

THE AAO

# JOURNAL



A Publication of the American Academy of Osteopathy

VOLUME 8 NUMBER 3 FALL 1998

## Scalene Entrapment Syndrome

...see page 25

# AAO's CME Calendar

American Academy of Osteopathy®

3500 DePauw Boulevard, Suite 1080

Indianapolis, IN 46268-1136

Phone: (317) 879-1881 or FAX: (317)879-0563

## October

5-8

AOA/AAO Convention

Elaine Wallace, DO, Program Chair  
New Orleans, LA

22-23

Introduction to OMT

John M. Jones, DO, Program Chair  
Virginia Beach, VA  
Hours: 16 Category 1A

24-25

Basic Muscle Energy

Walter Ehrenfeuchter, DO, FAAO  
Program Chairperson  
Virginia Beach, VA  
Hours: 16 Category 1A

## November

6-8

Visceral Manipulation (Thoracic)

John Glover, DO, Program Chair  
SFCOM  
San Francisco, CA  
Hours: 24 Category 1A

## December

4-6

Myofascial Release

Judith O'Connell, DO, FAAO  
Program Chairperson  
UOMHS  
Des Moines, IA  
Hours: 20 Category 1A

5-6

Basic Percussion 'Vibrator

Richard Koss, DO, Program Chair  
UOMHS  
Des Moines, IA  
Hours: 15 Category 1A

## January 1999

14-17

Introduction to OMT

Boyd Buser, DO, Program Chair  
Turtle Bay Hilton  
Kahuku, Oahu, Hawaii  
Hours: 23 Category 1A

29-31

Dx and Tx of Mechanical  
Low Back Pain

Sonoma Valley Inn  
Sonoma, CA  
Hours: 20 Category 1A

## February

20-21

Winter OMT Update

The Airport Westin  
Atlanta, GA  
Hours: 18 Category 1A

20-21

Facilitated Positional Release

The Airport Westin  
Atlanta, GA  
Hours: 18 Category 1A

## March

21-24

Visceral Manipulation-

Emotional Release and Trauma

Featuring: Jean-Pierre Barral, DO

The Adams Mark Hotel  
St. Louis, MO  
Hours: 32 Category 1A

## TRUST 2000: A Legacy to the Osteopathic Profession

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

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

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

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

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

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

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

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

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**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.**

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# Instructions to Authors

The American Academy of Osteopathy (AAO) Journal is a peer-reviewed publication for disseminating information on the science and art of osteopathic manipulative medicine. It is directed toward osteopathic physicians, students, interns and residents and particularly toward those physicians with a special interest in osteopathic manipulative treatment.

The AAO Journal welcomes contributions in the following categories:

## **Original Contributions**

Clinical or applied research, or basic science research related to clinical practice.

## **Case Reports**

Unusual clinical presentations, newly recognized situations or rarely reported features.

## **Clinical Practice**

Articles about practical applications for general practitioners or specialists.

## **Special Communications**

Items related to the art of practice, such as poems, essays and stories.

## **Letters to the Editor**

Comments on articles published in *The AAO Journal* or new information on clinical topics. Letters must be signed by the author(s). No letters will be published anonymously, or under pseudonyms or pen names.

## **Professional News**

of promotions, awards, appointments and other similar professional activities.

## **Book Reviews**

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

## **Note**

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

## **Submission**

Submit all papers to Raymond J. Hruby, DO, FAAO, Editor-in-Chief, MSU-COM, Dept. of Osteopathic Manipulative Medicine, A-439 E. Fee Hall, East Lansing, MI 48824.

## **Editorial Review**

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

## **Requirements for manuscript submission:**

### **Manuscript**

1. Type all text, references and tabular material using upper and lower case, double-spaced with one-inch margins. Number all pages consecutively.
  2. Submit original plus three copies. Retain one copy for your files.
  3. Check that all references, tables and figures are cited in the text and in numerical order.
  4. Include a cover letter that gives the author's full name and address, telephone number, institution from which work initiated and academic title or position.
  5. Manuscripts must be published with the correct name(s) of the author(s). No manuscripts will be published anonymously, or under pseudonyms or pen names.
  6. For human or animal experimental investigations, include proof that the project was approved by an appropriate institutional review board, or when no such board is in place, that the manner in which informed consent was obtained from human subjects.
  7. Describe the basic study design; define all statistical methods used; list measurement instruments, methods, and tools used for independent and dependent variables.
  8. In the "Materials and Methods" section, identify all interventions that are used which do not comply with approved or standard usage.
- ### **Computer Disks**
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1/2" disks, MS-DOS formats using either 3-1/2" or 5-1/4" discs are equally acceptable.

## **Abstract**

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

## **Illustrations**

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

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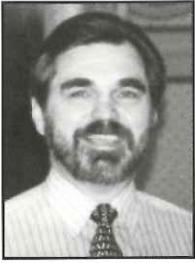
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## **Editorial Processing**

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 principles: Know them and live them

If you have been keeping up with the articles appearing in recent years in such publications as the *Journal of the AOA*, and our own *Journal*, you know that there has been a lot of discussion about osteopathic identity, and whether we are losing this identity as a profession. This causes me to think about how often we are called upon to explain who we are, what we do, how we differ from other health care practitioners, and other similar questions. We struggle to define for ourselves and others our philosophy and principles. We struggle to show how our approach to patients is distinctive. We struggle to understand our own philosophy and principles, to establish our identity.

But it seems to me that the problem with our struggle with osteopathic identity is not so much defining it, but living it. It always seemed to me that this profession has a very clear set of principles and a very identifiable philosophy. But do we live it and practice it every day, so that others can clearly recognize us as the unique professionals that we are?

When my mind dwells on these kinds of issues, I often turn to the writings of A. T. Still or those who were close to him for insight. If the reader will forgive me a long quotation, rather than my own ramblings, I would like to share with you some

words from *The Principles of Osteopathy* (Fifth Edition, 1915), by G.D. Hulett, DO. I have always understood that Hulett was very accurate in explaining osteopathy as taught by Dr. Still. In his book (pp. 12-13), he explains some things about osteopathy that I think are very well said. This is what he says: "It is further necessary to make a fairly clear distinction between principles and practice. It is a peculiar characteristic of the average beginner to long for the opportunity to observe and experiment upon cases.

He has imbibed the idea that osteopathy consists essentially in the performance of certain movements upon the patient. But it is necessary to emphasize that before such movement shall be intelligently applied, certain fundamental facts are essential; and it is in the development of these required facts that the principles of osteopathy consists.

Dr. Still has repeatedly emphasized that a "plan and specification" is necessary before intelligent work can be done. There must be in the mind of the student a "living picture," not only of the form and feature but also of the function, the tendencies toward and away from the line marked out by heredity, and every phase and fact that may be known regarding the complete life of the individual. It is

true no such picture was held by the pioneer in earlier times. But it is significant that there are few great poets or musicians who are ignorant of the laws underlying their art. The farmer may be able to produce a crop with no knowledge whatever of the chemistry of soils or the laws of plant growth, but the present development of agriculture could never have been reached had not such laws been discovered and formulated. The school teacher may be able to develop the minds of the young and yet be ignorant of pedagogics, but he can never occupy first place.

Osteopathy is no exception to this rule. Dr. Still mentions the fact that while yet a boy, a case of headache was aborted by resting his suboccipital region within a rope swing (*Still: Autobiography*). That was the art of osteopathy. Similar cases and observation of other facts accumulated until an inkling was obtained of a law underlying the several facts. The recognition of that law and the application of it to still further cases constituted the beginning of the science.

The accumulation and systematization of facts, even though many facts remained unexplained, justified the presentation of a working hypothesis. It is the discussion of this hypothesis and the facts substantiating

*continued on page 17*

# Message from the President

by Melicien A. Tettambel, DO, FAAO



## AOA reaffirms OMM certification

The month of July was an unusually busy time. The American Osteopathic Association's Board of Trustees met prior to the House of Delegates meeting and clarified its position on certification in osteopathic manipulative medicine. The Board unanimously reaffirmed its recognition of general certification earned by osteopathic physicians via the American Osteopathic Board of Special Proficiency in Osteopathic Manipulative Medicine. The AOA Special Task Force on OMM Certification and Credentials, in addition to the Academy's leadership, successfully addressed the concerns expressed by AOA board members and representatives of individual AOA practice affiliates.

The AOA Board of Trustees now has directed its Task Force to work with AOBSPOMM and the Academy to address the following issues in a most timely fashion (hopefully by the October 1998 board meeting):

- replace AOBSPOMM with a new certifying board holding jurisdiction for general certification in OMM;
- provide documented assurance that all osteopathic physicians have the opportunity to be reimbursed for osteopathic manipulative treatment;
- recognize all current OMM-certified physicians as "certified";
- provide for all current OMM residents to continue their training and obtain certification;
- review and revise as needed the basic standards for residency training in OMM to ensure that this specialty represents a practice focus or body of knowledge, not just a technical or manual skill;
- place a moratorium on enrollment of new trainees in OMM residency programs until approval of the revised basic standards documents.

AOBSPOMM, the Academy's Education and Postdoctoral Standards and Evaluation committees have been diligently working to recommend appropriate changes to documents, programs, and educational issues in a timely fashion to assist those who wish to become

certified. If there are additional concerns, do not hesitate to contact me. I am most confident that the Academy's leadership and committee members will address all of these issues in a most positive fashion to assist the AOA in reaching a successful outcome.

While the AAO leadership has advocated for the preservation of general certification in OMM throughout these negotiations, individual Academy members can certainly express their own concerns to the AOA Board of Trustees. I urge AAO members to be highly professional in their communications about these matters and focus their comments on the facts, e.g. OMM is general certification; OMM is a practice focus/body of knowledge; OMM is a viable specialty for osteopathic physicians; etc.□

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# Message from the Executive Director

by Stephen J. Noone, CAE



## Why is staff present at so many national meetings?

Over the past three months, several readers called or sent notes, responding to the previous Executive Director's Message in which I explained how the Academy's educational programs were great "values" in the osteopathic medical profession. In the article, I noted the reasons why AAO's continuing medical education programs required higher participant tuition than the typical medical seminar. I am grateful for the feedback and pleased to hear from Academy members on this and all topics pertaining to AAO programs and services.

One respondent went further, suggesting that the Academy could save additional dollars if the executive director and/or staff did not travel to "so many" meetings. The inferences were (1) an achievement of significant budget savings, and (2) that there is insufficient benefit gained by Academy from the on-site presence of staff members at educational seminars, as well as American Osteopathic Association and affiliated organization meetings. This is a legitimate issue and one which the Academy's leadership and staff routinely have considered as part of both ongoing management and planning for the future.

As part of the job description for the executive director, the Board of Trustees has identified important, profession-wide meetings which require staff attendance. These may include such pertinent AOA meetings as Board of Trustees, House of Delegates, Council on Federal Health Programs, Osteopathic Medical Education Leadership Conference, American Association of Colleges of Osteopathic Medicine and American Osteopathic Healthcare Association. Whether or not the Academy sends its staff to these meetings will vary, depending on meeting agenda, other Academy leadership's attendance and appropriated funds in the AAO annual budget.

Perhaps illustrations will serve to explain further. At the February 1998 AOA Board of Trustees meeting, the Academy had several critical issues on the agenda.

President Ann Habenicht, President-elect Melicien Tettabel and I represented the Academy. Our participation enabled us to cover all of the Board's concurrent reference committees to communicate the AAO's position on individual resolutions. However, and maybe even more important, the opportunity to gather together on-site to "caucus" on emerging issues enabled us to have greater influence on the outcomes of the board's deliberations. In my personal opinion, the AAO's achievement of greater political stature within the osteopathic medical profession is due in part to the Academy leadership's attendance and active participation in these national meetings.

At larger AAO CME programs and several component society meetings, the Academy staffs an exhibit to promote its programs and services. While there indeed is an expense to shipment of materials and staff participation, the financial return in on-site book sales, recruitment of new members and registration for future AAO educational programs typically exceed this expense. There also is an immeasurable benefit to the Academy in the visible presence of staff who can communicate one-on-one with AAO members and respond directly to their questions. I know when I return from an AAO exhibit, I normally have a lengthy "to-do" list in following-up my interactions with Academy members at that meeting alone.

In summary, the Academy's leadership takes very serious their fiduciary responsibility for the use of AAO members' dues. By the adoption of the annual budget, the Board of Trustees appropriates funds which will enable the Academy to fulfill the organization's long range plan as approved by the Board of Governors. The Secretary-Treasurer and Trustees maintain oversight on the staff's performance in operating the Academy within those parameters. I believe that the Academy and its members should take pride in being able to accomplish so much within this profession while, at the same time, achieving a balanced budget for the first time in over ten years. □

# Letter to A.T. Still

Dear Doctor Still:

I always enjoy learning something new about you, and about your wonderful discovery, osteopathy. You may recall that, not long ago, I wrote to you wondering what you may have meant when you said these words: "It will be an essential part of your training. But keep in mind while it may tell you how much the house is on fire, it does not tell you what started the fire and what is keeping it burning." At the time I found this quote only in a small book of quotations by you, a book written by Robert E. Truhlar, DO and entitled, *Dr. A. T. Still in the Living*. I thought that you were perhaps referring to pharmaceutical agents, or to the standard disease-oriented medical approach of your time.

I also wondered why this quote appeared in Truhlar's book in the "L" chapter, since there are no words in this statement that begin with that particular letter. Recently, I came across the *1948 Yearbook of the Academy of Applied Osteopathy*. (This yearbook was dedicated to you, by the way, in honor of the Academy's tenth year of existence). In this yearbook was a paper written by H. H. Gravett, DO, entitled "Echoes from Dr. Still's Lectures to the Class of Ninety Six." Dr. Gravett prefaced the above quote (p. 49) with the words, "He said, of lab work." So that was it! You were referring to excessive reliance on the use of laboratory studies to diagnose patients. Hence the appearance of this quote under the letter "L"

in Truhlar's book!

Not only that, but Gravett followed those words with these, presumably also your words: "In quantity and quality, you may find the blood stream normal as revealed by the Laboratory tests, but if it is not moving on time, there is the beginning of disorder and disorder is the beginning of disease. For the rule of the artery is supreme." How interesting to gain more insight into your thoughts! You were the one who always urged your students to "dig on." May we all keep digging on, until we understand as much as possibly can about the principles of osteopathy.

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

□

## Affiliated organization's CME calendar...

### October 1

National Osteopathic Foundation moving to Chicago under the umbrella of the American Osteopathic Association. NOF will be located within the AOA Headquarters.

