization therapy. *Spine*. vol. 10. No. 9, 1985.
28. Ongley, J., Dorman, T.A., Klain, G.K., Eek, B.C. Approach to The Treatment of Chronic Low Back Pain. *The Lancet* 1982; 143-146.
29. MacDonald, R.S., Bell, J. An Open Controlled Assessment of Osteopathic Manipulation in Nonspecific Low-Back Pain. *Spine*. vol. 15, No. 5, 1990.
30. Hadler, N.M., Curtis, P., Gillings, D.B., Stinnett, S. A benefit of spinal manipulation as adjunctive therapy for acute low-back: A stratified controlled trial. *Spine* 12: 703-706, 1987.
31. Assendelft, W.J., Bouter, L.M., Kessels, A.G.H. Effectiveness of Chiropractic and physiotherapy in the treatment of low back pain: A critical discussion of the British randomized clinical trial. *J. Manip. Physio. Therapeutics* Vol. 14, No. 5, 1991.
32. Koes, B.W., Assendelft, W.J., Van Der Heijde, G.J.G., Bouter, L.M., Knipschild, P.G. Spinal manipulation and mobilisation for back and neck pain: a blinded review. *BMJ* 1991; 1298-303.
33. Koes, B.W., Bouter, L.M., Mameren, H., Essers, A.H.M., Verstegen, G.J., Hofhuizen, D.M., Houben, J.O., Knipschild, P.G. Randomised clinical trial of manipulative therapy and physiotherapy for persistent back and neck complaints: results of one year follow up. *BMJ* 1992; 601-605.
34. Koes, B.W., Bouter, M.L., Mameren, H., Essers, A.H.M., Verstegen, G.J., Hofhuizen, D.M., Houben, J.O., Knipschild, P.G. A randomized Clinical Trial of Manual Therapy and Physiotherapy for Persistent Back and Neck Complaints: Subgroup Analysis and Relationship Between Outcome Measures. *J. Manip. Physio. Therapeutics* Vol. 16, No. 4, 1993.
- 34i. Korr: The neural Basis of osteopathic lesions. *JAOA* 47: 191-198, 1947.
35. Lacey, P. (1980) *The Muscular Manifesto*.
36. Korr, I.M. (1970) *The sympathetic nervous system as mediators between the somatic and supportive processes. The Physiological Bases of Osteopathic medicine*. Post Graduate Institute of Osteopathic Medicine and Surgery. New York.
37. Eysenck, M.W. (1984) *A Handbook of Cognitive Psychology*, Lawrence Erlbaum Associates.

Continued from page 12

Meanwhile, the patients experiencing no risk factors had a 95 percent surgical success rate. My clinical experience suggests that many of my patients, who experience chronic pain and chronic somatic dysfunction frequently responds poorly to osteopathic care. They also have a history of at least three of the risk factors. This orthopedic group identified a similar patient population. Providing appropriate counseling services, the majority of the patients became a symptomatic, without surgery, in spite of the fact they all had significant disc pathology and, or, stenosis.

I hypothesize that the memories stored in the limbic system often ineffectively resolves and reconciles by an understanding of the circumstances surrounding the abusive or non-nurturing events. I would suggest there are at least two effective management strategies are available. Since the limbic system is the switchboard connecting the emotions and feelings with the musculoskeletal system, I propose, that as osteopathic physicians, we have the potential of simultaneously addressing both the emotional and musculoskeletal components. Therefore, we have a tremendous potential for offering unique care to these deeply traumatized patients. Thus, our vision of the diversity of factors influencing the musculoskeletal system continued to expand and became more complex during the 80's and early 90's.

This information and understanding helped us to better appreciate quotes attributed to Cannon; who stated "systems do not exist in nature but only in the minds of men and women" or William Osler who reportedly stated; "it is more important to know the patient who has a disease than the disease that has the patient." I believe we, as osteopathic physicians, can paraphrase this to state, "it is more important to know the patient who has somatic

dysfunction than the somatic dysfunction that has the patient." These statements by the medical giants, Cannon and Osler, help to expand our vision of our osteopathic potential. Also, helps to appreciate Korr's statement that we have the potential of impacting the total nervous system when we provide comprehensive osteopathic care.

Meanwhile, the vision of allopathic, orthopedic and neurosurgeons also changed during the 80's and 90's. A conference in 1988 resulted in an

*"as I watch you work,
I realize you are doing more
than re-establishing
normal mechanical function.
You are changing
the central nervous system
or soft-ware program
of the computer."*

excellent book entitled, *New perspectives on low back pain*. The book effectively discusses non-disc etiological factors in LBP such as arterial and vasomotor control, neurofacilitation, neurotrophic axionic flow, venous and lymphatic circulation. These are all factors we, as osteopathic physicians, believe can be influenced by manipulative management. Therefore, the medical profession also went through a vision change concerning the etiology and possible management of back pain.

Edward Isaac, MD, a neurologist and teaching colleague at Michigan State University, played a major role in expanding my clinical vision. One day, as a student in a course I was teaching, Ed made an interesting observation. He stated, "as I watch you work, I realize you are doing more than re-establishing normal mechanical function. You are

changing the central nervous system or soft-ware program of the computer." During his neurological exam he was in effect evaluating the hardware of the nervous system or computer. He went on to say, "You are using the musculoskeletal system to change the software program by decreasing the afferent load." Later Ed introduced me to a very significant article that supported his observation. Dr. Isaac created the following slides and are based on his understanding, as a neurologist, of this article I would like to briefly discuss.

Davidoff, a neurologist at the University of Miami and publishing in the *Journal, Neurology* in May 1992, made some interesting observations. His article, *Skeletal Muscle Tone and the Misunderstood Stretch Reflex* emphasized the fact that myotatic reflex discussions are based on data from the Sherrington research model. Unfortunately, decerebration of animals, when utilized, limits our understanding. Therefore, all the supraspinal influences were ignored. The Sherrington model also did not fully appreciate the interneuron influences. The reductionist thinking involving the myotatic reflex underestimated the complexity of the nervous system. The vision limited, as a result.

It is estimated there are 10 billion neurons within the human body and 90 percent are interneurons. Also, each motor neuron, represents the final common pathway to the muscle (**Fig #1**) and is in contact with among 20,000 - 50,000 dendrites from other neurons. Envision the complexity of this system.

