THE AAO
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A Publication of the American Academy of Osteopathy

VOLUME 5 NUMBER 3 FALL 1995

The Effect of OMT on Incentive Spirometry Readings

...see page 9

FYI

July 1996
Jean-Pierre Barral, DO,

will return to the United States to teach an Intermediate and an Advance Visceral Manipulation Course sponsored by the American Academy of Osteopathy.

AAO is currently sponsoring an Introductory Course,

September 16-18, 1995, in Indianapolis.

The faculty members, Dr. Daniel Bensky and Dr. Ken Lossing, have been trained by Dr. Barral. To meet the prerequisite requirements of the July 1996 course, you may want to consider attending this introductory course in Indianapolis

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THE AAO
JOURNAL
A Publication of the American Academy of Osteopathy

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

Subscriptions: $25.00 per year

Instructions for Authors

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

The *AAO Journal* welcomes contributions in the following categories:

Original Contributions

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

Case Reports

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

Clinical Practice

Articles about practical applications for general practitioners or specialists.

Special Communications

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

Letters to the Editor

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

Professional News

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

Book Reviews

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

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

Submission

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

Editorial Review

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

Requirements for manuscript submission:

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

2. Submit original plus one copy. Please retain one copy for your files.

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

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

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

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

Editorial Processing

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From the Editor

by Raymond J. Hruby, DO, FAAO

Defining Osteopathy

While browsing through my archives, I came across an interesting article. It was entitled, "Osteopathy Defined: A Symposium", and was published in two parts in the May and July, 1902 issues of the Journal of the American Osteopathic Association. The editor of the Journal expressed the good news that the term "osteopathy" was finally being included in the dictionaries and encyclopedias of the day. The bad news was the definitions were inadequate. In an attempt to formulate an official definition of osteopathy, the editor had invited DOs to submit their own definitions for consideration. This was very interesting, I thought. This was going on in 1902. Andrew Taylor Still was still alive and actively teaching and practicing. Some of his very first students, those who were closest to the founder, those who would be the first giants in the profession, were struggling to define osteopathy. It occurred to me that we are still trying to do the same, even today.

The JAOA article explicitly called for a definition of osteopathy. The article stated: "It is not an explanation nor a description of osteopathy that is wanted, but a definition. I thought about how a colleague of mine once told me that osteopathy could be described, but could not be defined. I wondered if that thought dated all the way back to the beginning of the profession.

The article included twenty one definitions of osteopathy that were submitted by various osteopathic physicians. Although some common themes were expressed, still there seemed to be a great deal of variety and individualism present in all of these definitions. I will share with you a few of them for your reading pleasure:

J. Martin Littlejohn, LL.D., M.D., D.O., submitted the following definition: "Osteopathy is that science of healing which emphasizes, (a) the diagnosis of diseases by physical methods with a view to discovering, not the symptoms but the causes of disease, in connection with misplacements of tissue, obstruction of the fluids and interference with the forces of the organism; (b) the treatment of diseases by scientific manipulations in connection with which the operating physician mechanically uses and applies the inherent resources of the organism to overcome disease and establish health, either by removing or correcting mechanical disorders and thus permitting nature to recuperate the diseased part, or by producing and establishing antitoxic and antiseptic conditions to counteract toxic and septic conditions of the organism or its parts; (c) the application of mechanical and operative surgery in setting fractured or dislocated bones, repairing lacerations and removing abnormal tissue growths or tissue elements when these become dangerous to the organic life."

Pretty interesting, but not exactly something the general public would understand if it appeared in a dictionary. Compare this with the words of G. D. Hulett, DO, "Osteopathy: A system of therapeutics which, recognizing that the maintenance and restoration of normal function are alike ultimately dependent on a force inherent in bioplasm, and that function perverted beyond the limits of self-adjustment is dependent on a condition of structure perverted beyond those limits, attempts the reestablishment of normal function by manipulative measures designed to render to the organism such aid as will enable it to overcome or adapt itself to the disturbed structure."

Charles Hazzard PhD., DO, wrote the following definition: "...the word [osteopathy] has come to mean that science which finds in disturbed mechanical relations of the anatomical parts of the body the causes of the various diseases to which the human system is liable; that science which cures disease by applying technical knowledge and high manual skill to me restoration of any or all disturbed mechanical relations occurring in the body."