### October 9-11

*The Three Diaphragms,*  
A continuing studies course  
Melicien Tettambel, DO, FAAO, Director  
Sutherland Cranial Teaching Foundation, Inc  
UNECOM, Biddeford, ME  
Contact: Judy Staser  
(817) 735-2498

### November 6-8

*The Face*  
SCTF Intermediate Course  
Douglas Vick, DO, Program Director  
Eastmoreland Hospital  
Portland, OR  
Contact: Eastmoreland Hospital  
OMM Department  
(503) 230-2501

### November 20-22

*Annual Conference*  
The Osteopathic Wilderness Medical Society  
Anapolis, CA  
Hours: 18-20 Category 1A  
Contact: Dickie Hill, DO  
(707) 745-3785

### January 23-27, 1999

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

### February 11-15, 1999

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

### February 25-28, 1999

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

### May 20-24, 1999

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

# The principles of osteopathic structural therapy- Part II

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

Pressure, as used in osteopathic structural technique, may be applied suddenly, as in the adjustive thrust, or it may be applied slowly or intermittently to articulations of soft tissues. The thrust is used to secure sudden release of pressure upon articulating surfaces, chiefly in the spine. It is usually applied by the palmer surface of the hand over one or more vertebrae involved in a structural lesion.

As in leverage, the thrust represents the concentration of force in a small area and must be used with caution to avoid injury. The thrust should be employed only over potentially movable joints. It should be applied parallel to the plane of the articulation and in a direction away from the point of greatest fixation. This maneuver is usually employed in conjunction with leverage which places the joint in the most favorable position for correction. Sudden movement of the joint, whether by thrust or high velocity leverage, is often accompanied by an audible "pop" which has come to be identified with osteopathic technique. Skillful adjustment with a minimum of force, accurately applied, will usually restore anatomical integrity without an accompanying "pop."

In corrective technique by pressure, the objective is to restore functional relationship in an articulation by reversing the movements which caused the lesion. This demands exact knowledge of the physiological movements of the spine and the mechanics of lesion production. Pressure must be applied in definite areas and

in a direction indicated by the mechanical maladjustment. Indiscriminate thrusting at lesioned articulations may result in further trauma. Not only must the plane of the articulation be visualized, but the forces which maintain the lesion must be analyzed and accurate counter force applied.

In the correction of spinal lesions it has been found that the application of external force is not always necessary. In order to preserve structural integrity, in spite of various traumatic environmental influences to which the body is constantly subjected, an automatic corrective mechanism has been developed which tends to restore anatomical balance. This tendency to auto adjustment may be used in technique by measures which release immobilized articulations and thus allow natural corrective forces to operate. The primary respiratory mechanism as described by Sutherland operates as a powerful corrective force if mechanical impediments to its operation are removed by suitable technique. In some cases, an immobilized articulation may be released by pressure applied in such a way as to slightly exaggerate the malposition. Once release of muscular and fascial tension is secured, correction follows as a mechanical consequence without the application of more force. In many cases, the patient may be asked to execute certain voluntary movements which result in correction in cooperation with certain pressures applied by the operator. Skilled technicians take advantage of these cooperative techniques and avoid the

danger of treatment trauma and conserve the energy of the operator.

Pressure is applied to soft tissues for the purpose of relaxing contracted muscles, releasing fascial tensions, and mechanically stimulating certain viscera. It may consist of steady or intermittent pressure in specific localities or in kneading movements applied to soft tissue areas. Soft tissue technique as used in osteopathic structural therapy, differs from conventional massage in that friction of the skin is avoided except when counterirritation is desired. Pressure over inflamed areas and distended hollow visci is avoided. Kneading movements are carried out gently but firmly and at a distance from acutely inflamed areas. Relaxation of contracted muscles can usually be obtained by mobilization of the bones to which they are attached with release of tension. Caution should be used in the application of soft tissue technique to areas involved in acute traumatic lesions, as pressure and traction may increase the tissue hemorrhage, as observed by Burns in animal experiments. Soft tissue technique should be used for specific purpose and not as a routine procedure to complete a "general treatment."

The precise techniques employed in the practice of osteopathic structural therapy are many and represent the accumulation of more than fifty years of clinical experience by independent investigators working with a relatively new therapeutic technique. All of these

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methods depend for their effectiveness upon the ability of the body to exercise its potential self-healing capacities. Each operator must adapt these mechanical principles to his physical capacity according to his mechanical ingenuity. As Hoover says, "Technique applied merely as technique leads to disappointment and failure. Technique is a tool. The mind and hand must be trained to use the tool intelligently and skillfully, else the tool may prove useless and harmful."

Most techniques in use today are modifications of those originated by Still during the early years of his experimental work. A review of the writings of Still discloses the fact that much of his teaching was by actual demonstration and that much that he taught may become lost as his former pupils drop from practice. However, he did leave written descriptions of many of his techniques which should be read, not only for their historical interest, but also as classical examples of his original approach to clinical problems from a structural standpoint. Following are some techniques as described in his book, *Osteopathy, Research and Practice*.

Still believed that malpositions of the hyoid bone are of significance in throat pathology. He describes his structural technique as follows: "Having the chin drawn forward and downward, gently raise the hyoid bone up, being careful to do no bruising or injuring of the parts. Draw the bone carefully forward, one side at a time, after having loosened the structures about it and under the inferior maxillary bone. When I wish to adjust these bones from any variation back to the normal, I generally place one hand back of the patient's head, letting the fingers come well around to the transverse processes. Then I gently lean the head toward my fingers, away from myself, holding my fingers firmly on the hard processes and giving the neck a very slight twisting motion backward and forward until I am satisfied all ligaments are free and

not held in any abnormal position. At this particular place in my treatment I place the fingers of one hand on the front side of the neck and the fingers of the other hand behind and between the inferior maxilla and the atlas and axis and then, gently but firmly, pull hard enough to separate the head from the inferior maxillary tangle in which I generally find it."

To Still, most headaches appeared to result from structural abnormalities in the cervical spinal area, and an idea which was startlingly new and original at the time. The following technique was suggested by him for the relief of persistent headache: "For continued or periodic headaches I begin in every case at the occiput by laying my fingers flat on the back of the neck over the occipital nerves. Here I bring gentle but firm pressure for a few minutes, during which time I find the muscles relaxing under my fingers on both sides of the neck from the base of the skull to the fifth cervical vertebra. After this inhibition, I place my fingers on the transverse processes of the atlas, axis, and other cervical vertebrae. While doing this I generally press on the top of the patient's head with my breast, bringing the pressure downward in the neck toward the body. This loosens the neck. Then I proceed to articulate the facets of all the joints of the neck beginning with the atlas. After this is done, without any twisting or wringing of the neck, which I think is not necessary, I generally stretch the neck up a little, giving a slight motion to the right and left, holding my fingers on any bone that is out of position."

More cervical technique is described in the treatment for stiff neck as follows: "Place your patient on his back on the table with his head near the upper end. Then, standing at his head, begin your work upon the cervical vertebrae. Carefully test and make sure of every articulation. Draw your patient about six inches beyond the edge of the table and bring pressure on the head

down toward the body in order that the muscles of the neck can become loosened or shortened. Place the fingers of one hand on the under side of the neck to steady the transverse processes and then place the other fingers on the processes just above and, with a gentle rotary motion, move the neck so as to give freedom to the muscles which are held tight or irritated."

One of the more spectacular treatments used by Still was for the relief of asthma in which he treated the patient in the erect position as follows: "I sometimes treat asthmatic patients while they are standing up in the doorway, and at other times on the table. I place the back against the jamb of the door holding both shoulder blades squarely and firmly against the jamb. I then take my patient's right arm with my right hand, place my left hand back and under the armpit or axilla, carrying my fingers along the spine two or three inches above the lower border of the scapula, so as to get my fingers on the offending rib or ribs with their articulation with their articulation with the transverse processes of the vertebrae. Now, I raise the arm up strongly pressing my right shoulder against the patient's sternum, bringing the arm straight up high and parallel with the spine and head. While in that position, I throw the arm backward and firmly hold it up until I can pull the rib well up or down and in place. Now I draw the arm across or back of the head strongly and return the arm to the side, keeping my fingers firmly against the offending rib until it finds its place. Then taking hold at the elbow, give it a strong forceful push upward in order to loosen all muscles and ligaments that could hold down a rib below the transverse process of the vertebra. After this is done, I turn my patient's breast toward the door jamb and, beginning at the eighth rib, with my thumbs, I push up or down all ribs, even to the first, and know that every articulation is absolutely correct." □

# Case study: Neck and shoulder pain

by George Pasquarello, DO, CSPOMM, Saco, Maine

**Patient Identification:**

M.P. is a 24-year-old white female.

**Chief Complaint:**

Neck and shoulder pain

**History of chief complaint:**

M.P. is a 24-year-old white female who complains of neck and shoulder pain for the past few years as well as migraine headaches and left low back pain. M.P. was involved in a bungee jumping accident on July 20, 1992. At that time she was catapulted from the ground to the bungee tower, striking the back of her head and back against the tower from below. She was knocked unconscious, struck the tower another time, and proceeded to bounce on the bungee cord until her momentum stopped and she was able to be brought down to the ground. Initial evaluation by emergency physicians revealed a closed head injury and thoracolumbar strain. She was treated and released. She began treatment with osteopathic manipulation by another physician in 1992. She received periodic manipulative treatment as well as physical therapy and massage therapy. M.P. states that her pain seems worse after working for long hours at a time. She denies any radicular component to the pain. Denies any numbness, weakness, or paresthesias, and states that she has had some relief in the past from osteopathic manipulative treatment. She describes the pain as "a burning" and at times "achey," lasting for days at a time. Episodes of back pain are precursors to her migraine headaches which she describes as beginning over her left eye with a visual aura and progressing in the left frontal area until she becomes nauseated, photophobic and unable to function normally. Her migraines are typically relieved with Cafergot, though her neck pain is only relieved with Lortab and Flexeril.

**Past medical history:**

Gastric ulcers in 1990. Migraine headaches.

**Past surgical history:**

Partial gastrectomy secondary to perforated gastric ulcer in 1990. Adhesiolysis secondary to first surgery in 1991.

**Social history:**

M.P. works as a waitress, 20-30 hours per week. She smokes one pack per day since age 16. Drinks 2-3 beers per week. Denies any illicit drugs.

**Allergies:**

No known drug allergies.

**Medications:**

Lortab 5 mg./500., one every 6 hours. Flexeril 10 mg., one t.i.d. and Cafergot every six hours as needed for migraines.

**Physical exam:**

24-year-old white female who appears in no acute distress. Has somewhat flat affect, but is pleasant and conversant.

HEENT: Head is normocephalic and atraumatic.

EYES: PERLA, EOMI. Fundi without abnormalities.

EARS: TM's clear without erythema or fluid.

THROAT: Clear without erythema or exudate.

NECK: Supple without lymphadenopathy.

HEART: Regular rate and rhythm without murmurs.

LUNGS: Clear to auscultation bilaterally.

ABDOMEN: Soft, nontender. Positive bowel sounds x 4.

EXTREMITIES: Negative clubbing, cyanosis or edema. Distal pulses are intact bilaterally in upper and lower extremities.

NEUROLOGIC: Cranial nerves 2-12 are grossly intact without focal sensory or motor deficit. Deep tendon reflexes are +2/4 bilaterally in upper and lower extremities. Negative straight leg raise bilaterally at 90 degrees. Distal vibratory sense and 2 point discrimination are intact.

**Structural examination:**

STANDING: Patient appears to have mildly increased

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lumbar lordosis, thoracic kyphosis and cervical lordosis. No scoliosis noted. Positive standing flexion test on the left. SUPINE EXAM: leg lengths equal. Crest heights equal. Positive pelvic compression test on left with left innominate rotated anterior and inferior. Pelvis rolls easier to the right. L5 is rotated and sidebent right. L1 is rotated and sidebent left. Ribs 4-6 are restricted on the right. T1 is rotated and sidebent right. C2 is rotated right. OA is restricted on the right.

#### **Cranial evaluation:**

Occipitomastoid suture restricted on the right, temporal bone restricted in external rotation on the right, and SBS compression.

#### **Initial assessment:**

Chronic pain secondary to injury in 1992 with chronic cranial, cervical, thoracic, rib, lumbar, pelvis, and sacrum somatic dysfunction

#### **Treatment plan:**

OMT was utilized with myofascial release, articular techniques, balanced ligamentous techniques, and gently HVLA techniques. We began to taper M.P. from her chronic use of narcotics, though muscle relaxants continued to be used throughout the course of her treatment.

#### **Course of treatment:**

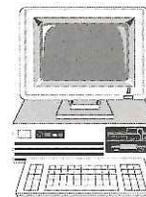
After initial treatment with this physician in 1994, M.P. had some improvement with her subjective complaints of pain in her lower back, but continued to have upper back pain. She was weaned from Lortab and changed to Ultram 50mg., b.i.d. over approximately seven months as she was very resistant to relinquishing the narcotics for pain control. After approximately five visits, which occurred over a period of 2 1/2 months, a significant change was made during treatment utilizing indirect myofascial release throughout her upper extremities and torso. On her follow-up visit in two weeks, M.P. noted that she had a significant decrease in pain. She was able to tolerate a decrease in her narcotics at that time. She continued to be seen on a monthly basis for follow-up visits and was able to increase her hours of work to 35-40 hours as a waitress. She continued to intermittently have migraine headaches which were relieved with Cafergot. After approximately 1 1/2 years of treatment on a monthly basis, she began to have a persistent upper back tenderness and complained of trouble with sleep which she described as nonrestorative with several periods of waking up throughout the night. She was found to have some tender points in her superior trapezius, levator scapulae and posterior cervical spine, but did not meet the criteria for

fibromyalgia. She also complained of some episodes of depression over her long-standing pain, which although was improved, was not completely gone. She had been seeing a counselor and was started on Zoloft 50mg./day which she was unable to tolerate, secondary to increased drowsiness. She was subsequently changed to other antidepressants which again she was unable to tolerate. She began to take Melatonin at bedtime and has had some good improvement in her symptoms, improved sleep, and improved mood during the day. She continues to be seen on a regular basis and her musculoskeletal findings have significantly improved over time. However, she tends to have a persistent cervical and thoracic strain which responds very well to treatment on a 4-6 week basis.

#### **Discussion:**

Patients with chronic pain often present a challenge to all physicians. Osteopathic manipulative treatment has a role in improving normal biomechanics, decreasing pain and enhancing the overall health of the individual. This patient is an example of a multifaceted chronic pain patient who responded well to osteopathic manipulative treatment, and over the course of time was able to be weaned from narcotic pain mediations and had improvement of subjective complaints as well as objective findings. Her activities of daily living, including working 35-40 hours per week as a waitress were very tolerable. Although she was unable to tolerate antidepressive medications, many chronic pain patients have been shown to have improvement when the depressive component of their chronic pain is addressed. This patient continues to undergo counseling and does not report any feelings of depression. This patient's specific injury in 1992 was one of significant strain with trauma as well as continued injury after the patient was rendered unconscious. Due to the long-standing nature of her complaints, many compensatory changes needed to be addressed as well as those created in the initial injury. Withdrawal of narcotics, return to the workforce and attention to emotional components of this injury, as well as structural components are all necessary for a successful outcome.