Davidoff discussed just three types of inhibitory interneurons:

1. The Renshaw cells, which represent the majority;
2. 1a inhibitory interneurons; and
3. Non-reciprocal inhibitory group 1 interneurons.



Fig. 1

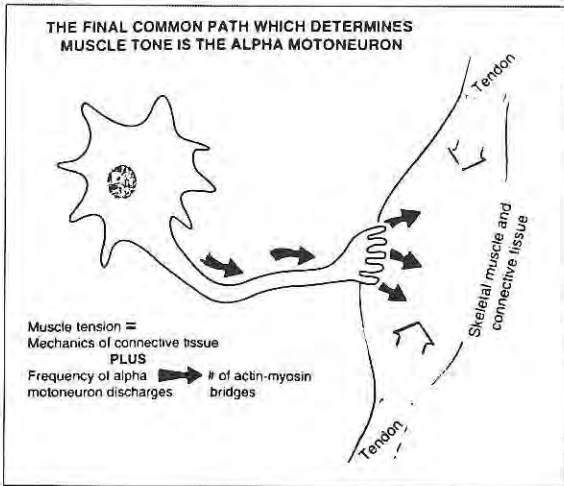


Fig. 2

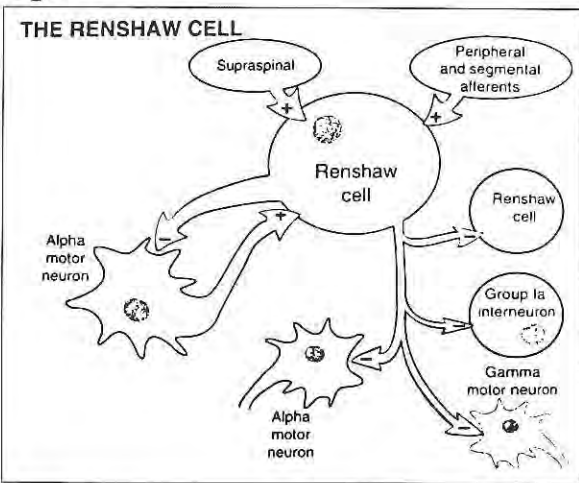


Fig. 3

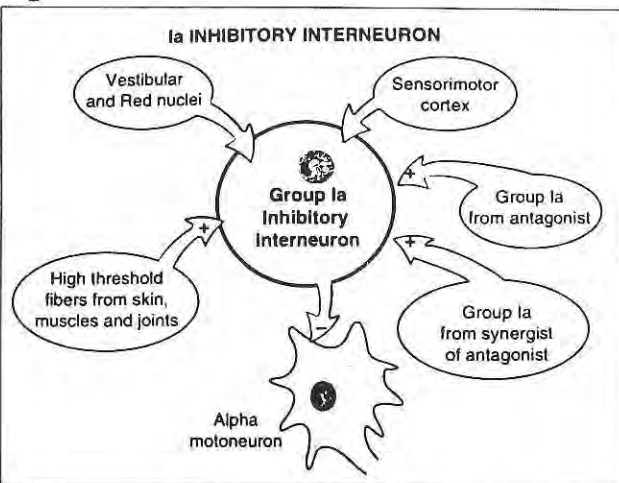
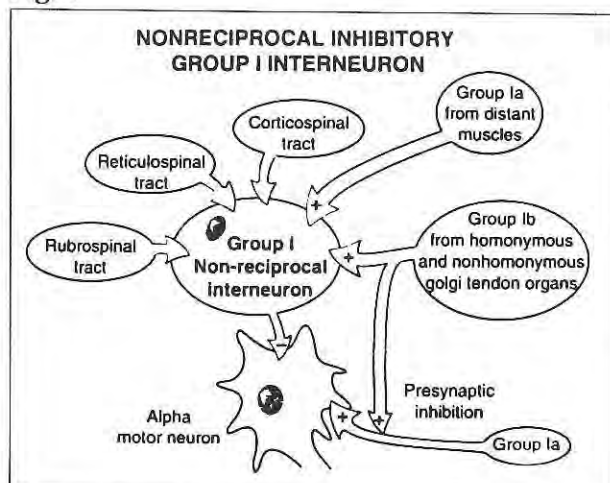


Fig. 4



Let me try to quickly illustrate the complexity of this system. The alpha motor neurons send impulses to the Renshaw cells (Fig #2), which in return send inhibitory impulses back to the same motor neuron via collateral's, to other Renshaw cells, group 1a interneurons, gamma motor neuron (or sympathetic neurons) and to other alpha motor neurons. Simultaneously, the Renshaw cells are influenced by the supraspinal centers as well as the peripheral and segmental afferents. Remember this represents only one Renshaw cell. Supraspinal centers influence both the alpha and gamma motor neurons, through this system alone, including the limbic system.

The group 1a inhibitory interneurons (Fig #3) are influenced by the skin, muscle and joint proprioceptors, the vestibular and red nuclei, the sensorimotor cortex, the group 1a interneurons from the antagonistic and synergistic muscles of the antagonists. The final common pathway from the group 1a inhibitory interneurons from all these just mentioned centers then impact on the alpha motor neuron.

The third group of interneurons Davidoff discussed were the nonreciprocal inhibitory group 1a interneurons (Fig #4) which are influenced by the supraspinal, reticulospinal and corticospinal tracts, the group 1a interneurons from distant muscles and group 1b interneurons from golgi tendon organs. The final common input from all these centers into the group 1 non-reciprocal interneurons then impact on the alpha motor neuron.

But look at the complexity related to just one alpha motor neuron when these previous three slides are considered together, i.e., each of these complex systems simultaneously impact on the final common pathway of the alpha motor neuron. Consider the complexity suggested when you simultaneously look at the summary slide (#5) and that of the Renshaw cell (#2), then the 1a interneuron (#3), and then the nonreciprocal group 1 inhibitory interneurons (#4). But in addition, excitatory interneurons, which are impacted by the reticulospinal tract, also

influence the final common pathway. Remember this represents only one alpha motor neuron! Allow your mind to ponder and grasp the complexity of the nervous system, the nine billion interneurons, and how we must all be uniquely wired.