So we see that even though all these writers understood the concepts of body unity, structure/function interrelationships and self-healing, there was considerable variety in how they each defined osteopathy. Today, if you look in the Glossary of Osteopathic Terminology as published in the AOA Yearbook and Directory, you will find the following definition of osteopathy: "A system of medical care with a philosophy that combines the needs of the patient with current practice of medicine, surgery and obstetrics, and emphasis on the interrelationships between structure and function, and an appreciation of the body's ability to heal itself." A nice, workable definition.

Perhaps it is true that osteopathy can only be described, not defined. How would you define osteopathy? We here at the AAO Journal would like to hear from you. As for me, I still prefer the definition put forth so eloquently by Dr. Still, who said: "Osteopathy is the law of mind, matter and motion."

No, the general public wouldn't understand that, either, if it appeared in the dictionary. But for me it works just fine. ❑

Message from the President

by Boyd R. Buser, DO

The Academy recently received the results of a survey of a number of leaders in the osteopathic profession. The survey queried the participants about their attitudes relative to the AAO. The majority of the respondents felt that the Academy members were very current and that the Academy members and leaders were quite progressive. The majority of respondents also felt that the Academy was very relevant to the direction of the profession as a whole. This view of the Academy, its members and its leadership is almost certainly the result of the increased participation of the Academy in Affairs both within and outside the osteopathic profession.

At the recent AOA Board of Trustees' and House of Delegates' meetings in Chicago, the Academy was represented by Drs. Mike Kuchera, Eileen DiGiovanna, Judy O'Connell and myself as well as the Academy staff. I can assure you that our voice is clearly heard by the AOA Board of Trustees and our opinions are valued.

A number of the osteopathic profession's leaders consider the Academy to be the "conscience" of the profession, steering the profession back to its roots. This perception of the Academy and the influence that we now have can only be maintained by ongoing efforts of every academy member. I encourage you to become as active as possible in your state societies. Demonstrate your willingness to be a participant in the advancement of our profession. Become involved in the legislative initiatives that are going on at the national level and in every state. Call your congress people. Academy members demonstrated their commitment in this area by their overwhelming response to the phone bank held at the AAO Convocation in March in Nashville, an effort coordinated by the AOA Washington Office. A similar phone bank was conducted at the AOA House of Delegates' meeting in Chicago in July. Forty percent of the physicians who made phone calls to their congress people were Academy members.

Do not underestimate the influence that you as individual Academy members can have. You must help shape the direction of the profession and preserve the distinctiveness of the principles and practices of osteopathic medicine.

From:
"Sage Sayings of Still"
by George V. Webster, DO

Lung

"I have taken up the human lung to investigate and treat it as though it were a part of the machinery of life. At first I was very much *surprised* to find that when I properly adjusted the spine with the ribs, misery disappeared and my patient with pleurisy or pneumonia got well without a drop or a dose of any drug; I was surprised, *yet* glad to know I had discovered that when all the bones were in place and joints perfectly articulated, the whole body was a machine and could manufacture and apply all substances necessary to keep it in repair and health. I never failed to find the variation that was the cause of pneumonia or inflammation of either side of the lungs. I also discovered that in such atmospheric changes as produced cold, pleuro-pneumonia, croup and so on, some one or many of the ribs on the suffering side were off from their proper place of articulation. It matters not to the operator on which side the misery is located; until he finds and corrects all ribs and vertebrae on that side, he will fail." – *Research and Practice*, p. 126-127.

Message from the Executive Director

by Stephen J. Noone, CAE

Board Adopts 1995-1996 Budget

Following the publication of my message in the Summer 1995 issue of *The AAO Journal*, I receive a number of constructive comments for improvement of the financial condition and outlook for the Academy. I sincerely thank the readers for their attention to my column and for their suggestions.

Since that time, the Academy's Board of Trustees has met the challenge of their previous fiscal policy and successfully adopted an operational budget for the 1995-1996 fiscal year. I believe that it is important that I report the data in the Board's current operating budget just as I did in my previous column for the prior fiscal year.