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American Academy of  
Osteopathy's  
Home on the Internet  
<http://www.aao.medguide.net>**



# News from the UAAO

by Debra B Klueger, Chair, UAAO National Council 1998-1999

Many of you may not know what the Undergraduate American Academy of Osteopathy is. We are a student organization and component society of the American Academy of Osteopathy. The purpose of the UAAO is the preservation and further development of osteopathic principles and practice. There are currently 17 official chapters of the UAAO and 2 provisional chapters at our newest schools in San Francisco and Kentucky. Membership last year was over 2900 students.

Student chapters are actively involved in educating the community about osteopathy through community outreach programs. They also are active in offering review sessions and workshops to students through their teaching fellows and faculty. The Visiting Clinician Program (sponsored by the American Osteopathic Foundation) serves as a vehicle for each chapter to be able to invite a clinician from another school to speak and conduct workshops. This program affords the opportunity to

bring in some of the great teachers in our profession to schools who might not otherwise have the chance to learn from these individuals. The UAAO and SOMA (Student Osteopathic Medical Association) continue to strengthen their ties and work together to provide joint programming including scholarships, community outreach, and speakers.

Our members continue to seek and learn the art and science of osteopathy, as can be evidenced by the large number that attended Convocation last year (440). As physicians and members of the Academy you have the opportunity to participate in educating students through your time at the tables at the Evening of the Stars, and your participation as clinical preceptors for students during their 3rd and 4th year rotations. Your time and effort is not only greatly appreciated, it also helps to spark the flame of osteopathy in students enabling them to continue to carry the osteopathic torch. If you are not currently on

our preceptor list please feel free to contact either myself (uaaochair@aol.com) or the AAO office so that we may add you.

We would like to see students continue to attend Convocation, because it is often here that a pivotal event occurs sparking their interest in osteopathy. Maybe this year it will be a lecture by Dr. Briner, or being invited to watch a physician treat a patient at the treatment service, or maybe it will be the touch of a skilled physician during the Evening of the Stars. Whatever that particular event is, know that it is an experience that sticks with them forever. You should applaud yourselves as mentors and know that there is no other profession in the world where professionals are so actively engaged and involved in helping students to learn.

Please feel free to contact me at any time. Thank you for supporting the UAAO and the future of Osteopathic Medicine.

Yours in Health,  
Debra B Klueger



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## Book Review



# ***OMT Review: A Comprehensive Board Review Guide for the Osteopathic Medical Student***

by Heather P. Ferrill, MSII,  
Michigan State University College of Osteopathic Medicine

As a second-year student approaching the sheer immensity of THE BOARDS, the subject of board review books is near and dear to my heart. As such, I jumped at the opportunity to review *OMT Review: A Comprehensive Board Review Guide for the Osteopathic Medical Student* by Robert G. Savarese. It gave me the chance to explore what is important in a good review book, and heck, maybe I would learn something along the way!

In short, what I discovered in this book was a wonderful board reference. Savarese very neatly and logically puts together two years worth of functional anatomy, basic neurology and osteopathic somatic diagnosis. It is clear, concise, easy to understand without being overly simplistic, and information is easily accessed.

Starting with The Basics in chapter one, he defines the terminology and principles required to understand and succeed in osteopathic medicine. I found his explanation of Fryette's principles of somatic dysfunction particularly helpful. In approaching it from a very physiological standpoint, I found it easy to escape the "Just memorize it and it will make sense later" mentality to truly understanding the concepts.

From there he moves through every division of the body, from head to foot. In each section he discusses

subjects critical to osteopathic diagnosis: anatomy, physiologic motion, common dysfunctions, and clinical considerations. He makes wonderful use of graphs and pictures to illustrate important and/or confusing information. Another aspect of this review book that I found to be superior to its counterparts is its coverage of neurology. Neurology is fundamental to OMT and Savarese refers to it in almost every section and includes a chapter devoted to Facilitation. Additional high points of this review text is a whole chapter covering special tests to aid in diagnosis, and a comprehensive 156 question exam to gauge your knowledge of OMT.

There is only one aspect of OMT that I find important in a review book that was not covered by Savarese, and that would be an overview of the various methods of osteopathic treatment. Simply a few chapters addressing the basic theory and fundamentals of some of the mainstays of osteopathic manipulative treatment would round out this wonderful review and make it complete.

I look forward to using Savarese's OMT Review as I study for part one of THE BOARDS. Indeed, it is a book that I have recommended to my classmates, and one that I would bet that we will be using for the next two years, if not longer. Thank you Student-doctor Savarese. □

## **AOA Convention**

**October 6-8, 1998**

New Orleans, LA

**AAO Program**

Elaine Wallace, DO, Program Chair

### ***"Helping the Body Heal"***

#### **Tuesday, October 6**

- 9:30 am *History of lymphatic techniques*  
Hugh Ettlinger, DO, FAAO
- 10:30 *A review of the immune system  
(basic and neuroimmunology)*  
Bonnie Buxton, PhD
- 11:30 *Lymphatic function & dysfunction*  
Brian Degenhardt, DO
- 3:00 pm *Lab: Balancing the diaphragms*  
Boyd R. Buser, DO
- 4:00 *Lab: Self administered  
lymphatic pumps*  
David Essig-Beatty, DO

#### **Wednesday, October 7**

- 8:15 am *Lab: Gateway to the upper extremity  
(Posterior axillary fold)*  
Michael Kuchera, DO, FAAO
- 9:15 *Lab: Lower extremity techniques  
(Facilitated Positional Release)*  
Eileen DiGiovanna, DO, FAAO
- 10:15 *Lab: Chest/Lung Disease  
(Inhibition Techniques)*  
Dennis Dowling, DO
- 11:15 *Lab: GI Disease  
(Visceral Techniques)*  
John Glover, DO
- 2:00 pm *Lab: OMT and the OB patient*  
Melicien Tettambel, DO, FAAO
- 3:00 *Lab: OMT in the pediatric patient*  
Robert Kappler, DO
- 4:00 *Lab: HEENT  
(Techniques for the Office)*  
Dave Boesler, DO

#### **Thursday, October 8**

(Co-sponsored by the American Osteopathic Academy of Sports Medicine)

- 8:15 am *Exercise and the lymphatics*  
David Eland, DO
- 9:15 TBD
- 11:15 Northup Lecturer  
Eileen DiGiovanna, DO, FAAO
- 2:00 pm *Open Forum -  
New techniques from the field*  
Donald Hampton, DO, host
- 3:00 *Coding Update*  
Judith O'Connell, DO, FAAO

**October 22-23, 1998**

# Introduction to OMT

**Program Chair and Instructor:**

John M. Jones, III, DO, CSPOMM

**October 24-25, 1998**

# Osteopathic Muscle Energy

## Technique: Basic Level

**Program Chair and Instructor**

Walter C. Ehrenfeuchter, DO, FAAO

**Location: The Founders Inn and Conference Center, Virginia Beach, Virginia**

**Objective:** This course is designed for physicians with little or no experience in Osteopathic Manipulative Treatment. Physicians attending this course can expect to come away with a basic understanding of the mechanisms at work in diagnosing and treating somatic dysfunction. Basic musculoskeletal structural examination skills will be taught including layer by layer palpation. Those attending would also gain insight into which patients are candidates for osteopathic manipulative treatment.

**Objective:** This course is designed for physicians who have either graduated from an accredited college of osteopathic medicine, or who have completed the AAO's course "Introduction to OMT." Those attending this course will receive basic instruction in segmental diagnosis and muscle energy technique for the axial skeleton. This course is ideal for MDs having no prior training in manipulation or DOs wishing to brush up skills which have long lain dormant.

**2 Days - 16 Category 1A**  
**Thursday-Friday / 8:00 am - 5:00 pm**

**2 Days - 16 Category 1A**  
**Saturday-Sunday / 8:00 am - 5:00 pm**

**Seminar Fees:**

Physicians (DO or MD) ..... \$450 per course  
Intern/Resident/Student ..... \$250 per course

**Seminar Fees:**

Physicians (DO or MD) ..... \$450 per course  
Intern/Resident/Student ..... \$250 per course

***Physicians registering for both courses = \$850.00***

## Registration Form

I WILL ATTEND:

Introduction to OMT,   
Thursday-Friday, Oct 22-23, 1998

Muscle Energy Course,   
Saturday-Sunday, Oct 24-25, 1998

I prefer a vegetarian meal

\_\_\_\_\_  
Name for Badge (please print clearly)

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Street Address

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City, State, Zip

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\_\_\_\_\_  
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Expiration Date

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Signature

**Call AAO (317) 879-1881**  
**with any questions or a copy of the program**

## Hotel Information

**The Founders Inn**

**5641 Indian River Road, Virginia Beach, VA 23464**

**Reservations Call: 800-926-4466**

**\$89.00 for queen-bed single/double**

**\$99.00 for double-beds single/double**

**(Reservation deadline Sept. 22, 1998)**

# Visceral Manipulation Workshop

## Thorax-Dura

Lungs, pericardium, bronchi, ribs, acromioclavicular joint, sternoclavicular joint, sternum, subclavius muscle, Soto-Hall test, esophagus, dura, cervical-brachial plexus, sciatic nerve.

November 6-8, 1998

TUCOM in San Francisco

In this course, we will explore viscera concepts in the deeper visceral structures, the thorax. Since these are more protected by the thoracic cage, they can be more difficult to accurately diagnose and treat. Labs will emphasize evaluation of the participants palpatory diagnosis by the instructors. At this level, participants generally begin to find that they can more consistently predict patient's symptoms, based on physical diagnosis (palpation). We also explore a very fast and precise cranial evaluation and direct treatment approach including the sutures, membranes, dura up to and including the eyes, foramen magnum, upper cervical spine, lower thoracic spine, S2, and the coccyx.

Relevant diagnosis covered are recurrent respiratory infection, chronic bronchitis, prior respiratory infection with resultant pleural scarring, asthma, recurrent upper thoracic pain, sciatica, radiculopathy, compromised respiration, coronary tension, CHF, chronic pain syndrome, recurrent sternal restrictions, chronic chondrochondritis.

Kenneth Lossing, DO

- **Faculty:**  
Ken Lossing, DO
- **CME Credits:**  
24 Hours – Category I-A
- **Program Chairperson:**  
John Glover, DO
- **Advance Registration Deadline:**  
October 6, 1998

• **Seminar Fee:**

Prior to October 6, 1998

AAO Member	\$595
Intern/Resident	\$300
AAO Non-Member	\$695

After October 6, 1998

AAO Member	\$645
Intern/Resident	\$350
AAO Non-Member	\$745

**The AAO was unable to block rooms at one hotel due to two different conventions taking place in the area. However, we do have a list of hotels near the campus that individual rooms may be obtained. A list of these hotels will be sent with confirmation.**

**American Academy of Osteopathy**

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

### Conference Registration

Visceral Manipulation Course

November 6-8, 1998

TUCOM-SF

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Card Number

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#### Refund Policy:

The American Academy of Osteopathy reserves the right to cancel this educational program if insufficient physicians pre-register. Sufficient registrations must be received 30 days prior to the opening of the course. If you are considering registering for this course less than 30 days prior to the opening, contact the Academy office before making travel plans. In the event of course cancellation by the Academy due to lack of registration, all money will be refunded.

Cancellation from participants received in writing for other reasons up to 30 days prior to the course opening are subject to withholding of a 15 percent administrative fee. All other cancellations will receive no refund but may transfer 80 percent of the tuition to another AAO educational program held within the next 12 months.

*continued from page 5*

it, the taking it as far as may be from the realm of theory into the realm of demonstration, that constitutes the principles of osteopathy. The application of the principles of specific cases of disease constitutes the practice of osteopathy.

A system of healing cannot properly be separated from a philosophy of life. This is true by virtue of the involved nature of disease. We may prate of pure science and declare that we will accept nothing not susceptible of demonstration, and that a system of healing must depend for its permanency upon pure facts of observation. We may insist that laboratory knowledge is the only brand that will be permitted to enter the sacred field of science. And, yet the fact remains that the details of every branch of learning have been wrought out and established through the application of preconceived theories based upon comparatively few facts. The beginning of knowledge comes of induction but its completion is accomplished only by deduction. A theory of life is at the basis of the osteopathic science. The proof that it is a law rather than a theory is the problem of the osteopathic reasoner and practitioner. That proof must of necessity require time, and in as much as confirmative evidence is daily accumulated, let no one be discouraged."

We must all renew our efforts at understanding, living and practicing the philosophy, principles and practices of osteopathic medicine. I would urge anyone interested in this subject to look to the osteopathic literature of the past for a clearer understanding of our roots. Perhaps then we will have much less concern about our osteopathic identity, because we will know exactly what it is.

Dr. Hulett's book is one great place to start. □

## Classified Ads

### **MAINE:**

Osteopathic family practice residency faculty members sought by New England's oldest family practice residency, osteopathic internship accredited. Responsibilities include OMT curriculum as well as a full range of family medicine teaching and practice. Please contact Dan Onion, MD, Director, Maine-Dartmouth Family Practice Residency, 15 East Chestnut Street, August, ME 04330; (207) 626-1892, e-mail: Daniel.K.Onion@Dartmouth.edu or web address: <http://www.dartmouth.edu/dms/mdfpr>

### **MICHIGAN: OMM/FP**

Integrated residency positions (PGY-II) available 7/1/98 at Botsford General Hospital in Farmington Hills, Michigan. Program is 3 years including PGY-II to PGY-IV in association with MSUCOM. Contact T. Reid Kavieff, DO, CSPOMM, Residency Director at (248) 661-3333.

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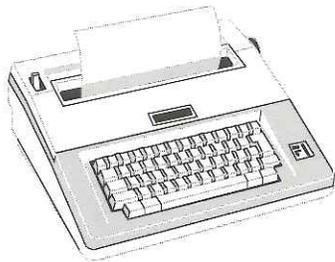
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Phone: (317) 879-1881 or  
FAX (317) 879-0563**



# Letters to the Editor

Dear Editor:

Having been a student of Dr. Mitchell's at Michigan State University as well as a resident at the Chicago College of Osteopathic Medicine under Dr. Nelson, I have visited the theoretical contortions of sacral diagnosis depicted in the last few months' issues by Dr. Nelson and Dr. Mitchell. My own personal resolution of this problem was that I determined there was really *no difference* between sacral torsions and anterior-posterior sacrum. Let me explain by the following illustrations:

In the prone position, the sacrum has an anterior base or deep sulcus on the right, and upon springing testing maneuvers, the left sacral base moves posteriorly. This would be a right anterior sacrum because the *right* side does not move freely and is anterior. Described another way, we could say that it was rotated left on the left oblique axis. Compared to the spring test, the backward bending (BB) test places a similar but opposite demand on the sacral base, causing the left base to move anteriorly, the important point being the left base is moving and the right does not move at all, giving us a left-on-left sacral torsion or right anterior sacrum. If the base is anterior on the left and posterior on the right, with the BB test the right side moves anteriorly; the left side does not move at all. This is a right-on-right sacral torsion, because the right base moved, which is the same as a left anterior sacrum. Similarly, if the sacrum is posterior on the right, anterior on the left, and in the backward bending test this relationship becomes more exaggerated, we

call this a right-on-left sacral torsion (rotated right with motion occurring at left base). What happened when the patient came into backward bending? The left base moved forward and the right base stayed posterior. Similarly, if a spring test were applied, the right side would be restricted; the left side would be moving, and we would call it a right posterior sacrum. The spring test in this application becomes a type of motion test, bringing the sacrum into extension and the lumbar spine into relative flexion. This can also be accomplished in the muscle energy model; for a forward torsion, if the seated patient were to assume a forward bent position of the lumbar spine, a sacrum rotated right would respond by rotating to the right even more (the left base staying anterior, the right base moving more posterior into extension as the lumbar spine moves into flexion). Call it what you will, a right-on-right sacral torsion or a left anterior sacrum.