Thus during the 80's and 90's, our vision and understanding of the neurophysiology of the cord. Stress, the limbic system and its impact on the hypothalamus, autonomic nervous system, pituitary and endocrine organs, as well as the afferent impact on the cerebellar and cerebral cortexes expanded and matured. Thus, one can be challenged to view the neurological maintenance of somatic dysfunction as analogous to a virus in the central nervous system or software program. My vision further expanded when Bob Foreman, PhD, Chairman of the Physiology Department at the University of Oklahoma, pointed out to me how a minor cord reflex is initiated when just one muscle spindle is stimulated in the extremity of an animal. But at the same time, stimulation of that one spindle, initiates major activity in both the cerebellar and cerebral cortexes. This could suggest that the dysfunctional musculoskeletal patterns may very well be stored in the central nervous system and not in the joint or soft tissues.

As we provide patients specific manipulative management, I believe we shut down the abnormal afferent load into cerebellar and cerebral cortexes. We are really changing the central software program. An illustration of Guyton depicting the afferent input from proprioceptors into cerebellar and cerebral regions had new significance for me after my discussion with Bob Foreman. (Fig #5) Thus our vision which started out as a problem with a structure being out of place has now evolved to be viewed as a very complex neurophysiological phenomena involving the whole nervous system.

Also during the 80's and 90's, our

understanding of the endocoids also expanded. This whole body of knowledge supports the concept of A. T. Still that the body makes its own medicines.

Throughout history, there have been two basic schools of medicine: the hygeian and the asclepian schools.

The hygeian school emphasizes:

1. The role of inherent health maintenance mechanisms within the body;
2. Impairment causes disease;
3. Disease is a total body response;
4. Cure comes from within and not from the outside; and
5. The physician-patient relationship is a partnership relationship.

The asclepian school characteristics and emphasis is:

1. This is the dominate school historically;
2. The focus is on disease, its causes and cures, therefore de-emphasizing the patient;
3. Treatment and research emphases a disease specific method;
4. The patient is seen as a victim of the disease and the cause is blamed for the condition; and
5. The clinician is seen as the antagonist of disease, the defender and savior of the victim and the provider of health.

The asclepian perspective focuses our attention on the viscera. We then mistakenly can view the viscera or secondary machinery of Korr's concept as the primary arena of importance.

The osteopathic application of the hygeian concept can be expressed as, the body will dispense the correct "drug," in the correct amount and without side effects. Korr again challenged our vision with his statement, "within each of us, we have our own HMO which is constantly working for us." Pasteur also expressed and summarized this truth when he stated, "the terrain provided by the patient is crucial, when the bacteria proliferate, pre-existing illness rendered the host susceptible." Therefore the bacteria are not the key issue as stressed by the asclepian school of medicine.

The hygeian principles can be implemented with several conceptual tools I have found useful in my clinical practice.

An illness can be viewed as the outcome of an interaction between the host and a disease process. Medical and surgical care is directed at the disease component while osteopathic management is directed at the host component and enables the patient to realize their unique potential.

Musculoskeletal dysfunction or disease, i.e., lack of ease of the

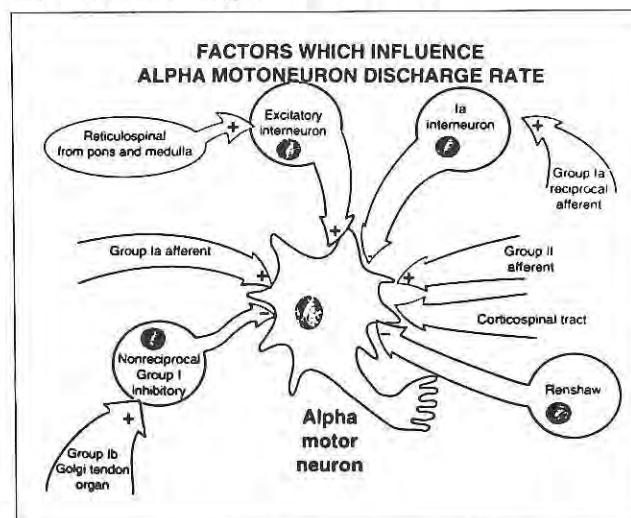


Fig. 5

Conflicting visions . . . Edward T. Stiles, DO, FAAO

musculoskeletal system may have a profound impact on the patient's overall health and susceptibility for developing disease processes. In that context, I see somatic dysfunction as another risk factor in a multitude of disease processes.

This can be further illustrated with a clinical schematic I developed in an effort to explain to osteopathic physicians the benefits of manipulative care for hospitalized patients. (Fig. 6) The cell, at the center of the illustration, can represent any tissue in the body. For that tissue to remain healthy, several events must take place. The tissues require an appropriate arterial supply which is controlled by the sympathetic vasomotor system. The tissues require an appropriate efferent flow of impulses as well as trophins. A functioning rib cage is required to enable appropriate ventilation and to assist venous and lymphatic circulation. An appropriate flow of afferent impulses and trophic substances back to the cord is also essential. The whole system is driven by the energy demands created by the primary on the secondary machinery as emphasized by Korr. Somatic

dysfunction or dis-ease can impact on anyone of these components of the schematic, all of them or in any possible combination. This vision helps us to realize why each patient's clinical picture is unique. Meanwhile, a specifically administered osteopathic management program addresses the uniqueness of each patient. This schematic can enable the clinician to develop a diagnostic strategy for searching areas for somatic dysfunction as well as enable the clinician to summarize the somatic dysfunction findings and to appreciate their possible contribution to the pathophysiological condition of that specific patient.

Therefore, our clinical vision over the last 35 years has matured. We have progressed from the vision of a vertebra out of place to one of a very complex and unique neurophysiological pattern for each patient. Current physiological understanding enables us to realize how somatic dysfunction might impact on any organ system and how with osteopathic management we might be able to offer these patients a unique form of care. Also, we are the only profession which has the unique potential of

combining both the hygeian and asclepian concepts into one management strategy.

Current neurophysiological and endocoid understanding suggests A. T. Still was realistic when he saw his mission as one of changing the practice of medicine.