Revenues

47% Educational programs
25% Membership dues
18% Publications
4% Grants/donations
6% Interest and miscellaneous

Disbursements

32% Staff payroll/benefits
27% Educational programs
13% Office operations
10% Boards/committees
9% Publications for sale
5% Membership publications
2% Outreach
2% UAAO

The variances from the prior year are a six percent total increase in revenues from educational programs and sale of publications with a corresponding decrease in percentage of revenues anticipated from grants and donations. On the disbursements side, the Board anticipates increases of four percent in staff payroll and one percent in educational programs with declines of one percent in office operations, one percent in boards/committees and three percent in outreach activities.

However, the leadership, the membership and the staff must not get complacent with the successful adoption of this current budget. Greater challenges lie ahead as the Academy seeks to improve the differential between its revenues and disbursements on the way to a balanced budget by the 1997-1998 fiscal year.

House Adopts AAO Resolutions

I have reported previously on resolutions submitted to the AOA House of Delegates by the AAO Board of Governors. The Academy's leadership did a masterful job in advocating passage of these resolution, even though they had to compromise on some of the final language in these measures. The AAO delegation included AAO President **Boyd Buser**, President-elect **Michael Kuchera**, Past President **Eileen DiGiovanna** and Alternate Delegate **Judith O'Connell**. If any AAO members would like a copy of the final wording of these resolutions, they should contact **Susan Barnhart**, CPS at the Academy's offices.

The subject and a brief description of the content of each resolution follows:

Practice Guidelines

It is a fact that groups outside the osteopathic profession are adopting practice guidelines on manipulative medicine, e.g. the North American Spine Society. This policy strongly states that the development of practice guidelines which impact osteopathic physicians is only valid if qualified, representative DOs developed these guidelines.

Intern Training in OMM

Consensus seems to be building that training in osteopathic manipulative medicine must be better integrated in AOA-approved postdoctoral programs. This resolution calls for a revision in the AOA's *Basic Standards for Internship Training* to include the following:

"Interns will be required to demonstrate and document their proficiency in osteopathic manipulative medicine as well as correlate this component with areas of training. Appropriate documentation should identify the method of treatment for each somatic dysfunction."

Documentary on the Life of A.T. Still

One of the elements of the Academy's Long Range Plan is to promote the production of a documentary on the life of Andrew Taylor Still. The Academy's investigation illustrates that the project is beyond the means of any single entity within the osteopathic profession. Hence, this resolution calls for the appointment of a profession-wide task force to study the feasibility of the production of a documentary film on the life and contributions of Dr. Still.

The AAO leadership targeted 43 of the 112 resolutions submitted to the House of Delegates for action. President Buser commented that he was pleased

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with the Academy's performance in that the assembly's action generally was consistent with the AAO position on the issues at hand.

Board Establishes For-Profit Subsidiary

The Board reallocated funds from its investments to establish a new for-profit subsidiary—*OMM Recruiters, Inc.* The company will secure contracts from health care facilities, colleges and individual DOs who are seeking OMM practitioners and match them with AAO members who are interested in these positions. The Board anticipates a growing need for OMM practitioners and hopes to provide this member service to advocate and promote OMM more widely both with the profession and nationwide. AAO Membership Coordinator **Deb DiStasio** will manage the company. Academy members who are interested in OMM teaching positions in either osteopathic colleges of osteopathic medicine or health care facilities should contact Ms. DiStasio for more information.

Academy Contributes to Osteopathy's Promise to Children

The AAO Board of Trustees approved a donation of $150,000 from The Robuck Fund to Osteopathy's Promise to Children, the fund raising agency for the Osteopathic Center for Children. Dr. **Viola Frymann** established the Center for the exclusive osteopathic treatment of children in La Jolla, California. She has recently secured new, expanded facilities in San Diego and will use the Academy's donation to ensure her relocation as early as January 1996. The Auditorium in the new facility will be dedicated to the Academy and may be used for AAO educational programs in the future. The AAO's Robuck Fund is a restricted fund for the "pediatric service of the Academy." ❑

Executive Director Steve Noone met with Dr. Viola Frymann to confirm the Academy's major contribution to her Osteopathic Center for Children in San Diego.