In my opinion, the advantage of the muscle energy diagnostic model (i.e., what makes it a greater clinical tool) is that it gives a physiologic reason why backward torsions are more problematic than anterior torsions (loss of lumbar lordosis during gait cycle). Also important is the addition of four other diagnostic entities for characterizing sacral dysfunction, which include unilateral sacral flexion/extension and bilateral sacral flexion/extension. I am aware that the *unilateral* dysfunctions describe a relationship between the sacrum and ilia which have not been specifically described elsewhere, but I am not sure that I understand Dr. Nelson's fourth

conclusion that this is also true of a sacral backward torsion. What relation exists between the sacrum and ilium that has never before been described?

In conclusion, I would say that both approaches discussed in the JAAO letters incorporate a positional test to determine sacral rotation (anterior-posterior elements), and then use a motion test to observe mobile function.

Hoping that this helps to straighten out some sacral tensions.

Harry Friedman, DO

\* \* \* \* \*

Dear Editor:

The "Recollections" by Edna Lay called up many memories.

Dr. Lay indicates that in 1919 the California Medical Board refused to examine any more DO applicants. This was the same time the AMA declared it was "unethical" for MDs to have any professional relationship with DOs. Subsequently, AMA members, MDs would not accept referrals from DOs (except those particularly professional MDs or clinics who could recognize the value of our profession and continued to cooperate quietly).

Dr. Lay describes the growth of the osteopathic profession and increasing numbers of DO hospitals in California in the next four decades, (mainly because DOs could not practice in MD hospitals).

In the late 1950's, the American College of Osteopathic Pediatricians (ACOP) met with American College of Obstetricians and Gynecologists (ACOG). Since each group had

many members in California we became acquainted. Several in the ACOOG group were apparently involved with the negotiations but we were never aware of it until 1962.

Since I was also involved in various AOA activities, I became aware of the consternation in the leadership of the profession. Having existed and grown to this point, there was concern that all could be lost.

Many authors were writing critical articles about the "Quack" osteopaths and for a period of time, Morris Fishbein, the executive director of the AMA was making inflammatory speeches so full of misinformation about the DOs that the AOA had obtained an injunction against these remarks.

It was with this background that PROP 22 passed. Dr. Lay mentioned that California did not receive advice, help, or money from the AOA as the loyal DOs struggled to overturn PROP 22. I admit that the AOA has, at times, been slow to respond and even unsympathetic to problems presented by specialty groups, state associations, and institutions.

However, there were problems. First, the AOA was losing one quarter of its membership income. I heard discussion about the concern that the pharmaceutical companies might shy away. Also, there was a concern as to whether or not the AOA could provide any money for what could be interpreted as a political action, thus jeopardizing its non-profit status. There was also some activity by the Federal Antitrust Administration about restrictions and requirements in colleges and hospitals.

Eventually, the AOA resolved these problems and with publicity and some money supported the California effort vigorously. Many DOs paid \$65 yearly to the new California association and attended their conferences. Their patients played a major role in support of the fight.

Since 1974, those who predicted the end of the osteopathic profession have been proven wrong. The basic philosophy is as valid today as it was 100+ years ago. The manipulative approach continues to be appreciated by patients. Alternative approaches to healthcare are increasingly accepted. There is an increasing concern about excessive use and misuse of medications like in Stills' time.

Too long this profession has been defensive, reacting to criticisms, pressures, and obstructions. It is time to become proactive and become the leader in healthcare.

Sincerely,

Martyn E. Richardson, DO, FACOP

\* \* \* \* \*

Dear Ray:

In your summer 1998 editorial, you pose the question: do we have a global profession united by full-practice licenses or a global profession with shared philosophy and principles coupled with variable states of license.

The answer is simple. From my days as editor of the *Cranial Academy Newsletter* and as an early contributor to the *AAO Journal*, I worked for communication with like-minded colleagues throughout the world. This met with support from some corners and resistance from others. The supporters took the view they share our philosophy so let us work together. The opponents took the view that we should not associate with foreigners since they do not have full-practice rights. My viewpoint is well known.

In the U.S., we are a minority profession. To achieve recognition of the majority profession, we have thrown away much of our birthright. Our limited practice foreign colleagues have much to offer us. They are closer to your acommon philosophical heritage than most of the DOs here in the U.S. If as Gevitz told us at the AAO Convocation, we must return to our roots

to find the key to our survival, then we need the support of those roots. The people closest to those roots are our global colleagues.

At the same time some of our international colleagues are seeking full-practice rights and can do it more easily with our help. We have the experience. We know the mistakes that we as a profession have made. If we are honest with ourselves and admit those mistakes, we will share our knowledge so that our colleagues will achieve full-practice rights without having to sacrifice their heritage to get full-practice rights as we have unfortunately done.

To illustrate the point, a physical therapist friend takes all the OMT courses that she can. I asked her why. She responded that the DOs have been the superior medical profession possessing the "Holy Grail" and have been too stupid to hang on to it while seeking equality rather than maintaining superiority! Our foreign colleagues are closer to our roots than most of us. With their help we can reacquire the "Holy Grail" and professional superiority.

The answer is simple: A global profession united in heritage, philosophy and principles working together to seek the highest level of patient care and highest level of practice rights we can achieve together. Or, as the old saying of the revolutionary war era: "United we stand, divided we fall."

Despite the answer being quite simple, the hard part is in the doing. Your editorial is a step in the right direction. You have taken up the torch, lead on and light the path.

Sincerely,

Robert Clark, DO, MS, Chairperson  
Touro University College of  
Osteopathic Medicine,  
San Francisco

□

# Short leg syndrome

by Sophia Lal, MS-III, University of North Texas Health Science Center at Fort Worth/  
Texas College of Osteopathic Medicine

## Introduction

Short Leg Syndrome has many mechanical findings and symptoms. One such finding is unlevel sacral base. Why is this clinically relevant? If the sacral base is unlevel, the spine compensates by changing its curvature. If the syndrome is caused by leg length inequality, often the standing trochanteric, posterior superior iliac spine, and iliac crest horizontal planes are depressed on the side of the unlevel sacral base. The more cephalad horizontal planes, scapular, shoulder, occiput, are also depressed. But on which side? This depends on how many curves are between the pelvis and the upper body.

Individuals compensate differently. Postural changes occur throughout the musculoskeletal system in an attempt to coordinate visual, vestibular, and kinesthetic input while distributing the body's stress. Typically these changes are, at the least, lumbopelvic due to proximity to the problem and center of gravity.

## Case Presentation

**CHIEF COMPLAINT:** (December 1994) 29-year-old white female complains of occasional dull, aching lower back pain with some upper back pain.

### History of Present Illness

Patient has worn generic orthotics for several years to relieve knee pain brought on by aerobics. Currently custom fit orthotics are worn in all

pairs of shoes for past one year. Imperial treatment of low back pain with one-eighth inch heel lift in left shoe. Patient remains physically active. No postural study has been done to date.

### Review of Systems:

Noncontributory except for:

#### Extremities:

Right ankle – fracture at age 8 from biking accident;

Right knee – injured in junior high school from balance beam dismount. Patient recalls loud ‘popping’ sound upon landing;

Right medial collateral ligament – sprain in December 1991 from skiing fall;

Right anterior cruciate ligament – torn in November 1992 requiring reconstructive surgery in December 1992;

Right Proximal Tibial Bone – spur removed in July 1994.

#### Psychiatric:

Stress related to school.

### Family History:

Noncontributory

### Social History:

Patient is single and moved home with parents to attend school full-time. No smoking or ethanol use.

### Physical Exam:

No screening exam performed.

### Segmental Exam:

*Cervical:* C2-C6; neutral, rotated right, sidebent right;

*Thoracic:* Increased bilateral paravertebral muscle tension, tightness, and tenderness;

*Upper thoracic:* Neutral, sidebent left, rotated right T4; Nonneutral, rotated left, sidebent right;

*Lumbar:* L3-L5: Neutral sidebent left, rotated right. No neuralgic or special tests recorded.

### Assessment:

1. Postural imbalance with possible pelvic obliquity
2. Somatic dysfunction of cervical, thoracic, and lumbar spine

### Plan:

1. Osteopathic manipulative treatment
2. Continue orthotics
3. Recommend postural study
4. Return to clinic in one to two weeks.

Patient receives temporary relief from next few visits. Two months later, it is decided to discontinue left foot heel-lift, as it may be cause of several recent exacerbations of lower back pain. Patient returns periodically with various complaints over the next couple of years.

Examples: Acute lower back pain exacerbated by sports; left leg sciatica, gastrointestinal problems, and sacroiliac joint tenderness to palpation.

Early in May 1998, patient returns once again with lower back pain. This time a postural survey is taken. Two surveys are completed, one without

orthotics and one with orthotics, for comparison.

### **RESULTS** (without orthotics)

Right femoral head – decreased by 1.6cm relative to left;

Right sacral base – tilting 1.3cm below left;

Right iliac crest – decreased 9mm relative to left;

Lumbosacral angle – 24 degrees;

Line of weight bearing – 3.2cm posterior to sacral promontory;

Minimal scoliosis – dorsal spine with convexity to right.

### **RESULTS** (with orthotics)

Right femoral head – decreased by 9mm relative to left;

Right sacral base – tilting 1.2cm below left;

Right iliac crest – decreased 7mm relative to left.

Patient began current treatment with one-sixteenth inch heel in right shoe. Right heel was chosen for lift with goal to level sacral base and correct scoliotic curve of spine. Lift increased by one-sixteenth inch every week followed by osteopathic manipulative treatment for next three weeks and then reevaluate. To date, patient is responding well to treatment with some discomfort in shoulders, upper back, and right knee for first two days after every treatment, lessening with every treatment.

## **Discussion**

Balanced or symmetrical posture is essential in keeping gravitational forces in check as they pull on our biped framework. For the majority of us, there is postural imbalance and asymmetry. This can be a significant source of musculoskeletal problems.

Which conditions produce asymmetry in body mechanics that can lead to functional imbalance?

Examples:

Trauma

Degenerative processes

Habit/Occupation

Genetic tendencies

Mental attitudes

Pregnancy

Obesity

Loss of muscle tone

Disease processes (i.e. Osteoporosis, polio)

Congenital anomalies

Short leg syndrome

(a large source in normal population)

### **History that is commonly given:**

Patient reports bending over and feeling pain in back or back is 'locked.'

Patient notices one shoe wears out faster than the other, one pant leg or shirt sleeve seems longer than the other one does.

Most common response to short leg syndrome is rotioscoliosis with sidebending toward the opposite side of sacral base (as in case presented.) In early compensation, a single scoliotic curve may be generated, later, redistribution may be over several lateral curves. In addition, one can have pelvic rotation to help compensate for short leg. The short leg's innominate will rotate anteriorly to relatively lengthen that extremity. The long leg's innominate will posteriorly rotate to relatively shorten that extremity. Also, the long side's foot may pronate and the extremity may medially rotate. There may also be an increase of two to three degrees in the lumbosacral angle. A combination of increased lumbosacral angle and/or pelvic rotation can mask unlevel sacral base. One may also find degenerative arthritis of the hip joint on the long side and tenderness over the great trochanter.

Many research papers conclude that palpatory landmarks (usually the iliac crest/spines) used as predictors

of sacral base position is inaccurate. The body's compensatory mechanisms can be so good that clinical findings used alone make diagnosis difficult. Sometimes treatment with orthotic lifting based solely on clinical findings, produce marked sacral base destabilization and result in exacerbation of patient's symptoms. Recurrent somatic dysfunction of pelvis, spine, cranium, or myofascial structures may be a big clue that there is an unlevel sacral base or short leg. Additionally, soft tissues help compensate and can also cause discomfort. Ligaments are stressed and tender to palpation. The sacroiliac ligament on the convexity side can refer pain down the lateral side of leg and can also cause sciatica hip pain, and pain over trochanter, usually on the long leg. Numerous posterior muscles are strained leading to significant physiological changes related to segmental facilitation that leads to subsequent visceral dysfunction.

Final diagnosis is made with spine as mobile as possible and any nonphysiologic somatic dysfunction removed. According to a study by Greenman, scoliosis related to impaired lumbopelvic mechanics relates more to sacral base unlevelness than inequality of leg length. Therefore, one would use the primary weight bearing plane of axial skeleton a horizontal line through the sacral base line of eburation (slightly inferior to the most posterior margin of the sacral promontory), to analyze the three view postural series. Compensate changes, approximately two mm of human error, and up to 25 percent bony magnification will produce some distortion. For the above reasons, one usually does not treat leg length differences of less than five mm with a heel lift, unless there are other clinically relevant factors.

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Fryette summaries: "In the average case, I do not attempt correction until I have mobilized the lumbar joints and established rotation in them; furthermore, if this region cannot be rotated toward the midline, the lift will not do what it is intended for, the correction will not take place in the lumbar region – the spine higher up will compensate by increasing its curve and only more trouble will result."

Osteopathic manipulative therapy is used to alleviate functional apparent short leg syndrome by relaxing and stretching the contracted muscles, correcting somatic dysfunction, increasing mobility, normalizing tissue, and preparing tissues to accept realignment in response to the lift's newly established sacral base level. If an osteopathic physician is prescribing the lift, then combine the lift treatment with osteopathic manipulation.

Considering the heel lift:

1. Is the sacral base unlevel? Check three view postural survey.
2. How long has the unlevelness been present? i.e. fracture vs. developmental shortening.
3. What amount of compensation is there? Generally, the longer the condition is present, the more the body compensates.
4. How fast and how much? One can use conservative rules of thumb to avoid unexpected flare-ups due to lifts being introduced too rapidly or exceeding the capacity of the body's ability to realign itself in response to changes. For example, a 'fragile' patient can begin with one-sixteenth inch lift and increase no faster than one-sixteenth inch every two weeks.
5. When proper height is reached, there should be a negative

standing flexion test and no pelvic or lower extremity somatic dysfunction. One can repeat the three view postural survey for comparison to posture before treatment.

### Conclusion/summary

The sacrum is influenced by the ilia, tension of surrounding ligaments and musculature, and gravity. These forces lead to structural adaptations that may not have a consistent or predictable pattern. Osteopathic manipulation and heel lifts can be used to help level the weight-bearing plane of the sacral base with the goal of straightening scoliotic curves and normalizing lumbopelvic mechanics. Studies show an eighty percent decrease in pain and other postural related symptoms as an expected result of a properly balanced sacral base. Risk include discomfort, possibly due to soft tissue resistance to spinal straightening. Benefits include decrease in mild lumbar scoliosis. In addition, there may be whole shift of body weight, pelvic shift make to midline, and realignment of center of gravity and weight bearing portions of body. Other maladies associated with abnormal posture, such as costoclavicular compression with secondary cervical nerve entrapment, osteoarthritis, low back pain, may be reduced or corrected. Pay particular attention to patient during heel lift adjustment period. This new position can affect biomechanics of the entire musculoskeletal system.