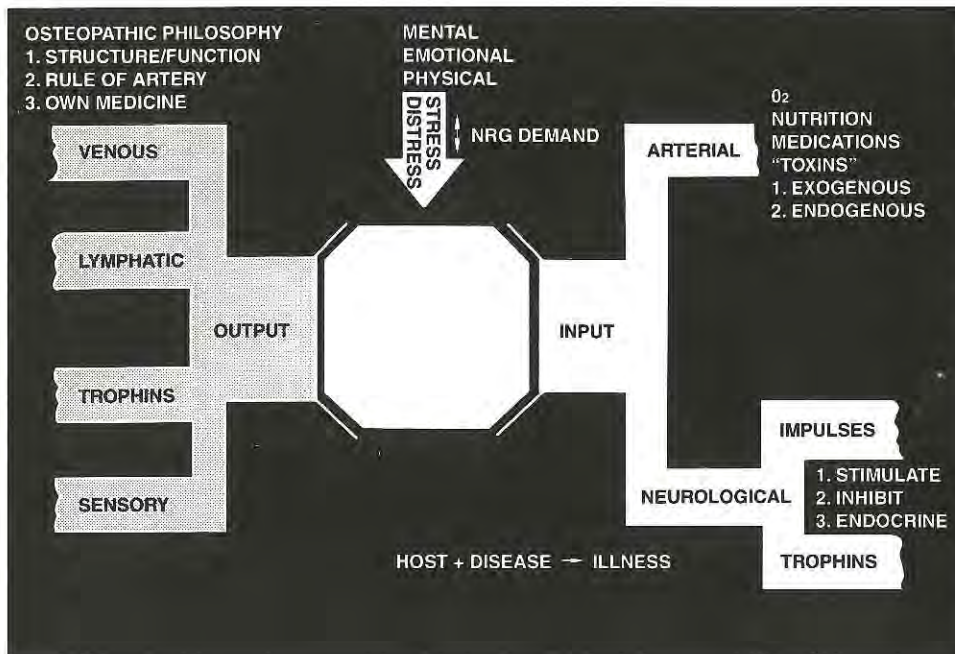
The question then is, does your vision dictate and determine the outcome of your clinical efforts? How does this apply to the Academy in the political and policy realm? I challenge you to mentally picture two potential visions related to the future of the Academy. Picture how each vision would impact your behavior. Is our role to be the last bastion of osteopathy or to change the practice of medicine? How would the strategies of each of these positions differ in self image, strategy planning and subsequent clinical, educational and political activities?

With health care costs skyrocketing and the increased incidence of chronic degenerative disease in our aging population, we as an academy have the potential answers to address these problems and, in the process, change the practice of medicine. As Korr stated, by philosophy, history, organization and training we have that potential. What is your vision as an osteopathic physician in 1996?

Are we expanding and realizing the vision of our founder, Thomas L. Northup? I believe our potential represents a quantum jump beyond the initial vision held by our Founders. We have been fortunate to be able to stand on their sturdy and competent shoulders. Let's push forward to realize our potential; which in reality may be far greater than our currently expanded vision.

In this light, let me close with a couple quotes of Thomas L. Northup from his Andrew Taylor Still Memorial Address given almost twenty years after the founding of this Academy. He stated, "let us think of our heritage, not as something left in total as a legacy...but rather as a diamond in the rough that will increase in value and attractiveness as

Fig. 6



Conflicting visions . . . Edward T. Stiles, DO, FAAO

one after another of its facets is cut and polished. The searchlight of reason will, like the ultra-violet ray, reveal many otherwise unseen qualities and make it glow with ever increasing brilliance." He went on to say in this 1955 speech, "the osteopathic profession can now take its place of leadership in developing a program of health care for our nation and the world."

If "Dr. Tom" were alive today, I suspect we might have trouble keeping up with his developing vision. Thank you

References

A conflict of visions, ideological origins of political struggles, Thomas Sowell, PhD, Quill William Morrow, New York, 1987

The Northup Book: A memorial tribute to Thomas L. Northup, DO; American Academy of Osteopathy; Newark, OH, 1983

Blakiston's pocket medical dictionary; fourth edition; McGraw-Hill Book Company; New York, 1979

The collected papers of Irvin M. Korr; American Academy of Osteopathy; Colorado Springs, CO, 1979

Principles of anatomy and physiology; seventh edition; Tortora and Grabowski; Harper Collins College Publishers; 1993

Human physiology the mechanisms of body function; fourth edition; Vander, Sherman and Luciano; McGraw-Hill Book Company; New York, 1985

Lecture notes on human physiology; Bray, Cragg, Maxknight, Mills and Taylor; Oxford London, 1994

Color atlas of physiology; fourth edition; Gay and Rothenburger, Georg Theme Verlag Stuttgart; New York, 1991

Neuroscience of rehabilitation; Cohen, J.B.; Lippincott; Philadelphia; 1993

Essentials of clinical neuroanatomy and neuropsychology; Gilman and Newman; F.A. Davis Company; Philadelphia 1992

Review of neurosciences; second edition; Pansky, Allen and Budd; Macmillan Publishing Company; New York; 1988

Childhood psychological trauma correlates with unsuccessful lumbar spine surgery; Schofferman, Anderson, Hines, Smith and White Spine; Vol 17; No 6; Supplement 1992

New perspectives on low back pain; Frymoyer and Gordon; American Academy of Orthopaedic Surgeons; Park Ridge, IL; 1989

Skeletal muscle tone and the misunderstood stretch reflex; Davidoff; Neurology; May, 1992

Job's body; Juhan Station; Hill Press; 1987

The motor nervous system textbook of medical physiology; Guyton; Seventh Edition; Philadelphia; W.B. Saunders; 1986

History of medicine and the concepts of endocoids; Korr; Endocoids; Alan R. Liss, Inc.; 1985

The "cause" of illness: disease or person? Implications for the choice of outcome measures; Korr; Complementary Medical Research; Vol 2; No. 3; 1988

Somatic dysfunction, osteopathic manipulative treatment, and the nervous system: a few facts, some theories, many questions; Korr; JAOA; Vol 86; No 2; Feb 1986 □

Planning research on ambulatory care

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

Practice-based research on effectiveness of osteopathic manipulative treatment sounds simple enough. Daily, as osteopathic physicians, we witness the recuperative powers of the human body fostered by osteopathic manipulative treatment. Systematic study of these clinical events should be fairly easy to accomplish. However, there are a few aspects when considering osteopathic clinical research that pose some unique challenges. These need to be carefully addressed in order to have worthwhile studies related to osteopathic manipulative treatment. One of the unique challenges is the documentation of a palpatory finding in

the research record. When the study is incorporated into the office visit, the record should accurately reflect the examine but not be so cumbersome that it is impractical for the physician. What compromises in the clinical arena are acceptable without diluting the quality of osteopathic research? What factors are essential to maintain value in a study?