Dear Friends of the Osteopathic Center for Children,

May I express my deep appreciation to the Academy for their generous contribution to Osteopathy's Promise to Children. It might be compared to the booster rocket that launches the space shuttle on its way! I feel sure you will all be impressed and delighted by our new hilltop location and all that you will find within it. We look forward to welcoming you there for courses concerning our work with children, courses on the Osteopathic Concept of Expanding into the Cranial Field and any other osteopathic courses promoted by the Academy.

Thank you for your faith and your support. I wish to recognize and thank all who are expressing that support with their generous contributions through the past years of expectation, in the present time of active anticipation and in its future years of service to our children with problems.

With deep gratitude and appreciation,

Viola M. Frymann, DO, FAAO, FCA
Director, Osteopathic Center for Children

The Effect of Osteopathic Manipulative Treatment in the Post Abdominal Surgical Patient

(A Preliminary Study)

by Dale Pratt-Harrington, DO and Regine Neptune-Ceran, DO

Introduction

During the 100 years of clinical experience in the application of osteopathic manipulative treatment (OMT), there have been numerous review articles written on the benefits of OMT in the surgical setting.[1,2,3] Some offer suggestions on specific techniques on postsurgical care.[2,6] Recently, there have been many research articles that conclude that OMT is beneficial.[7,8,9,10,11,12] Most of the articles (with some notable exceptions[13,14]) examine the use of osteopathic manipulative treatment in classical musculoskeletal dysfunctions, however not its effects on other disease processes.

This preliminary study examines the effect of OMT on incentive spirometry readings in the hospitalized, post abdominal surgical patient. It is designed to explore the effects that simple manipulative techniques, requiring a minimal amount of time and skill, have in the post abdominal surgical patient's ability to ventilate.

The Respiratory-Circulatory Model

Patients undergoing abdominal surgery suffer a tremendous amount of trauma. The abdominal muscles are incised and metal retractors are used to hold these tissues out of the way. The surgery is performed, then the abdomen is closed with an assortment of sutures and needles. Because of this trauma, pain develops, leading to the use of post operative narcotics. These factors, in conjunction with the surgical anesthesia used and the commonly encountered post operative abdominal distension, lead to decreased diaphragmatic excursion, decreasing the amount of air delivered into the lungs. This can lead to atelectasis,[4] possibly followed by pneumonia.[5] Perisurgical trauma also activates reflexes throughout the nervous system, which result in sympathetic hyperactivity and a tendency to venous stasis throughout the abdominal viscera.[6]

Another important component to consider is the Respiratory-Circulatory Model of circulatory physiology, also known by some authorities as "the respiratory venous pump".[15] One of the mechanisms of returning fluids to the thoracic cage (i.e. the heart) is via the negative pressure created as the diaphragm descends during inspiration. As people inspire, air is not the only material driven into the thoracic cage by negative pressure; body fluids are as well. Also, as the diaphragm descends, compression of the abdominal vasculature increases and fluid returns to the thorax.[15] These fluids include not only blood, but lymph (where a large segment of the immune system is found). Therefore, if diaphragmatic excursion can be increased, this will enhance lymphatic drainage, decrease edema and assist the immune response, leading to a reduced chance of a post surgical complication developing. Therefore, when surgeons have patients perform incentive spirometry, they are having them do much more than just inflating their lungs; they are also fighting infection and other post surgical complications.

Methods

Fifteen patients who had in-patient abdominal surgery were selected in chronological order of their abdominal surgeries. Five were selected as controls and 10 had OMT performed on them. The five controls were patients of allopathic surgeons, and the 10 subjects who underwent OMT were patients of osteopathic surgeons who encourage manipulative treatments.

The criteria for selection was:

1. The patient underwent abdominal surgery requiring inpatient status.
2. Incentive spirometry had been ordered for them by the attending physician.
3. The patient's initial pre-exam incentive spirometry readings did not already exceed 2500 cc (the maximum of the spirometers used).

Patients in the control group were instructed to perform incentive spirometry on a **Sherwood Medical Voldyne Volume Expander**. The best of three

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attempts was recorded. The patients were auscultated over the thoracic region for five slow maximum inhalations. Incentive spirometry was then rechecked, recording once more the highest of three attempts.