In the words of A.T. Still, "*Be sure the foundation is level and all will be well.*"

[**Editor's Note:** *The author, Sophia Lal, will be entering her senior year at UNTHSC at Fort Worth/COM.*]



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# Truth in science

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

"The truth of science," viewed by the professor emeritus of physics at Indiana University, Roger Newton, "is nothing more or less than a relentless questioning of authority combined with a relentless striving for objectivity in the full awareness that the process never ends."

One of the most commonly made statements by students and others learning about the use of osteopathic manipulative treatment (OMT) in patient management is, "we need research to prove the clinical efficacy of OMT and then we will be able to persuade our colleagues to use it more in their patient care." Roger Newton would consider this statement rather naive as "there is no scientific proof; there is only disproof." Einstein has said, "no amount of experimentation can ever prove me right; a single experiment can prove me wrong." Max Planck addresses research from this perspective, "a living and flourishing theory does not avoid its anomalies but searches them out for the stimulus for further development comes from contradictions, not from confirmations.

Confirmations do not constitute proofs. It is repeatability and reproducibility not individual or isolated confirmations or aberrations that impact or sway prevailing or accepted theories. When it comes to clinical practice, swaying or changing practice patterns is an even greater challenge. The Jan/Feb 1998 issue of the *Archives in Family Medicine* (Vol 7, pp 45-49) reported that on a cross-section of medicaid forms of 50,000 patients in Kentucky, 60 percent of outpatient and 48 percent of ER visits related to nonspecific upper respiratory infections resulted in filling antibiotic prescriptions and that less than 6 percent had a supporting diagnosis of a possible bacteria-related infection. This results in \$1.62 million for yearly costs related to antibiotics in Kentucky. In a cost-containment consciousness of health care, and despite **extensive research efforts** that support that there is extensive inappropriate use of antibiotics thus increasing the threat of antibiotic-resistant pathogens, the widespread abuse of antibiotics continues. Furthermore, practice guidelines, continuing medical education and other passive edu-

cational interventions including extensive research does not substantially influence change in practice patterns. Face-to-face education has been shown to be most effective but labor intensive and costly. Practice profiling and feedback is gaining appeal with managed-care organizations where a central database is available on every participating physician. This physician profiling is used as leverage for continued participation in a plan as well as reimbursement. This seems to be influencing practice patterns!

How is this relevant to our profession? We need a collective database such as the multi-center data collection that has been initiated with the standardized "**Outpatient Osteopathic SOAP Note**" developed for the clinician in the office setting. We need participation in the use of this form in order to have a "confirmatory" body of evidence to support the use of OMT as a health benefit and cost-effectiveness in patient care. And, perhaps this could be used to profile practice patterns and provide feedback to affect change in practice patterns with our colleagues and third party payors.

This form deserves at least a trial in every office. Announcement: Patient-oriented research award offered by the Office of Alternative Medicine for clinicians to devote 75 percent of their full-time professional effort to clinical research. October 1, 1998, is the next application deadline. (301) 435-0714 or [www.nih.gov/grants/funding/phs398.html](http://www.nih.gov/grants/funding/phs398.html).

## Bibliography

1. Newton, Roger, *The truth of science. Physical Theories and Reality*. 1997. Harvard University Press.
2. Mainous, Arch G., Hueston, William J. The cost of antibiotics in treating upper respiratory tract infections in a Medicaid population. *Arch Fam Med*. Vol 7, Jan/Feb/ 1 998 pp. 45-49.□

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[A special thank you is extended to Bruce Flagg, DO]

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[**Editor's Note:** Physicians can obtain a copy of the "Outpatient Osteopathic Soap Note form and usage guide from the AAO office. Please send a written request and a check for \$5.00 to cover printing and postage costs.]

**Testimonials from prior course evaluations:**

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# Myofascial Release December 4-5, 1998

University of Osteopathic Medicine Health Sciences at Des Moines, IA

Judith O'Connell, DO, FAAO, Program Chairperson and Presenter

Hours: 16-Category 1-A

### Program

#### Friday, December 4, 1998

**AM**

- 8:00 Introduction:  
Our roots in the fascia.
- 9:00 Fascia, specialized connective  
tissue, properties and function.
- 10:00 Enlightening Properties,  
piezoelectric considerations
- 11:00 Anatomy 1:  
relationships to muscle, dura,  
lymph, nerves, blood.
- 11:45 Lunch

**PM**

- 1:00 LAB: exercises in postural  
relationships.
- 2:00 Anatomy 2: Horizontal  
diaphragms.
- 3:00 LAB: diaphragms.
- 5:00 Adjourn

#### Saturday, December 5, 1998

**AM**

- 8:00 Anatomy 3: longitudinal cables.
- 9:00 LAB: the holographic system,  
cables and diaphragms.

**PM**

- 12:00 Lunch.
- 1:00 Anatomy 4: dura and the reciprocal  
tension membrane.
- 2:00 LAB: putting it all together
- 5:00 Adjourn

### Advance Registration

**Deadline:  
November 12, 1998**

**SEMINAR FEE:**

**Prior to Nov. 12, 1998:**

AAO Member	\$525
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AAO Member	\$625
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#### **Who May Attend**

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Cancellation from participants received in writing for other reasons up to 30 days prior to the course opening are subject to withholding of a 15 percent administrative fee. All other cancellations will receive no refund but may transfer 80 percent of the tuition to another AAO educational program held within the next 12 months.

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# Scalene entrapment syndrome

by James O. Royder, DO, FAAO

Over the years, a continuing diagnostic and therapeutic dilemma is presented by the large number of patients who present with cervical radiculopathy without positive neurological findings and a negative MRI. Muscle spasms, rigidity, restriction of range of motion are the presenting objective findings, while neck pain, headaches, light headedness, along with pain and "tingling" in the shoulder, arm and hand are the initial subjective complaints.

The patient's history will usually reveal some type of traumatic event preceding the onset of these symptoms. In some cases, the symptoms develop insidiously over a period of time. A series of continuous, repetitive traumas can produce the same damage. Initially, we must rule out cervical disc disease. Without a history of trauma, a traditional 7 view study of the cervical spine is in order. With a history of a rear end motor vehicle accident, a Davis x-ray study should be ordered to include an AP, three lateral views: in the neutral position, with the neck hyperflexed, and with the neck hyperextended. The study is completed with a right oblique, left oblique and open mouth view of the odontoid.

Cervical ribs are occasionally found that greatly complicate the picture. Elongated transverse processes of C-7 often can signify the presence of a ligamentous structure capable of entrapment of the Subclavian Artery and Vein along with the Brachial Plexus. Both the cervical rib and the atypical ligament can produce a Thoracic Outlet Syndrome.

The classic symptoms that gives one a clinical indication that the Scalene muscles might be entrapping the Brachial Plexus is pain radiating into the forearm and hand, along with dysesthesia. Pain can be on both the radial and ulnar side of the hand. More often the pain is on the radial side of the forearm with dysesthesia on the ulnar side. If the situation has been long standing there is usually edema of the ulnar side as well as motor involvement. The edema and swelling is due to venous congestion and lymphedema due to the entrapment.

When the Tinel's Sign and the Phalen's Test are both negative, one can usually rule out a mononeuropathy of the ulnar or radial nerve, such as Carpal Tunnel, Guyon Tunnel or Tardy Ulnar Palsy syndromes. When the **Scalene-cramp Test**<sup>1</sup> evokes a pattern of referred pain down the upper extremity, it suggests entrapment of the brachial plexus by the scalene muscles. In performing this test, the patient rotates the head toward the painful extremity and then pulls his chin down into the supraclavicular fossa..this causes the scalene muscles on that side to contract and will exaggerate the referred pain if the scalenes are involved.

The **Scalene-relief Test**<sup>2</sup> is a quick way to check to see if the scalene muscles are involved. With the patient in the supine position, the affected forearm is brought up and laid across the forehead. If the scalene muscles are involved this will quickly relieve the pain. In this position, the tightness of the scalene muscles are relieved because the clavicles and first rib are elevated, thereby relieving the pull of the scalene muscles.

The **Finger-Flexion Test**<sup>3</sup> is another helpful test. In this test the fingers are fully extended at the metacarpophalangeal joint. The patient is asked to actively flex the fingers at the proximal phalangeal joint in order to press the pads of his fingers to his palm. The test is positive for involvement of the scalene muscles if all of the fingers are unable to completely flex. A positive test is indicated by incomplete flexion of all fingers indicating a more general involvement of the extensor digitorum muscles, which occurs when scalene trigger points are active on the same side.

In taking a history of a rear end automobile injury (whiplash), it is my custom to make every effort to determine: the axis of the force vector hitting the automobile; what was the posture of the patient at time of impact; were seat belts on; and the position of the head at the moment of impact. In this way, one can begin to conceptualize the direction of the energy force that went through the body

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in order to understand the dynamics of the forces on the anatomical structures injured.

Extreme tenderness in the **Scalene triangle** is a strong indication of myofascial pain involving the scalene muscles. The scalene triangle is the 'V' shaped space between the anterior and medial scalene muscles and their attachment to the clavicle inferiorly. Careful palpation of the scalene muscles will reveal trigger points in these structures with radiations of pain into the shoulder arm and hand. Various referral patterns are found depending on the muscles involved.

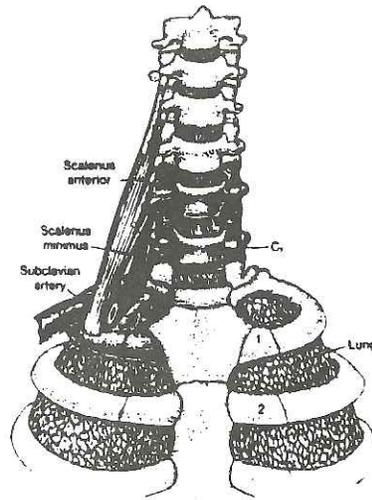
The initial exam includes a careful palpatory examination of all of the cervical and upper thoracic structures including the **Scalene Triangle Thoracic Outlet and Thoracic Inlet**, supraclavicular spaces, including Sibson's Fascia (the floor of the supraclavicular fossa), distortions of the clavicle, carotid pulses, thyroid gland, lymph glands and any tightness or imbalance of the muscles attaching to the Hyoid bone.

The **Thoracic Outlet** is a slit like opening whose boundaries are: the clavicle superiorly, the first rib inferiorly, medially is the junction of the first rib that goes under the clavicle. The Lateral boundary is the head of the humerus and proximal end of the scapula. The **Thoracic Inlet** is described as the space bordered by the clavicles and manubrium anteriorly and the scapula and trapezius posteriorly. The Sibson's fascia occupies the space in the suprascapular fossa. It is through the Thoracic Inlet that all of the venous blood and lymphatic drainage from the face, neck and cranium into the thorax takes place, thus the term Inlet is used.

The **Thoracic Outlet Syndrome** needs to be tested for by using the **Adson** maneuver. The Coasclavicular Syndrome is next checked for to rule out compression of the neurovascular bundle between the clavicle and the first rib by having the patient assume an exaggerated military "attention: or "brace" position with his shoulders pulled back and downward. Next one must check for shortening of the **Pectoralis minor** muscle which can also produce compression of the neurovascular bundle to upper extremity as in the **Hyperabduction Syndrome**.

Neural entrapments of the upper extremities to be evaluated for are: the **Cubital tunnel**, **Carpal tunnel**, **Guyon tunnel**, and at the mid-forearm, the **Pronator Syndrome**. All of these entrapment syndromes produce quite a mixture of similar and related symptoms with radiculopathy traveling both distally and proximally.

Cranial exam must search for any restriction of the tem-



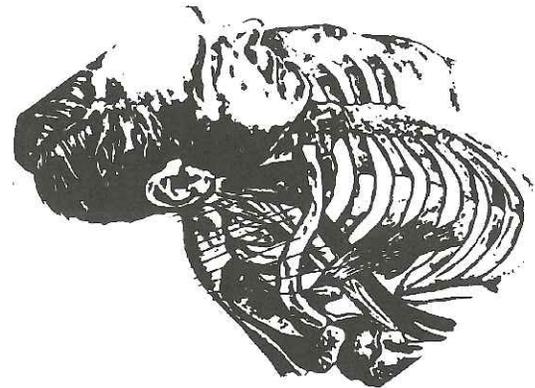
**Scalene Triangle**

poral bones which would suggest a cause for tinnitus, vertigo, hearing disturbance, balance disturbances, TMJ dysfunction, ear pain, light headedness, swallowing hesitation, and other troubling symptoms related to the Temporal bone malalignment.

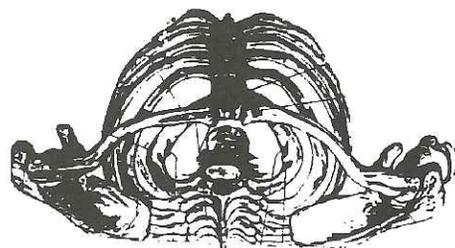
Usually the base of the skull is most often affected with cervical trauma because all of the strap muscle of the neck originate on the Occipital, Temporal, and anteriorly, on the Mandible. The ligamentous structures of the jaw are particularly vulnerable. The Sphenomandibular ligament, Stylo-mandibular ligament, Temporo-mandibular ligament, Lateral Ptergoid muscle, Stylo-

hyoid muscle and Digastric muscle are structures which are integral to the integrity of the Cranio-cervical region. The Masseter and Temporal muscles will be involved as well. This explains the frequent involvement of the TMJ dysfunction in "whiplash" type injuries.

An MRI or CT is not indicated if there are no positive neurological findings. A course of conservative therapy is initiated with ice massage, ice packs, gentle massage, Jones Counter Strain OMT to the affected muscles. Physiotherapy will include Ultra sound and gentle stretching to the affected areas. Immobilization with a cervical collar will assist in reminding the patient to keep correct pos-



**Thoracic Outlet**



**Thoracic Inlet**

ture. Traditionally we prescribe an anti-inflammatory agent, either an NSAIDs or a Medrol Dosepak. Analgesics and muscle relaxants tend to be helpful early on. They are seldom necessary after 2-4 weeks. Some muscle relaxants such as carispridol, have a tranquilizing and euphoric effect, thus, have a tendency to be abused, so I never use this one. We have several others to use that do not have this abuse potential. All medication refills should be closely monitored and changed often. If a patient "likes" a medication, **change it**, so that they do not become accustomed to it. A patient is not supposed to "like" a medicine...that's why "medicine should taste bad."

**A**fter one week of conservative therapy, some salutary benefits should be clinically obvious. The patient's neurological status must be followed closely and repeated on each follow-up visit. If no improvement is seen and/or new neurological signs develop, then an MRI would be indicated. An EMG should not be done for 6-8 weeks following an injury to be useful.