A project currently underway by several osteopathic physicians is the development of a standardized osteopathic SOAP note form that designation as an osteopathic form includes the palpatory findings obtained from an osteopathic physical examination which would identify the

presence of "somatic dysfunction" at specific locations. It also would include the osteopathic manipulative treatment that was provided with specified location and the response to treatment. The form is anticipated to expedite the recording of relevant osteopathic information which can then be incorporated into a research record. It is also hoped that with the standardization of this form that many physicians at different locations could contribute data on one research project.

The use of a well-designed, "standardized" form is, of course, essential for efficient and consistent collection of data. Experienced



researchers make use of several forms for one research project to direct the flow of the data as well as to insure that all data is collected. The form does not necessarily make the data more accurate or reliable but it does help organize.

In developing a research record for osteopathic physicians, accuracy and reliability in the osteopathic section needs to be carefully considered. Identification of the presence of somatic dysfunction may vary with the examiner's skill level but also with the tests and criteria used to determine somatic dysfunction. As an example, William Johnston, DO, FAAO, uses specific spinal motion testing with characteristic "responses" to identify a "primary" asymmetric central segment. Adjacent vertebral segments have opposing mirror-image motor asymmetries. Another examiner might employ different tests and use a different set of criteria to identify and therefore, record the somatic dysfunction involved at a different vertebral segment. Unless the criteria and tests are specified, the meaning of segmental dysfunction is not clear. More than that, reproducibility within subjects, visits and examiners is not possible. It may be difficult, if not futile, to make sense out of any study that involves the use of somatic dysfunction if there is no basis of how and what somatic dysfunction for the examiner is.

Stedman Denslow, DO could correlate his palpatory finds of the lesioned vertebral segment with EMG measurements taken in the related spinal muscles. Short of this physiologic feedback, it is a challenge to agree on what exactly is being studied. Inter-examiner reliability studies have shown that you can train examiners to increase their agreement on palpatory findings, thus increase accuracy in the record. Identifying somatic dysfunction is only part of the equation in the clinical setting. Determining the treatment "prescription" (method, frequency, dosage, etc.), and describing the patient's response compounds the complexity in studying the "effect of OMT."

Accepting that examiners may become reliable in agreement of active and passive motion testing and developing criteria for the presence of somatic dysfunction, how relevant is this to osteopathy? In the discussion of osteopathic palpatory diagnosis in an attempt to understand the "osteopathic lesion," Frymann points out, "Palpatory diagnosis in the osteopathic sense is like an iceberg. Active and passive articular motion is the visible eighth of the iceberg, but the inherent motions within the body are the hidden seven eighths of the iceberg."

Let's assume that our researchers are eclectic, they use all methods of diagnosis and treatment and agree on active, passive and inherent motions. Is this relevant to osteopathy? Korr has reminded us to study the "whole person." Still directs our task as osteopathic physicians to find the health of the patient. Is somatic dysfunction the health of the patient or are we held by convention to attend to this framework because so many have invested in the terminology. Does it mean that we should not look at somatic dysfunction?

Johnston has studied the pattern of segmental dysfunction present with hypertension for twenty years. He has also been very careful in avoiding the use of cause and effect regarding this pattern. The value of his studies are tremendous and advance our understanding of the "behavior" of somatic dysfunction. He has made it very clear of what exactly he is studying. It is of great importance for advancement of our knowledge in osteopathic medicine that the study undertaken is very clear on what is being studied.

Physician input to the dialogue on the osteopathic palpatory exam, diagnosis of somatic dysfunction and methods of treatment are critical for development of quality studies. We encourage physician participation, comments and questions that may foster this important work in osteopathy. Communications may go to the AAO or any member of the Louisa Burns Osteopathic Research Committee. □

From the AOBSPOMM Files

Editor's Note: *Richard W. Skurla, DO, is a 1981 graduate of Philadelphia College of Osteopathic Medicine. He currently holds certification in both osteopathic manipulative medicine and general practice. Dr. Skurla is a diplomate of the National Board of Examiners for Osteopathic Physicians and holds memberships in American Academy of Osteopathy, American Osteopathic Association, The Cranial Academy, New Mexico Osteopathic Medical Association and the American College of Osteopathic Family Practitioners. Dr. Skurla has a private practice in OMM in Santa Fe, NM.*

• Chief Complaint

D.S. is a 40-year-old white female with the chief complaint of pains for 8 months behind the right ear associated with nausea and motion sickness.

• History of Chief Complaint

This patient has been symptomatic for approximately eight months with nausea and motion sickness and right ear pain, getting progressively worse. She was referred by an internist who was concerned about the possibility of an acoustic neuroma, however, did entertain the possibility of postural problems. The patient complained of significant neck problems with noticeable tension and the need to constantly stretch. She also noted some constant aching in the left hip. The patient had dental work approximately one year ago at which time two permanent bridges were installed and an upper right tooth extracted.

AAO Case History:

Iatrogenic injury to the cranial mechanism

by Richard W. Skurla, DO, CSPOMM

• Past Medical History

The patient had two children by normal spontaneous vaginal delivery. She has hypothyroidism and candidiasis.

• Past Surgical History

Significant for a remote appendectomy and tonsillectomy as well as a recent endometrial ablation and a tooth extraction one year ago.

• Social History

The patient is a homemaker.

• Allergies

Denied

• Medications

Diflucan, Synthroid, Cytomel, herbs, vitamins and minerals.

• Physical Examination

Height: 5'5 1/2"

Weight: 185 lbs.