The patients in the manipulative group were instructed to perform incentive spirometry at the beginning of the visit using the same brand instrument, recording the best of three attempts. OMT in the form of a diaphragmatic release (see figure 1), Rib raising (figure 2), and rib compression (figure 3) were then performed on the patients by (DPH). Incentive spirometry was then repeated, again recording the best of three attempts. During the incentive spirometry phase of the experiments, the patients were not coached.

Both groups were studied in the hospital within 24 hours of their surgery. The results are recorded within the text (tables 1 and 2), with age-specific analysis in tables 3-7.

Statistical analysis is made by comparing mathematical mean changes of incentive spirometry readings from either pre-OMT to post-OMT (group 1) or pre-examination to post examination (group 2).

Figure 1. The Diaphragmatic Release
The patient is supine, operator at side of bed facing head of patient with hands placed on the anterior, inferior aspect of the thoracic cage, and the thumbs are allowed to slip under the rib cage applying a cephalad pressure while the patient inspires slowly. The operator resists the downward excursion of the diaphragm until the operator either feels a release, or 3 to 5 respiration cycles (a release is usually accomplished in this time frame). This "rule of thumb" is useful if operator's palpatory skills in OMT are less than optimal.

Results and Discussion

As can be seen by tables 1 and 2, there was a significant difference between the manipulated population (Group 1) and the control group (Group 2). The average change in Group 1 was an increase of 335 cubic centimeters (cc) of inspired air. Group 2 demonstrated a change of negative 40cc.

Closer examination of group 1 (tables 3-5) reveals that the younger patients in this population appeared to have a more pronounced improvement in their response as compared to the older patients. Table 3 shows that the population group of ages 18-30 years had an average increase in spirometry readings of 387.5cc. The age group 31-50 years (table 4) revealed an increase of 400cc. Finally the population group greater than

Figure 2. Rib Raising
Patient supine; operator at side of bed facing the head of the patient placing hands on the anterior-lateral aspect of the rib cage, spreading the fingers to hold as many of the ribs as possible (if patient is female, then place hands below the breasts for patient comfort). Have patient inhale as deeply as possible, then apply a cephalad pressure to thoracic cage. Then as patient exhales, operator restrains ribs in elevated (inhaled) position. Repeat until a release is felt, or 3-5 respiratory cycles.

Fig. Rib Compression
Patient Supine; operator places hands on the anterior-lateral aspect of the rib cage spreading the fingers to hold as many of the ribs as possible (if patient is a female, then place hands below the breasts for patient comfort). Have the patient take slow, maximal inspirations. Operator attempts to prevent rib cage from moving cephalad, thus increasing demand for diaphragmatic excursion. As the patient exhales, release the thoracic pressure. Repeat cycle 3-5 times.

Table 1 - Group I - Patients who received OMT following surgery

Patient #	Age - Yrs.	Procedure	Pre-OMT Incentive Spirometry (cc air)	Post-OMT Incentive Spirometry (cc air)	Change (cc air)
1	81	Open Cholecystectomy	500.0	750.0	250.0
2	83	Sigmoid Resection	1250.0	1500.0	250.0
3	72	Hartman's Resection Reanastomosis	500.0	750.0	250.0
4	20	Appendectomy	500.0	1000.0	500.0
5	39	Laparoscopic Cholecystectomy	1000.0	1500.0	500.0
6	28	Splenectomy	450.0	750.0	300.0
7	72	Takedown Colostomy	500.0	750.0	250.0
8	20	Appendectomy	2250.0	2500.0	250.0
9	18	Low-Transverse Cervical C-Section	1250.0	1750.0	500.0
10	44	Open Cholecystectomy	1400.0	1700.0	300.0
AVERAGE			**960.0**	**1295.0**	**335.0**

Table 2 - Group II - Patients who received no OMT following surgery

Patient #	Age - Yrs.	Procedure	Pre-exam Incenive Spirometry (cc air)	Post-exam Incentive Spirometry (cc air)	Change (cc air)
1	58	Combined Abdominoperineal Resection	1250.0	1000.0	-250.0
2	71	Sutotal Colectomy	1500.0	1750.0	250.0
3	46	Rt. Salpingo-oophorectomy	1275.0	1275.0	0.0
4	68	Sigmoid Resection with End-to-End Anastomosis	1250.0	1200.0	-50.0
5	50	Lysis of Small Bowel Adhesions	1400.0	1250.0	-150.0
6					
7					
8					
9					
10					
AVERAGE			**1335.0**	**1295.0**	**-40.0**