When the MRI fails to reveal a HNP, fracture, or dislocation, then we can be certain of the diagnosis of soft tissue injury producing myositis caused by the sprain and strain and a resulting Somatic Dysfunction. With the neurological exam remaining negative and a negative MRI, we can be confident that a conservative regimen of therapy should be continued.

One should strive to develop the linguistic skill to understand the descriptive terms the patient uses in describing their symptoms. In the patient's vernacular, the patient may call a radiculopathy a "shooting pain" or a "numbness" of the hand or arm. When the word "numb" is often used, they never seem to mean "the absence of feeling." On the contrary, the meaning they are trying to convey is an abnormal and uncomfortable, strange sensation or feeling. What they are describing is a dysesthesia and not an anesthesia where there is an absence of sensation... which the word "numb" would indicate.

When the patient is questioned more carefully, they usually reply... "a tingling feeling, or stinging feeling...like the arm has been asleep (with the blood cut off) and is waking up again." So we must carefully question the patient to make sure we understand the meaning the patient is trying to convey because the colloquial meaning of certain words and terms and words can vary widely.

With cervical sprain and strain, the entire cervical region sustains the trauma. Seldom is only a singular muscle group involved. All of the cervical musculature respond in a reflexive manner through a complex network of neurological interrelationships shared through reciprocal innervation, interneuronal innervation and internuncial connections. This unique and complex agonist-antagonist relationship exists between the anterior, lateral, posterior

and antero-lateral cervical musculature. All of the muscles work in an orchestrated harmony. Agonist fibers contracting as antagonist fibers relax, each with an equal speed and intensity to give a smooth action. Following a trauma, this smooth orchestration is totally disrupted...so the computer freezes up. In a protective response, the muscles surrounding the injured muscles splint up to brace and protect the injured muscles from further injury. This splinting can be neurologically maintained for an overly excessively period of time, longer than the time it is actually needed.

Cervical trauma reflexively involves all of the musculature. **Posteriorly:** the Trapezius, Semispinalis capitis, Splenius capitis, Splenius cervicis. Longissimus capitis, the Rotatores, Cervical multifidi, Thoracic multifidi, the Occipital and Suboccipital are all involved to varying degrees. **Anteriolaterally:** the Scalenus anterior, medius, minimus and posterior muscle masses along with the Sternocleidomastoid muscles are injured and react accordingly to the trauma sustained by each group. **Anteriorly:** the Omohyoid, Sterno-hyoid, Sterno-thyroid, Mylohyoid, Thyrohyoid, Hypoglossus, the Digastric muscles, Geniohyoid, and the Longus colli muscles are all involved.

Travel<sup>4</sup> has given us an excellent description of this troublesome malady. Once the causative etiology is recognized it is not difficult to design an effective treatment plan. First a ruptured cervical disc, Spinal Stenosis, Foramen Stenosis and Facet disease must be excluded in the differential diagnosis process. Perhaps a Therapeutic Epidural Steroid Instillation (TESI) or a direct referral to a neurosurgeon would be indicated.

The diagnosis of Scalene Entrapment Syndrome can usually be made during a careful history and physical examination. As Travel<sup>5</sup> has stated, entrapment of the lower trunk of the brachial plexus affects nearly all fibers of the ulnar nerve and some fibers of the median nerve. As the brachial plexus is formed by the cervical spinal nerves of C-5, 6, 7, 8, & T-1, it emerges between the anterior and middle scalene muscles. Any tightening, shortening or spasm of the scalene muscle groups can produce entrapment of the brachial plexus. The symptoms produced by this impingement is tingling, numbness, and dysesthesias of the ulnar distribution of the hand. In addition patients may demonstrate some hypoesthesia to light touch, pin prick, and temperature changes in the little finger. Some edema of the hand may be present as due to reflex suppression of the peristaltic contractions of the lymph ducts produced by the impingement.<sup>6</sup>

A chronic impingement on the scalene muscle group can cause elevation of the first rib producing compression of the space between the clavicle and the first rib. This produces compression of the Subclavian Artery.

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Venous stasis can also become a part of the problem as well. The autonomic nerves are entrapped as well and can produce a Reflex Sympathetic Dystrophy (RSD), such as **Shoulder Hand Syndrome**.

**T**he **anatomy of the Scalene muscles** is very interesting and deserves attention in order to understand these confusing, overlapping and closely related syndromes. The anatomy is:

1. **The Scalene Anterior:** originates from the anterior tubercles of the transverse processes of C-3-6. It inserts onto the scalene tubercle on the inner boarder of the first rib. Nerve supply is the anterior branches of C-5,6,& 8 mainly. Arterial supply to the scalene muscles are branches of the Ascending cervical artery that comes off the inferior thyroid artery.

2. **Scalene Medius:** originates from the posterior aspect of the transverse processes of C-2-7 and inserts onto the upper surface of 1st rib posteriorly. Nerve supply posterior branches of the anterior primary rami of 3rd & 4th cervical and lateral muscular branches of 3rd and 4th cervical. Arterial supply is branches of ascending cervical artery.

3. **Scalene Posterior:** originates from the posterior tubercles on the transverse processes of the C-4, 5,& 6. It inserts onto the outer surface of the second rib behind and some times the third rib. All of the scalene muscles are innervated by branches of the anterior primary division of the spinal nerves C-2 through C-7. The arterial supply is branches of the ascending cervical artery as above.

4. **Scalene Mimimus:** originates from the anterior tubercle of the transverse process of C-7 and sometimes C-6, passing behind and beneath the subclavian artery and before it attaches to the inner boarder of the first rib. Insertion onto the **pleural dome or cupola**, which is strengthened by the **Sibson's fascia** which is anchored by this fascia to the anterior tubercle of C-7 and the inner boarder of the first rib. This muscle further reinforces this fascia.

There are several causes of chronic strain of the scalene musculature that contribute to the Scalene Entrapment. Postural considerations must be considered. One who always lets his shoulders roll forward and head jut forward will have a continuous strain on his cervical strap muscles. One who reads, studies, or watches TV in improper positions can produce the same chronic strains pattern. Tall people (6'4") who work in an ergonomic environment meant for a 5'8" person will continuously be

slumping his upper back, neck, and shoulders producing the equivalent chronic strain.

The main reason I felt a pressing and urgent necessity to develop extra expertise in this area, is because I recently had three patients with chronic scalene entrapment. I had worked diligently on them with physical therapy, counterstrain OMT, medications, facet blocks, TESIS, orthopedic consultations and neurosurgical consultations. The neurosurgeon confirmed the diagnosis and referred two of the patients to a plastic surgeon who performed an innovative surgical procedure which consisted of dissection of the brachial plexus and translocating fat pads in between the trunks of the brachial plexus. Six weeks after the surgery no noticeable improvement was gained. I was determined that the outcome of third patient would be better. The following is the treatment regimen I developed for the third patient, no surgery was necessary after his pain improved.

**T**reatment Plan for the Scalene Entrapment Syndrome consists of a varying combination of the following: Jones Counter Strain (muscle shortening, balancing, holding until release), Myofascial release, Ultrasonic sound with electro-muscle stimulation and hot packs, postural correction, Fluro-methane Spray and stretch, trigger point injection, anti-inflammatory medications, massage therapy, postural management, EMG biofeedback, home stretching exercises, and when possible an ergonomic inspection and evaluation of his/her work place.

Counter Strain treatment of the **Scalenus Medius Muscle** consist of sidebending the neck to the affected side while palpating the S. medius muscle. At usually 35-45 degrees, the palpating finger will feel the muscle beginning to relax and gently begin to perceive a happy, warm, pulsatile feeling. Next the head and neck are gently **rotated toward** from the side 10-15 degrees at which point the operator will perceive an even greater feeling of muscle relaxation, quiet pulsation which the operator recognizes as the balance point. The position is held in this position of balance for at least 90 seconds. Then the head and neck can gently be returned to their normal anatomic position.

The **Scalenus Anterior Muscle** can be balanced in a similar manner by first **flexing** the head and neck forward 40-45 degrees until muscle relaxation and pulsation is perceived. Then **rotate** the head and neck away from the side of involvement. Again arriving at the position of optimum muscle balance as identified by the quality of muscle relaxation and "happy pulsating" feeling.

The patient is carefully coached and instructed on how he can perform self treatment at his home and at work. The patient is instructed to monitor his posture on a hourly

basis, at a minimum. The patient must be continuously seeking the position of comfort by a continuing an ongoing process of postural assessment and adjusting his posture. Passive stretching exercise areas are also taught as another home self help tactic. Through this **behavioral modification**, the patient's old maladaptive posture is replaced by proper posture. The patients symptoms just fade into the past.

The third patient referred to previously, never had his surgery and his disabling symptoms faded away. In his case, it was fortunate in that the psychologist on his case had been trained in EMG biofeedback. He went to his work place, placed EMG electrodes on his scalene and trapezius muscles and demonstrated on the computer screen how the muscles reacted adversely when he performed certain tasks. They were able to refine the manner in which he performed certain tasks so that he would not cause the muscle excitation he usually experienced while performing the same tasks. The computerized monitor provided graphic and immediate display on the monitor, giving the patient immediate feedback of the benefit of using the improved methods at work. This patient was able to apply this newly gained postural knowledge and apply it to his daily activities of living.

## Summary

In the comprehensive management of the patient with chronic pain, a careful history and thorough physical examination is paramount to effective diagnosis. Only with an accurate diagnosis can an appropriate treatment regimen be designed. A structural exam along with a gait analysis is necessary to identify any biomechanical problems. Biomechanical problems such as sacral base unleveling, short leg, small hemi-pelvis, flat feet, pronation of foot, other foot problems, and gait dysfunctions must be corrected initially for the other body corrections to hold. Otherwise these dysfunctions will negate any positive progress and disappointing results will follow.

Ideally, a treatment regimen anticipates that the results of the treatment will last or hold until the next treatment so that each succeeding treatment builds upon the preceding one. The patient's condition should progressively improve with each treatment until no further treatments are necessary. In order for this to occur, a portion of each treatment must hold in order for the stepwise healing process to be possible. Dysfunctional gait, bad body biomechanics and poor posture can destroy the most brilliantly conceived treatment plan.

In the **acute phase**, pain, inflammation and muscle spasm must be ameliorated as rapidly as possible, utilizing immobilization, ice, triggerpoint injection, analgesics, anti-inflammatories, muscle relaxants, and gentle, finesse func-

tional types of Osteopathic Manipulation. In the **subacute phase**, passive motion is initiated, Counterstrain Osteopathic Manipulation, reduction in analgesics, spray and stretch, postural instructions, self-treatment and self-stretching is taught. Teaching proper breathing, self-relaxation, and meditation are helpful at this point. If the treatment plan is started early and assertively, there is a good chance that the condition will not progress to the **chronic stage**. We often do not get the patient at the onset of his/her injury because they pursue self-help or from other health care providers before we see them. Often they are already in the chronic stage when we first see them. In this case we must first win their confidence and trust. Here is certainly a place for functional OMT. High Velocity/Low amplitude (HVLA) thrusting often startles and alarms the patient who is unaccustomed to it or unprepared for it. Often they have already had that form of treatment from their local Chiropractor and seek something more.

**I**n the **chronic phase**, it is unwise to use analgesics other than NSAIDs, ASA, or acetaminophen. Darvon and Fiorinal type products do have mind altering affects that can and do become habituating. Muscle relaxants such as Soma (carisoprodol) is very habit forming and commonly abused. Do not get caught in that trap. Document the over the counter drugs (OTC) the patient is taking. Be sure to inform the patient that 2000 mg/d of Tylenol is toxic to the kidneys and liver over a period of time.

Ibuprofen can also be toxic. Ask any Nephrologist, and he will tell you that 75 percent of the patients on kidney dialysis is due to the toxic effects of Tylenol or NSAIDs.

The chronic stage patient is already **deconditioned** from long periods of inactivity, so a reconditioning program has to be instituted, postural instruction, along with behavioral modification, relaxation therapy, meditation training, home exercise program, no narcotics, withdrawal of all OTC analgesics, caffeine, nicotine, alcohol, fast foods, colas, and high sugar convenience foods. If they do not have the will power to do these things, they will fail and you will be blamed.

## References:

1. Travel JG & Simons DG: *Myofascial Pain and Dysfunction, The Trigger Point Manual*. Williams & Wilkins: (pg 344-366).
2. IBID: (pg 351)
3. IBID: (pg 351-2)
4. IBID: (pg 353)
5. IBID: (pg 357)
5. IBID: (pg 357).□

# Fulford Percussion Technique – A basic course

## December 6-7, 1998 – UOMHS, Des Moines, IA

### Faculty

Richard W. Koss, DO, Fort Worth, Texas

CME Hours: 15 Category 1-A

## PROGRAM

### Saturday, December 6, 1998

**8:00 a.m** *Introduction & History of Vibration/Percussion*

**Lab Session:** *Diagnosis - Subtle Motion; Assess the Delicate Motion  
Use of Correct Hand On Front of Body*

**Discussion of Motor:**

<i>Parts of:</i>	<i>Technique:</i>
<i>Care</i>	<i>Frequency</i>
<i>Grease</i>	<i>Pressure, Angle</i>
<i>Clean</i>	<i>Vibration/Resonance</i>
	<i>Thought - Intention</i>

**Lab Session: To Tables**

*Learn Technique of Percussion on One Point of Knee: Attention - Intention; Vibration; Direct Release;  
Shock - Release*

12:00 noon Lunch

**1:00 p.m.**

*Fascia Bioelectricity, Trauma  
Rhythmic Balance Interchange  
Delivery of the Baby – Trauma to Knee, Shoulders, Head.*

To Tables: Knee, Ankle, Foot, Trochanters, Pelvis

5:00 pm Adjourn

### Sunday, December 7, 1998

**8:00 am** Review - Common Faults in Use of Hammer

To Tables: Pelvis, Spine, Lumbar,  
Thoracic, No Higher Than C7, Diaphragm  
Clavicles  
Arm/Hand

12:00 noon Lunch

Regenerative "Piston" Breath Paper  
Deltoid Recess  
Parietals  
C-Spine: C2-3  
Sternum

4:00pm Adjourn

### Fulford Percussion – Basic UOMHS in Des Moines, IA December 6-7, 1998

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# Dysfunction of the 'sacred' sacrum

## - Techniques for treating individual pole restrictions

by Keri Wells, DO, Grad. Cert. Ed. (University Teaching and Learning)  
Lecturer in HVLA Technique, Osteopathic Diagnosis and Clinical Education

### Introduction

The author has chosen to use the English and Latin terms together in the title of this paper in order to highlight the importance to Osteopathy of the sacrum and its restrictions. Contemporary physical medicine, of any type, rarely acknowledges its function or importance to well being, and one wonders if the ancients did, in fact, understand better the role of the 'sacred' sacrum.