Vital signs: Within normal limits

ENT exam: Within normal limits

Neurological exam: Within normal limits

Structural exam:

Head region: Upon opening, the mandible translates to the right, there is significant hypertonicity in the right digastric muscle and the hyoid bone is translated to the right. There is significant hypertonicity in the right sternocleidomastoid muscle, and marked restriction of the right occipitomastoid suture. The right temporal bone is locked in internal rotation. The greater wing of the right sphenoid is elevated. *Cervical region:*

C0 is extended, rotated left side bent right. C1 is rotated left. *Lumbosacral region:* L5 is flexed rotated left side bent left. *Pelvic region:* The pelvic region is significant for right piriformis hypertonicity as well as right Psoas muscle hypertonicity.

• Initial Assessment

1. Right otalgia and vertigo, most likely secondary to articular strain of the cranium.

2. Rule out acoustic neuroma if symptoms do not abate with appropriate osteopathic treatment.

• Treatment Plan

Cranial manipulative technique to mobilize the restricted right temporal bone likely responsible for the ear pain and motion sickness.

• Course of Treatment

This patient was treated eight times over the course of three months. After her initial visit it was noted that cranial technique (V spread and exaggeration) had completely resolved both the peripheral locking restriction of the right occipitomastoid suture and the sphenopetrous lesion, with restoration of balanced muscle activity in the right digastric and right sternocleidomastoid. Attention was then turned to the first and second cervical joints as well as the lumbosacral dysfunction. Counterstrain and muscle energy techniques were used to normalize the occipito-atlantal and lumbosacral dysfunctions, and after the third treatment there was no further ear pain and markedly diminished motion sickness. After the fifth treatment the left

hip pain and the neck stiffness were reduced significantly. The patient was advised to begin an active aerobic exercise program as well as lumbar stabilization exercises and postural training exercises. The residual symptoms abated after eight weeks of supportive exercise.

• Discussion

This case exemplifies the diagnostic abilities inherent to osteopathic principles and practice. The patient portrayed a pattern of iatrogenic injury to the cranial mechanism as a result of tooth extraction and bridge work. Manifestation of symptoms became pronounced four months after the dental work was performed. The patient suffered for approximately eight months before consulting a physician regarding her symptoms.

Her condition at the time of the dental work was such that she was mildly posturally decompensated, secondary to moderate obesity and sedentary life style. The tooth extraction likely created the sphenopetrous dysfunction as well as the significant restriction in the right occipitomastoid resulting in symptoms of right ear pain and motion sickness which insidiously developed over the course of four months. Her symptoms progressed over the course of the following eight months, and were not self limiting. Prior to a costly MRI to rule out a possible acoustic neuroma, osteopathic manipulative evaluation and treatment were performed resulting in prompt resolution of her symptomatology without further need for expensive diagnostic testing. □

The AAO Journal Index 1996

A Publication of the American Academy of Osteopathy

By Author:

Banihasem, Mary DO

"Pilot Study to Establish Whether Osteopathy Reduces General Practice Consultation Rate of Musculoskeletal Problems Based on Patient Perception of Effectiveness of the Osteopathic Treatment -Part I" Volume 6, Number 3, Fall 1996, pp. 11-13, 23-26

"Pilot Study to Establish Whether Osteopathy Reduces General Practice Consultation Rate of Musculoskeletal Problems Based on Patient Perception of Effectiveness of the Osteopathic Treatment -Part II" Volume 6, Number 4, Winter 1996, pp. 23-30

Chadwick, Kirsten S.App.Sc.Osteo

"The Efficacy of Osteopathic Treatment for Primary Dysmenorrhea in Young Women" Volume 6, Number 3, Fall 1996, pp. 15-18

Chaitow, Leon ND, DO

"Muscle Energy Techniques" Volume 6, Number 3, Fall 1996, p. 31

Dean, Ann M. DO

"A Review of Counterstrain Handbook of Osteopathic Technique" Volume 6, Number 1, Spring 1996, p. 30

Gintis, Bonnie R. DO

"AAO Case Study: Recurrent Otitis Media" Volume 6, Number 2, Summer 1996, pgs. 16-17

"AAO Case Study: Recurrent Otitis Media" Volume 6, Number 2, Summer 1996, pgs. 16-17

Gorbis, Sherman DO, FAAO

"The Effects of Somatic Dysfunction on the Spinal Accessory Nerve (CN XI) with Subsequent Distal Dysfunctions" Volume 6, Number 2, Summer 1996, pgs. 13-15, 29-31

"The Effects of Somatic Dysfunction on the Spinal Accessory Nerve (CN XI) with Subsequent Distal Dysfunctions" Volume 6, Number 2, Summer 1996, pgs. 13-15, 29-31

"The Effects of Somatic Dysfunction on the Spinal Accessory Nerve (CN XI) with Subsequent Distal Dysfunctions" Volume 6, Number 2, Summer 1996, pgs. 13-15, 29-31

Grinshaw, David N. DO

"The Osteopathic Physician Teacher" Volume 6, Number 1, Spring 1996, pp. 33-34

Heath, Deborah M. DO

"Outcome Research on Health Care in Ambulatory Care Practice" Volume 6, Number 2, Summer 1996, pg. 18

"Outcome Research on Health Care in Ambulatory Care Practice" Volume 6, Number 2, Summer 1996, pg. 18

Planning Research on Ambulatory Care Volume 6, Number 4, Winter 1996, pp. 37-38

Johnson, Kenneth H. DO

"A Functional Approach to Heel Lift Therapy" Volume 6, Number 1, Spring 1996, pp. 13-15

"A Functional Approach to Heel Lift Therapy" Volume 6, Number 1, Spring 1996, pp. 13-15

Jones, III, John M. DO

"Case History: Somatic Dysfunctions Related to Chronic Lumbar and Hip Strain" Volume 6, Number 1, Spring 1996, pp. 24-28

"Case History: Somatic Dysfunctions Related to Chronic lumbar and Hip Strain" Volume 6, Number 1, Spring 1996, pp. 24-28

"Case History: Somatic Dysfunctions Related to Chronic Lumbar and Hip Strain" Volume 6, Number 1, Spring 1996, pp. 24-28

Korr, Irvin M. PhD

"From the Archives: Osteopathy and Medical Evolution (1962)" Volume 6, Number 1, Spring 1996, p. 31