Table 3 - Patients 18-30 years old who received OMT

Patient No.	Age (yrs)	Procedure	Pre OMT Incentive Spirometry (cc air)	Post OMT Incentive Spirometry (cc air)	Change
4	20	Appendectomy	500.0	1000.0	500.0
6	28	Splenectomy	450.0	750.0	300.0
8	20	Appendectomy	2250.0	2500.0	250.0
9	18	Low Transverse Cervical C-Section	1250.0	1750.0	500.0
AVERAGE			**1112.5**	**1500.0**	**387.5**

Table 4 - Patients 31-50 years old who received OMT

Patient No.	Age (yrs)	Procedure	Pre OMT Incentive Spirometry (cc air)	Post OMT Incentive Spirometry (cc air)	Change
5	39	Laparoscopic Cholecystectomy	1000.0	1500.0	500.0
10	44	Open Cholecystectomy	1400.0	1700.0	300.0
AVERAGE			**1200.0**	**1600.0**	**400.0**

Table 5 - Patients age greater than 50 years old who received OMT

Patient No.	Age (yrs)	Procedure	Pre OMT Incentive Spirometry (cc air)	Post OMT Incentive Spirometry (cc air)	Change
1	81	Open Cholecystectomy	500.0	750.0	250.0
2	83	Sigmoid Resection	1250.0	1500.0	250.0
3	72	Hartmans Resection	500.0	750.0	250.0
7	72	Takedown Colostomy	500.0	750.0	250.0
AVERAGE			**687.5**	**937.5**	**250.0**

Table 6 - Patients 31-50 years old who did not receive OMT

Patient No.	Age (yrs)	Procedure	Pre OMT Incentive Spirometry (cc air)	Post OMT Incentive Spirometry (cc air)	Change
3	46	Right Salpingo-Oophorectomy	1275.0	1275.0	0.0
5	50	Lysis of Small Bowel Adhesions	1400.0	1250.0	-150.0
AVERAGE			**1337.5**	**1262.5**	**-75.0**

Table 7 - Patients greater than 50 years old who did not receive OMT

Patient No.	Age (yrs)	Procedure	Pre OMT Incentive Spirometry (cc air)	Post OMT Incentive Spirometry (cc air)	Change
1	58	Combined Abdominal Perineal Resection	1250.0	1000.0	-250.0
2	71	Subtotal Colectomy	1500.0	1750.0	250.0
4	68	Sigmoid Resection With End-to-End Anastamosis	1250.0	1200.0	-50.0
AVERAGE			**1333.3**	**1316.7**	**-16.7**

51 years (table 5) had an average increase of 250 cc.

These findings may simply be due to the fact that the younger population tended to have less invasive surgeries (such as appendectomies and laparoscopic cholecystectomies) as compared to the older population's procedures (colon resections, etc.), or it may reveal that younger people have more extensive responses to OMT.

Examination of group 2 (tables 6 and 7) reveals that the population ages 31-50 years (table 6) had an average change in spirometry readings of negative 75 cc. The population group aged greater than 50 years (table 7) had a change of negative 16.7 cc of air.

It should be noted also that the post exam spirometry results of the control group were at best erratic, with some patients worsening (patient numbers 1, 4, and 5), one improving (patient number 2), and the other remaining the same (patient number 3). The authors offered no reasons why this may be, with the possible exception of fatigue being a factor, however group 1 also utilized maximal respirations during the OMT.

It should again be mentioned that the OMT was performed by one person, (DPH) and the protocol was exact from one patient to another with each treatment lasting approximately 3 minutes (maximum). This short time limit was intentional so that use of this manipulative technique will be more attractive to the busy surgeon who may wish to pursue this protocol.