The author stresses the importance of assessing and treating dysfunction of the 'sacred' in patients with back pain, leg pain and dysfunction of the walking cycle. Assessing the sacrum as part of a standard clinical examination in patients with back pain, lower limb pain and dysfunction of the walking cycle is essential and its importance cannot be overestimated.

The significance of sacral dysfunction and its contribution to altered mechanics of the lumbar spine and the role sacral dysfunction plays in patients with back pain and or leg pain is well documented throughout osteopathic literature. Therefore this notion will not be expanded on in this paper.

The purpose of this paper is to offer an alternative approach for treating sacroiliac dysfunctions. The author has found the proposed techniques successful for treating any sacral restriction, and also 'difficult' sacral restrictions and anomalies of the sacrum, which respond poorly to current models. Current models treat sacral restrictions by addressing axes of rotation and torsion.

The author argues that in some instances the sacrum is subluxed from the sacroiliac joint (SIJ). The articulations between the sacrum and ilium become dysfunctional in a way that is mechanically independent of the respiratory and mechanical axes models.

A series of techniques is presented here which the author has found to be very effective in treating low back pain. These techniques also allow the practitioner to treat

any of the SIJ problems described by Greenman<sup>1</sup> and Mitchell.<sup>2,3</sup>

The practitioner is offered a flexible approach with, the opportunity to adapt techniques to the particular stages of development of the SIJ as described by Norkin and Levangie.<sup>4</sup> More recently, Cramer and Darby, (1995),<sup>5</sup> have stated 'Before puberty, both sacral and iliac auricular surfaces are flat, straight, and vertically orientated' (Beal 1992). The joint can conceivably have a gliding movement in any direction, being restricted only by ligaments. After puberty the auricular surfaces change shape to form a horizontal and vertical limb....During the third decade of life, the interosseous ligaments are strengthened....From the fourth decade marginal osteophytes begin to develop, particularly on the anterior and superior portions of the SIJ along the articular capsule. These degenerative changes develop earlier in the male<sup>5</sup>.

Furthermore it is important to consider that current sacral techniques focus their forces at the L5/SI articulation (e.g. in the Semi-Sims position) and in doing so rely on perceived normal mechanical responses to loading of an axis in flexion, neutral or extension when treating the SIJ restriction. Mitchell,<sup>2</sup> Kuchera,<sup>6</sup> DiGiovanna,<sup>7</sup> Direct techniques such as high velocity low amplitude (HVLA) techniques fail to address all the planes of motion of the SIJ. The angles of the superior pole of the SIJ are different from those of the lower pole. HVLA techniques apply a force either along the entire length of the SIJ in one plane as in the 'hip-tug' method, or by manipulating the upper and lower poles of the SIJ separately as in the lateral recumbent position.

These techniques fail to treat anomalies of the sacrum as described by various authors it is argued by Davidson<sup>8</sup> that, 'The "axis techniques" rely on a "balanced" axis i.e. free of anomalies. The forward torsion technique addresses

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contralateral lower and upper poles when isolated at the sacrum. The transverse axis has been hypothesized to occur at a variety of levels by various authors. I would say it is adaptable and varies its adaptability according to its primary or driving force, the lumbar and the thoracolumbar junction i.e. the axis move.

‘Therefore the “Mitchell axis” techniques are only “accurate” when the palpable isolation of forces found at the SIJ, correspond to the isolation of forces at the sacrum corresponding with initial movement at the ‘primary’ i.e. the lumbar. This is a problem because the adaptive phase of the sacrum relies on a “anomaly free” articular balance. If not we find non-adaptive sacral responses such as flares, shears, extensions and flexions, subluxations etc. These subluxations seem to be further compounded when the axis techniques are applied to an anomaly.

Therefore the individual pole approach, in isolation, is an accurate and effective technique which doesn’t depend on addressing the lumbar and their resultant transverse axis effect on the sacrum’.

## Technique theory – independent pole restrictions

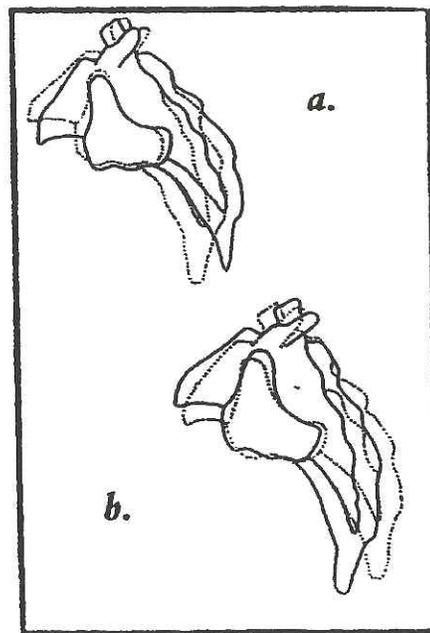
The following techniques allow treatment of upper and lower pole dysfunctions, irrespective of axis. The techniques can be employed whether the normal axes of motion are available or not. This is particularly important if the normal axis of motion is not available, for example, anomalies of the sacroiliac joints and developmental differences as previously discussed and when a patient’s pain prevents positioning. Consider an example where the patient has a transitional vertebra at LS, one transverse process is elongated, forming a bony attachment to the iliac crest preventing normal motion of L5 therefore affecting the LS/ Sacral joint. Another example, in the case of Osteoarthritis, (with or without a corresponding narrowing of the intervertebral disc space) resulting in bilateral or unilateral osteophytic changes that do not allow the LS to rotate, flex, extend or laterally flex on the sacrum in any one or multiple planes of motion. Consider also a thinned intervertebral disc space between L4/5, which does not allow L4 to move on LS, restricting L5’s range of motion (ROM) indirectly altering the ROM at LS/SI. Yet another example would be when the patient has osteophytic changes of the SIJ on either or both sides, limiting movement of the sacrum relative to the ilium in any number of planes of motion.

The activating forces combine respiratory technique with muscle energy technique (MET). Each technique utilizes different positioning of the innominate with respiratory and muscle energy forces to mobilize a particu-

lar hypomobile pole of the SIJ. The MET component requires an isometric contraction of agonist muscles in the direction of the restriction.

## Terminology

Greenman<sup>1</sup> calls *Nutation*: ‘a nodding movement of the sacrum between the innominate, the sacral base moves anteriorly and inferiorly while the sacral apex moves posteriorly and superiorly.’ *Counternutation*: ‘occurs when the sacral base goes posteriorly and superiorly and the sacral apex goes anteriorly and inferiorly.’ The movements of nutation and counternutation as described by Greenman above occur in normal circumstances around a horizontal axes at approximately S2 Mitchell MP.<sup>2</sup>



**Figure 1.** a) *Nutation* and b) *Counternutation* around the normal axis approximately S2.

Implicit to this method is acceptance of the MET model, Mitchell MP<sup>2</sup> which states: a) ‘...the sacroiliac motion, therefore, requires multiple axes: at least two transverse axes, and two oblique axes.’ b) ‘Sacro-iliac flexion/extension occurs on 2 of the 3 transverse sacral axes; i.e. the superior and middle axes...The middle axes is the site of normal sacral flexion and extension.’ Approximately the level of S2’; and c) ‘The sacral apex moves anteriorly during inhalation, posteriorly during exhalation.’ Therefore the sacral base must move posteriorly during inhalation and anteriorly during exhalation, counternutation and nutation respectively.

Of particular importance when using this technique is what Kapandji<sup>9</sup> says: ‘When the hips are flexed traction on the hamstrings tends to tilt the pelvis posteriorly rela-

tive to the sacrum. This is therefore a movement of nutation relative to the sacrum...<sup>7</sup>

According to the Chicago College of Osteopathic Medicine,<sup>10</sup> An 'anterior sacrum' is: an upper pole restriction, rotation and sidebending to opposite sides, deep sulcus with tissue texture changes, a forward torsion (R on R, or L on L) in that the sacral base on one side has gone forward to produce the deep sulcus and will not return ....when pushing down on the left ILA introducing motion about the left oblique axis....., the right sacral base does not come posterior. Posterior sacrum: lower pole restriction and tissue texture change at the lower pole. For further explanation of the movements of the sacrum in a caudal and cephalic direction, refer to Greenman,<sup>1</sup> Mitchell,<sup>2</sup> Kapandji,<sup>9</sup> and Foundations of Osteopathic Medicine.<sup>11</sup>

## Diagnosis

There are many ways to diagnose the restrictions of the sacrum. The method you choose must establish the differences in restriction between the movement in the upper pole of the SIJ compared to the lower pole movement. Use the sacral sulci depths and the inferior lateral angles (ILA) of the sacrum as your landmarks to determine how the upper and lower poles of the sacrum have moved respective to each other. Then apply the principles of TART (Tenderness, Asymmetry, Restriction of motion and Tissue texture abnormality) to determine which side and which pole has the greatest restriction.

One technique that may be useful in diagnosing movement restrictions in the SIJ is to lay the patient supine, flex the hip and localize forces to upper and lower poles of the sacrum, then internally and externally rotating the

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hip alternatively on each pole to determine opening and closing of that pole of the SIJ. Internal rotation opens the lower pole and relatively closes the upper pole, external rotation opens the upper pole and relatively closes the lower pole. Repeat this procedure on the opposite side.

## Four lesions of the sacrum

### 1. *Shallow sacral sulcus - upper pole restriction.*

Primary dysfunction is found to be that the base of the sacrum has moved, unilaterally superiorly and posteriorly, i.e. cephalically along the upper pole of the SIJ.

#### *Diagnosis*

Restriction is felt at the upper pole of the SIJ on the right when the hip is fully flexed and internally rotated. In assessment of the respiratory cycle there is decreased nutation of the sacrum.

#### *Lesion*

Shallow sacral sulcus on the right.

#### *Restriction*

Anterior-inferior glide of the base of the sacrum on the right.

#### *Patient position*

Supine, close to the edge of the table on the dysfunctional side i.e. the right.

#### *Operator position*

Next to the table on the dysfunctional side, facing the patient's head.

#### *Contacts*

Patient's hip on the dysfunctional side is fully flexed so that all motion is localized to the upper pole of the SIJ on that side.

Operator contacts the patient's knee with their right hand, which is best held on the lateral aspect of the knee, and the upper pole of the SIJ with the fingers of the left hand monitoring the motion barrier.

#### *Lock up procedure*

Making sure all movement localized to the upper pole of the SIJ on the right. The operator abducts and internally rotates the patient's flexed hip to the barrier.

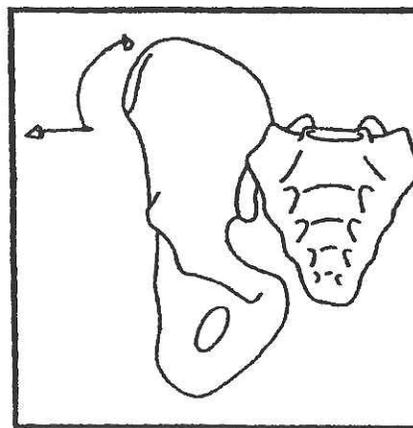
#### *Instructions to patient*

Ask patient to inhale fully and then forcibly exhale quickly, simultaneously further abducting the knee against the operator's equal resistance. Retest and repeat as required.

#### *Explanation of technique*

The full flexion of the hip creates posterior rotation of the innominate, as well as isolating forces to the superior pole of the SIJ it encourages relative nutation of the sacrum. The abduction separates the anterior aspect of the SIJ as the pubis moves lateral in the direction of the hip movement. Internal rotation of the ilium/hip puts anterior and caudal pressure on the posterior aspect of the base of the sacrum. These three movements combine to open the anterior face of the SIJ to allow the sacrum to move anteriorly and inferiorly.

Exhalation moves the base of the sacrum into nutation i.e. anteriorly and inferiorly along the upper pole of the SIJ. The resisted abduction further forces a closure of the posterior aspect of the SIJ thus 'shunting' the base of the sacrum forward at the upper pole of the SIJ on the right. Key words: Shallow sacral sulcus: Abduct, internally rotate and exhale.



**Figure 2:** 1a. Abduction and internal rotation close to the posterior aspect of the SIJ

These movements also apply anterior and caudal pressure to the base of the sacrum.

When assisted by forced exhalation, the forces combine to move the base of the sacrum anteriorly and inferiorly.

### 2. *Deep sacral sulcus - upper pole restriction.*

Primary dysfunction is found to be that the base of the sacrum has moved, unilaterally inferiorly and anteriorly, i.e. caudally along the SIJ.

#### *Diagnosis*

Restriction is felt at the upper pole of the SIJ on the left when the hip is fully flexed and externally rotated. In assessment of the respiratory cycle there is decreased counternutation of the sacrum.

#### *Lesion*

Deep sacral sulcus on the left.

### Restriction

Posterior superior glide of the base of the sacrum on the left.

### Patient position

Supine, close to the edge of the table on the dysfunctional side i.e. the left.

### Operator position

Next to the table on the dysfunctional side, facing the patient's head.

### Contacts

Patient's hip on the dysfunctional side is flexed so that all motion is localized to the upper pole of the SIJ on that side. [Be careful not to fully flex or you will cause relative nutation of the sacrum]

Operator contacts the patient's knee with their left hand, which is best held on the medial aspect of the knee, and the upper pole of the SIJ with the fingers of the right hand monitoring the motion barrier.

### Lock up description

Making sure all movement is localized to the upper pole of the SIJ on the left. The operator adducts and externally rotates the patient's flexed hip to the barrier.

### Instructions to patient

Ask patient to **inhale fully and quickly**, simultaneously further adducting the leg against the operator's equal resistance. Retest and repeat as required.

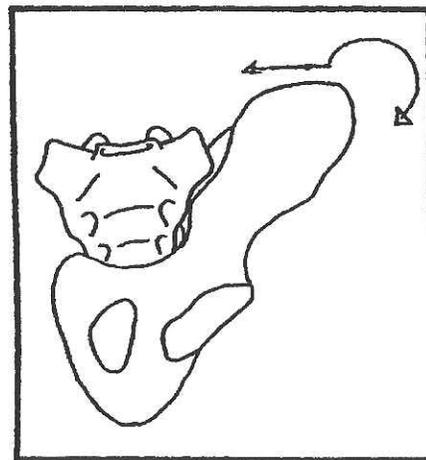
### Explanation of technique

The adduction closes the anterior SIJ and opens the posterior aspect of the SIJ. The external rotation puts posterior and cephalic pressure on the anterior aspect of the superior pole of the SIJ and the anterior face of the sacrum. The posterior lumbosacral ligaments and muscles become taut.

Inhalation moves the base of the sacrum into counternutation i.e. sacrum moves posteriorly and superiorly along the upper pole of the SIJ. The *resisted* adduction creates an increase in the intrapelvic pressure helping to close the anterior aspect of the SIJ. The combination of this posteriorly directed pressure, the posterior/cephalic pull applied by the taut muscles and the inspiration act to lift the base of the sacrum posteriorly and superiorly along the superior pole of the SIJ. Key words: **Deep** sacral sulcus: Adduct, externally rotate and inhale.