Mack, Warren B. DO

"From the Archives: Read at Annual Meeting of Massachusetts Osteopathic Society, January 2, 1915" Volume 6, Number 2, Summer 1996, pgs. 33-34

Mitchell, Jr., Fred L. DO, FAAO

"The Muscle Energy Manual, Volume One" Volume 6, Number 2, Summer 1996, p. 26

Mulligan, Terrence MS-III

"An Osteopathic Approach to HIV/AIDS" Volume 6, Number 2, Summer 1996, pgs. 9-11, 20-25

"Errata Slip: An Osteopathic Approach to HIV/AIDS" Volume 6, Number 3, Fall 1996, pg. 21

Norton, James M. PhD

A Challenge to the Concept of Craniosacral Interaction Volume 6, Number 4, Winter 1996, pp. 15-21

Page, Leon E DO

From Principles of Osteopathy Volume 6, Number 4, Winter 1996, p. 22

Scholars , Henrietta (Hennie) DO

"AAO Case History: Common Problems in Newborns and Infants" Volume 6, Number 3, Fall 1996, pgs. 19-20

"AAO Case History: Common Problems in Newborns and Infants" Volume 6, Number 3, Fall 1996, pgs. 19-20

Skurla, Richard W. DO, CSPOMM

Iatrogenic Injury to the Cranial Mechanism Volume 6, Number 4, Winter 1996, pp. 36-37

Stiles, Edward G. DO, FAAO

Conflicting Visions Volume 6, Number 4, Winter 1996, pp. 9-12, 31-35

Still, A. T. MD

"From the Archives: An Appeal from Dr. Andrew Taylor Still to Thinking Osteopaths" Volume 6, Number 3, Fall 1996, p. 9

Tettambel, Melicien A. DO, FAAO

"Mind, Machinery and Manipulation" Volume 6, Number 1, Spring 1996, pgs. 9-11

Treadwell, Robert C. UTF

"Sacral Shear: Review and a New Treatment Method for Obstetrical Patients" Volume 6, Number 1, Spring 1996, pp. 16-18

"Sacral Shear: Review and a New Treatment Method for Obstetrical Patients" Volume 6, Number 1, Spring 1996, pp. 16-18

By Subject:

Ambulatory Care

"Outcome Research on Health Care in Ambulatory Care Practice"; Heath, Deborah M. DO; Albert F. Kelso, PhD Volume 6, Number 2, Summer 1996, pg. 18

Case Study

"AAO Case History: Common Problems in Newborns and Infants"; Scholars , Henrietta (Hennie) DO; Volume 6, Number 3, Fall 1996, pgs. 19-20;

"AAO Case Study: Recurrent Otitis Media"; Gintis, Bonnie R. DO; Volume 6, Number 2, Summer 1996, pgs. 16-17;

"Case History: Somatic Dysfunctions Related to Chronic Lumbar and Hip Strain"; Jones, III, John M. DO; Volume 6, Number 1, Spring 1996, pp. 24-28;

Iatrogenic Injury to the Cranial Mechanism; Skurla, Richard W. DO, CSPOMM; Volume 6, Number 4, Winter 1996, pp. 36-37;

Craniosacral

A Challenge to the Concept of Craniosacral Interaction; Norton, James M. PhD; Volume 6, Number 4, Winter 1996, pp. 15-21;

Distal Dysfunctions

"The Effects of Somatic Dysfunction on the Spinal Accessory Nerve (CN XI) with Subsequent Distal Dysfunctions"; Gorbis, Sherman DO, FAAO; Volume 6, Number 2, Summer 1996, pgs. 13-15, 29-31

Dysmenorrhea

"The Efficacy of Osteopathic Treatment for Primary Dysmenorrhea in Young Women"; Chadwick, Kirsten S.App.Sc.Osteo; Averille Morgan, B.App.Sc.Osteo Volume 6, Number 3, Fall 1996, pp. 15-18

From the Archives

From Principles of Osteopathy; Page, Leon E DO; Volume 6, Number 4, Winter 1996, p. 22;

"From the Archives: An Appeal from Dr. Andrew Taylor Still to Thinking Osteopaths"; Still, A. T. MD; Volume 6, Number 3, Fall 1996, p. 9;

"From the Archives: Osteopathy and Medical Evolution (1962)"; Korr, Irvin M. PhD; Volume 6, Number 1, Spring 1996, p. 31;

"From the Archives: Read at Annual Meeting of Massachusetts Osteopathic Society, January 2, 1915"; Mack, Warren B. DO; Volume 6, Number 2, Summer 1996, pgs. 33-34

Heel Lift Therapy

"A Functional Approach to Heel Lift Therapy"; Johnson, Kenneth H. DO; Volume 6, Number 1, Spring 1996, pp. 13-15;

HIV/AIDS

"An Osteopathic Approach to HIV/AIDS"; Mulligan, Terrence MS-III; Volume 6, Number 2, Summer 1996, pgs. 9-11, 20-25;

"Errata Slip: An Osteopathic Approach to HIV/AIDS"; Mulligan, Terrence MS-III; Volume 6, Number 3, Fall 1996, pg. 21;

Lumbar and Hip Strain

"Case History: Somatic Dysfunctions Related to Chronic Lumbar and Hip Strain"; Jones, III, John M. DO; Volume 6, Number 1, Spring 1996, pp. 24-28;

Nerve

"The Effects of Somatic Dysfunction on the Spinal Accessory Nerve (CN XI) with Subsequent Distal Dysfunctions"; Gorbis, Sherman DO, FAAO; Volume 6, Number 2, Summer 1996, pgs. 13-15, 29-31

Newborns

"AAO Case History: Common Problems in Newborns and Infants"; Scholars, Henrietta (Hennie) DO; Volume 6, Number 3, Fall 1996, pgs. 19-20;

Northup Lecture

Conflicting Visions; Stiles, Edward G. DO, FAAO; Volume 6, Number 4, Winter 1996, pp. 9-12, 31-35;

Obstetrics

"Sacral Shear: Review and a New Treatment Method for Obstetrical Patients"; Treadwell, Robert C. UTF; Warren W. Magnus, UTF Volume 6, Number 1, Spring 1996, pp. 16-18;

Otitis Media

"AAO Case Study: Recurrent Otitis Media"; Gintis, Bonnie R. DO; Volume 6, Number 2, Summer 1996, pgs. 16-17;

Pilot Study

"Pilot Study to Establish Whether Osteopathy Reduces General Practice Consultation Rate of Musculoskeletal Problems Based on Patient Perception of Effectiveness of the Osteopathic Treatment -Part I"; Banihasem, Mary DO; Volume 6, Number 3, Fall 1996, pp. 11-13, 23-26

Postural Imbalance

"A Functional Approach to Heel Lift Therapy"; Johnson, Kenneth H. DO; Volume 6, Number 1, Spring 1996, pp. 13-15;

Research

"Outcome Research on Health Care in Ambulatory Care Practice"; Heath, Deborah M. DO; Albert F. Kelso, PhD Volume 6, Number 2, Summer 1996, pg. 18

Planning Research on Ambulatory Care; Heath, Deborah M. DO; Albert F. Kelso, PhD Volume 6, Number 4, Winter 1996, pp. 37-38;

Review

"A Review of Counterstrain Handbook of Osteopathic Technique"; Dean, Ann M. DO; Volume 6, Number 1, Spring 1996, p. 30;

"Muscle Energy Techniques"; Chaitow, Leon ND, DO; Volume 6, Number 3, Fall 1996, p. 31

"The Muscle Energy Manual, Volume One"; Mitchell, Jr., Fred L. DO, FAAO; P. Kai Galen Mitchell, BA Volume 6, Number 2, Summer 1996, p. 26;

Sacral Shear

"Sacral Shear: Review and a New Treatment Method for Obstetrical Patients"; Treadwell, Robert C. UTF; Warren W. Magnus, UTF Volume 6, Number 1, Spring 1996, pp. 16-18;

Scott Memorial Lecture

"Mind, Machinery and Manipulation"; Tettambel, Melicien A. DO, FAAO; Volume 6, Number 1, Spring 1996, pgs. 9-11;

Somatic Dysfunction

"Case History: Somatic Dysfunctions Related to Chronic Lumbar and Hip Strain"; Jones, III, John M. DO; Volume 6, Number 1, Spring 1996, pp. 24-28;

"The Effects of Somatic Dysfunction on the Spinal Accessory Nerve (CN XI) with Subsequent Distal Dysfunctions"; Gorbis, Sherman DO, FAAO; Volume 6, Number 2, Summer 1996, pgs. 13-15, 29-31

Special Communication

"The Osteopathic Physician Teacher"; Grimshaw, David N. DO; Volume 6, Number 1, Spring 1996, pp. 33-34;

AAO Annual Convocation

THE BRO^ADMOOR HOTEL
Colorado Springs, CO

March 19-22, 1997

"Body,
Mind,
and Spirit"

The MBNA America® Gold MasterCard®. It's the one more doctors order.

For physicians, the hours are long but time is always short. Remedy: This Gold MasterCard® from MBNA America®. Designed specifically to keep pace with the demands of today's physician, it offers the advantages of individually established credit lines – up to \$50,000 as well as the convenience of the special priority privileges listed below – at no additional cost.

8.9% introductory Annual Percentage Rate (APR) on Cash Advances and Balance Transfers and . . .

NO annual fee!

- 24-hour customer service
- While traveling, you're automatically covered with up to \$1 million Common Carrier Travel Accident Insurance when you use Gold-Passage® Travel Services and your AAO Gold Card to purchase tickets on any common carrier worldwide.
- Nearly everything you purchase is protected up to 90 days against damage or theft
- Immediate access to cash around the world at more than 220,000 financial institutions and over 160,000 ATMs
- Start each year with a record of your previous year's charges. We'll send you your Year-end Summary of Charges to help you prepare for tax season and track your spending habits. \$5 charge
- Emergency Cash and replacement airline tickets, up to your credit limit
- Emergency medical or legal network

The AAO has chosen to endorse the MBNA Gold MasterCard® card because it reflects the unsurpassed commitment to quality that has made MBNA one of the nation's leading credit card companies. Our decision was clear: the MBNA Gold MasterCard® card – there is no comparison!

**To apply for your AAO Card
by calling 1-800-847-7378**

Calendar of Events

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

February, 1997

8-9

Winter OMT Update
*Application of Osteopathic Concepts
in Clinical Medicine plus
Preparation of the OMM Boards*
18 Hours, Category 1-A
The Westin Hotel at Fountain Square
Cincinnati, OH

March

18

Grant Proposal Planning and Writing
Lynn E. Miner, PhD
Director of Grants Office,
Marquette University
Milwaukee, WI
6 Hours, Category 1-A
The Broadmoor Hotel
Colorado Springs, CO

19-22

*Annual Convocation
Boby, Mind and Spirit*
American Academy of Osteopathy
John M. Jones, III, DO, Program Chair
30 Hours – Category 1-A
The Broadmoor Hotel
Colorado Springs, CO

April

26-27

*OMT and the McManis Table: A Manipu-
lative Update*
Michael L. Kuchera, DO, FAAO, Program
Chair and Instructor
12 Hours – Category 1-A
Kirksville College of Osteopathic
Medicine
Kirksville, MO

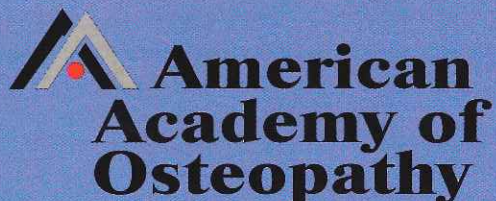
May

2-4

*Exercise Prescription for Manipulative
Medicine*
Brad S. Sandler, DO, Program Chair and
Instructor
*Special Guest Faculty – Philip E.
Greenman, DO, FAAO*
20 Hours – Category 1-A
AAO Headquarters
Indianapolis, IN

16-18

Muscle Energy Tutorial
Walter Ehrenfeuchter, DO, FAAO,
Program Chair and Instructor
20 Hours – Category 1-A
Airport Holiday Inn
Indianapolis, Indiana



3500 DePauw Boulevard
Suite 1080
Indianapolis, IN 46268-1136

ADDRESS CORRECTION AND
FORWARDING REQUESTED

NON-PROFIT ORG.
U.S. POSTAGE
PAID
PERMIT NO. 14
CARMEL, INDIANA