### 3. Anterior ILA of the sacrum - lower pole restriction.

Primary dysfunction is found to be that the apex of the sacrum has moved anteriorly and superiorly along the lower pole of the SIJ i.e. the ILA is less prominent because of the cephalic movement of the sacrum within the SIJ.



**Figure 3:** 2a. Adduction and external rotation close the anterior aspect of the of the base of SIJ. These movements also apply posterior and cephalic pressure to the base of the sacrum.

When assisted by forced inhalation the forces combine to move the base of the sacrum posteriorly and superiorly.

### Diagnosis

Restriction is felt at the lower pole of the SIJ on the right when the hip is flexed and internally rotated. In assessment of the respiratory cycle there is decreased nutation of the sacrum.

### Lesion

Anterior ILA on the right.

### Restriction

Posterior inferior movement of the apex of the sacrum on the right.

### Patient position

Supine, close to the edge of the table on the dysfunctional side, i.e. the right.

### Operator position

Next to the table on the dysfunctional side, facing the patient's head.

### Contacts

Patient's hip on the dysfunctional side is fully flexed so that all motion is localized to the lower pole of the SIJ

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on that side. Operator contacts the patient's knee with their right hand, which is best held on the medial aspect of the knee, and the lower pole of the SIJ with the fingers of the left hand monitoring the motion barrier.

#### *Lock up description*

Making sure all movement localized to the barrier in the lower pole of the SIJ on the right, the physician abducts and internally rotates the patient's flexed hip.

#### *Instructions to patient*

Ask patient to inhale fully and then **forcibly exhale quickly; simultaneously** further adducting their knee against the operator's equal resistance. Retest and repeat as required.

#### *Explanation of technique*

The full flexion of the hip encourages nutation of the sacrum. The adduction of the ilium puts pressure on the anterior aspect of the lower pole of the SI joint, opens the posterior face of the joint and causes the gluteal muscles and posterior iliosacral ligaments to become taut, allowing the apex of the sacrum to move posteriorly. The internal rotation applies caudal pressure to the apex of the sacrum.

The exhalation moves the apex of the sacrum posteriorly and inferiorly, while the resisted adduction causes an increase in pressure in the abdominal cavity and together push/pull the apex of the sacrum posteriorly and inferiorly. Key words: **Anterior** ILA: Adduct, internally rotate and exhale.

#### **4. Posterior ILA of the sacrum. – lower pole restriction**

Primary dysfunction is found to be that the apex of the sacrum has moved posteriorly and inferiorly, i.e. the ILA is more prominent because of the caudal movement of the sacrum within the SIJ.

#### *Diagnosis*

Restriction is felt at the lower pole of the SIJ on the left when the hip is flexed and externally rotated.

In assessment of the respiratory cycle there is decreased counternutation of the sacrum.

#### *Lesion*

Posterior ILA on the left.

#### *Restriction*

Anterior superior movement of the ILA on the left

#### *Patient position*

Supine, close to the edge of the table on the dysfunctional side ie the left.

#### *Operator position*

Next to the table on the dysfunctional side, facing the patient's head.

#### *Contacts*

Patient's hip on the dysfunctional side is flexed so that all motion is localized to the lower pole of the SIJ on that side. [Be careful not to fully flex or you will cause relative nutation of the sacrum]

Operator contacts the patient's knee with their left hand, which is best held on the lateral aspect of the knee, and the lower pole of the SIJ with the fingers of the right hand monitoring the motion barrier.

#### *Lock up procedure*

Making sure all movement is localized to the lower pole of the SIJ on the left the physician abducts and **externally** rotates the patients flexed hip to the restriction barrier.

#### *Instructions to patient*

Ask patient to **inhale fully and quickly**, simultaneously further **abducting** the leg against the operator's equal resistance. Retest and repeat as required.

#### *Explanation of technique*

The abduction closes the posterior and opens the anterior aspect of the SIJ at the lower pole. External rotation helps to apply cephalic pressure to the apex of the sacrum

The inhalation moves the apex of the sacrum anteriorly and superiorly while the resisted abduction creates pressure posteriorly by contraction of the gluteals, which close the posterior part of the lower pole, forcing the apex of the sacrum to move anteriorly. Key words: Posterior ILA: Abduct, externally rotate and inhale.

## **Summary**

To summarize, adduction closes the anterior and opens the posterior aspect of the SIJ. Abduction closes the posterior and opens the anterior aspect of the SIJ. Resisted adduction causes a palpable increase in intrapelvic pressure which assists in pushing the sacrum posteriorly, resisted abduction causes contraction of the gluteal muscles and other external rotators of the hip which results in an increase in tension across the SIJ posteriorly, which when palpated is felt as a narrowing or closure of the SIJ posteriorly.

By applying pressure to the sacrum via altering the position of the ilium, using the muscles that attach to the hip, internal rotation of the hip applies pressure to the

sacrum in a caudal direction and external rotation of the hip applies pressure in a cephalic direction.

These techniques offer a way of addressing any number of restrictions found in any SIJ. By isolating forces at the upper or lower poles of the SIJ, positioning the innominate and using respiratory forces, the practitioner can move the sacrum in almost any direction that is required to reposition it to its anatomical position, and normal alignment for that particular joint, on that particular patient.

'Palpation' of the barrier is the key to success, firstly in identifying the barrier and secondly, in addressing the restrictive barrier to normal motion in any joint restriction prior to applying a corrective technique. Palpation remains fundamentally important in the diagnosis and application of these techniques. The techniques offer, through palpation, a way of addressing any variation or anomaly of any sacroiliac joint.

## Conclusion

The need to address lesions of the sacroiliac and the relationship between sacral dysfunctions and lower back pain is well documented throughout osteopathic literature. The techniques proposed in this article are offered as an alternative to the existing methods of treating sacral dysfunctions. The techniques can be employed to treat dysfunctions of typical or atypical sacroiliac joint surface i.e. sacral anomalies, SIJ dysfunctions in children, adolescents and on patients whose sacroiliac joints are altered by osteophytic changes.

Each technique uses MET and respiratory activated forces to assist maneuvering the ilium and hip to different positions. MET in the direction of the barrier as opposed to in the direction of the lesion. These techniques allow the practitioner to focus her/his forces specifically at the main site of restriction to sacroiliac motion within the sacroiliac joint. The techniques are easy to use, as they do not require a large amount of operator strength or force, and are well tolerated by patients as no bending, twisting or thrusting is required.

### *Special thanks to:*

Kevin Davidson DO who suggested adding the respiratory component and helped clarify the written explanation of these techniques. Thanks also to RMIT senior students, Narelle Hyde, Felicia Jagoe, Richard Wallis, Edwina Ryan, Andrew Farthing and David Bennett who assisted me by reading and analyzing early drafts of this article. Thanks also to Kylie Read for the drawings.

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# A chronic case with an unusual remedy

by Vicki Abbott Taylor, DO

On May 5, 1997, a 47-year-old blond, blue-eyed nurse of slight build, neatly dressed, presents with complaints of a duodenal ulcer, headaches, fatigue, joint pains, and muscle aches.

She complains of gnawing epigastric pain and a sensation that the area under her bra is too tight. The epigastric pain radiates around the posterior ribs on both sides. The pain is worse at 4 pm, from 2 to 3 am and at 6 am. Eating and eructations relieve the pain; orange juice makes it worse. Eructations occur after 6 pm.

She experiences at least two types of headaches. One, a daily occipital and suprascapular pain for which she takes two Excedrin each morning. She also has incapacitating vertex area headaches, about eight times yearly, which force her to lie on her back with a cloth on her forehead. They are ameliorated by being in the dark, lying on her back, and sleeping, and are relieved after a night of sleep.

She wakes up in the morning totally exhausted. She works second shift, the time period her energy is normally at its highest. She rates her energy a 3 on a scale of 0-10.

She has been having episodes of nosebleeds 1-2 times per week for the last 6 months, occurring about 3 am. There are red blood clots on blowing her nose, a clogged feeling during the night and dried bloody or yellow crusts.

She has right-sided sciatica and sacroiliac pain with pain in her right anterior and lateral thigh anterior and lateral thigh and right knee. The pain is worse from dampness, on cold days, after standing a long time, on

awakening in the morning, and is better from stretching. A hot shower will give 1 or 2 hours of relief.

She experiences loud flatulence between 6 pm and midnight. Her gums bleed about once a month when brushing her teeth. She describes a dull ache in the sternum and anterior ribs under her breasts which wakes her up about every other night. This had been occurring during the past three months and is better when lying on her back.

Her periods have been irregular the past 2 years with menses occurring about every other month. She is depressed the night before her menses start and sometimes weeps. Occasional hot flushes at night are experienced with heat in her chest and back which cause her to throw off the quilt. Her feet get overheated about once per night and she has to stick them out from the covers.

In general she tends to be chilly. She prefers her house heated to 74 - 75 degrees in winter, and does not need air-conditioning in the summer unless it is above 90 degrees. She is not comfortable for any length of time in the sun without sunglasses. In fact, the sunlight bothers her eyes even when she is inside her house.

She perspires on the back of her neck and under and between her breasts when anxious or doing light work.

She loves lemons and might have them 2-4 times per week. She dislikes spicy foods and fat on meat. She likes onions but gets diarrhea and flatulence. She also may experience diarrhea after eating fruit. She loves milk and used to drink 4 glasses per day but had to stop because of diarrhea.

She likes salty snacks. She eats eggs 1-2 times per month. She feels neutral about sweets, vinegar, bread and pasta.

She has low self-confidence. She talks to her mother an hour or more every day and is unable to easily get off the phone feeling anger and resentment towards her mother while talking. She feels her relationship with her husband is strained and during arguments her husband will convince her that her feelings are not valid. "I do not think of myself as a happy person." When criticized she feels depressed and irritated and takes it personally. If she feels angry, she may not express it, but rather she will cry for several days in a row. She hates sad movies as she does not want to be emotionally manipulated. She describes herself as easygoing, pleasant, tolerant, serious, organized, and dependable with a tendency to internalize feelings and become depressed. Rx: She received Sepia 200 (a Dunham potency) one pellet dry.

## *Follow-up: June 16, 1997*

Migraine headaches started 3 days after taking remedy. Hot flushes worse, 4-5 times daily. Still bad aching in shoulders and occiput. No change in ulcer pain. Heat sensation in feet with need to stick feet out from under covers has increased. Dull ache in sternal area 50 percent less intense. Joint pains same - wake her at 3 am. Nosebleeds and nasal crusting resolved.

Her energy has increased from 3 to 5 (10 being perfect). The sciatica is the same, she has more self-confidence and has applied for new jobs. She now limits conversations with her mother to 15 minutes. She is feeling

more sure of herself in discussions with her husband.

*Assessment:* Aggravation followed by amelioration.

*Plan:* Wait

*Follow-up: July 15, 1997*

Ulcer pain still present. Continues taking histamine H2 receptor antagonist. Pain in right leg worse with humidity past 5 days. Joint pains in fingers of right hand. Hot flushes stopped about 3 weeks ago. Gums – no further bleeding. Sensitivity to light is decreasing. She got a new job she wanted. She is getting along better with her husband.

She wakes up at 3 am about three times per week. No headaches. Her energy has increased from 3 to 8 (10 being perfect).

*Assessment:* Amelioration continuing

*Plan:* Wait

*Follow-up: September 18, 1997*

Episode of acute sciatica started recently during a stress test. Worse when leaning forward even several degrees worse rising from sitting (2) worse lying on right side, worse coughing (2), sneezing (2), better when standing. Sharp stabbing pain from right buttock and right hip radiating down to right knee. No numbness.

Her ulcer medicine was changed in August to Prevacid which caused diarrhea several weeks later. Diarrhea has continued although she stopped the Prevacid about 10 days ago.

*Assessment:* Relapse with acute picture.

*Plan:* Sepia 200. May take 2 doses and call me to report.

*Follow-up: September 18, 1997*

*Phone conversation.* Having headache and nausea. Pain only slightly less. Is taking Flexeril and Vicodan prescribed by the doctor she works for.

*Assessment:* Sepia was the incorrect remedy.

*Plan:* Tellurium 200 C. Take 2 doses and call me to report.

*Follow-up: September 23, 1997*

*Phone report:* Was unable to come pick up remedy, so she waited until she received it from me by mail on September 22. She took Tellurium 200 C, one dose at 7 pm and repeated it at 9 pm. She can bend forward easier and has less pain with coughing and sneezing. Is off Vicodan and Flexeril. The remedy brought much greater relief than Vicodan.

*Assessment:* Amelioration with correct remedy.

*Plan:* May have 2 more doses if necessary. If need more call me back. Otherwise see me in one week.

*Follow-up: October 9, 1997*

Did not take any more doses. Diarrhea is less. Acute sciatica pain is gone. Still pain in right sacroiliac area worse from standing, worse lying on right side while sleeping. Might wake her up about 3 times per week. The elbow pain has resolved. The ulcer pain of 20 years has gone. Eructations and rectal gas resolved. Hot flushes resolved. Her depression has improved. Cephalgia 70-80 percent better. Gingivitis resolved. Sternal discomfort resolved.

*Assessment:* Amelioration in progress. Sacroiliac pain causing insomnia remains.

*Plan:* Wait. May repeat Tellurium 200 C if acute pain returns.

*Follow-up: November 11, 1997*

Still mild cephalgia and mild right sacroiliac pain. Takes aspirin 1-2 times per week for headache. She used to take it daily. Insomnia resolved. No longer waking at night and feels she is sleeping more deeply. Will call me back with headache symptoms after experiencing headache without immediately taking aspirin.

## Discussion

I used the following repertory rubrics:

EXTREMITIES, pain, lower limbs, sciatica sneezing agg.: sep, tell, kali-i.

Coughing agg.: caps, caust, sep, tell, kali-i.

Stooping agg.: agar, card-m, dros, nat-s, tell.

Rising from a seat: has 13 remedies including Sepia but not Tellurium.

Worse lying: coloc, ferr, gnaph, kali-i, meny, nat-m, sep, tell, valer.

I was impressed to see that Tellurium has not only cured her acute sciatica, but also cured the peptic ulcer disease and insomnia. She had several other symptoms such as eructations, flatulence and sternal discomfort. Unfortunately, when I saw her on September 18 with the acute sciatica, I did not find out if they had already cleared. Under Tellurium Hering's *Materia Medica* mentions "Pain in sacrum passing into r. thigh; worse pressing at stool, coughing, and laughing. Sciatica of r. side; worse when lying on affected side. Sciatica accompanied by sensitiveness of vertebral column, pains radiating from sacrum to r. sciatic nerve."

Clarke's Dictionary says much the same. "The pain is worse coughing, sneezing or straining at stool: worse lying on painful side. Many of the pains and symptoms of Tellurium come and go suddenly." Does this explain why her pain resolved so rapidly after receiving two doses of Tellurium?

On further study of the *materia medica*, I noticed that her peculiar sensation that the area under her bra is too tight is found in both Hering and Clarke: "Constrictive feeling, as if strapped together." Heartburn, eructation and flatulence are also mentioned.

I have added Tellurium to the other remedies that follow well after Sepia on my computer and in the back of Kent's Repertory. □



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