The weaknesses of this investigation include the subjects varied in many different aspects including age, sex, and surgical procedures performed. It would be ideal to have a population of patients with similar characteristics. Also a much larger number of patients are needed to verify the findings of the study. Since three different manipulative techniques were employed, the question of which procedure was most beneficial must be raised. Another point to mention is the spirometry phase was supervised by the author. Future studies may wish to have an assistant who is unaware of which patients did and did not receive OMT oversee this portion of the procedure to prevent any unconscious bias, or "coaching" in the form of facial expressions, etc., from occurring. The results were also based on one treatment session, not a series, which would examine a progression curve over a period of time. Finally, incentive spirometry is not a sensitive method for the study of pulmonary function. It does give a crude, inexpensive idea of the amount of air being inspired by the patient however.

Conclusions

This research was designed to be a preliminary study of the effect of OMT on incentive spirometry readings (thus a crude measure of pulmonary function) in the status post abdominal surgical patient. According to the results, there does seem to be a difference between the populations who did receive OMT and those who did not, with the treated patients having a marked improvement in spirometry readings over the control group. This could lead to an even lesser incidence of post surgical complications such as atelectasis, pneumonia, as well as other post operative infections. However it needs to be noted that this is a preliminary study, and much more research (with more sensitive equipment, a larger number of subjects, and tighter patient parameters) needs to be performed for verification of these results.

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9:45 am	Break
10:00 am	Standardizing a record of SD
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12:00 noon	Lunch
1:00 pm	Introduction: segmental motion dysfunction
1:30 pm	Percussion scan: spinal regions
2:15 pm	Segmental motion testing, cervical supine: practice
3:00 pm	Break
3:15 pm	Respiratory motion testing: demo & practice
4:15 pm	Functional manipulation, cervical supine: practice

Saturday, December 9, 1995

8:00 am	Concept: afferent reduction
8:30 am	Functional manipulation, thoracic: demo & practice
9:15 am	Concept: segmental feedback control and the muscle spindle
10:00 am	Break
10:15 am	Functional approach to the appendages: demo
12:00 noon	Lunch
1:00 pm	Functional approach to thesacro-pelvic region
1:30 pm	Tissue and motion scans in diagnosis: demo & practice
2:45 pm	Break
3:00 pm	Manipulative technique, sacro-pelvic: indirect & direct applications, demo & practice
4:30 pm	Functional manipulation, appendicular: practice

Sunday, December 10, 1995

8:00 am	Functional approach to the thoracic cage
8:30 am	Tissue and motion scans in diagnosis; demo & practice
9:15 am	Rib dysfunction resisting exhalation; tx. demo & practice
10:00 am	Break
10:15 am	Rib dysfunction resisting inhalation; tx. demo & practice
11:15 am	Differentiating somatic and visceral inputs in segmental dysfunctions
11:30 am	Discussion/Summary

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The Nature of Fascia and the Role of Lower Extremity Fascia in Low Back Pain

by Dallas Dan Hessler, DO
Denver, Colorado

Abstract

This paper discusses the nature of fascia and proposes an intimate relationship between the fascia of the lower extremities and the low back. The fascia of the lower extremities supports and stabilizes the pelvis and lumbar spine. Dysfunction of the fascia of the lower extremities, unilaterally or bilaterally, chronic or acute, leads to a lack of stabilization of the low back resulting in dysfunction and potential pathology. Biomechanical alterations, both macroscopically and microscopically, can result in a clinical level of dysfunction and pain. The author suggests that dysfunctions occurring in the lower extremity are frequently subclinical and asymptomatic. Only when these dysfunctions result in low back pain does the patient seek therapeutic intervention. Treatment directed solely to the low back frequently does not offer total resolution of dysfunction. Attention to lower extremity dysfunction is necessary for the complete treatment of low back pain.

When one looks at a model for evaluation of function and treatment of dysfunction of the human organism, one must define the position at the onset of the paper so the reader is clear which model is being used. Appropriate models for osteopathic evaluation include: the biomechanical model in which bony structure articulates on bony structure and is influenced by the force of gravity; the musculoskeletal model which focuses on dysfunction of the musculature as origins and insertions interface with bony structure; the myofascial model which focuses on muscles and fascia as they penetrate and affect every structure of the human organism; the fascial model in which fascial planes function as gliding sheets over which motion occurs. Dysfunction of fascia with its subsequent decrease in motion creates biomechanical changes and ultimately disease. Most appropriately, all models should be considered simultaneously. However, one must identify the predominant models for the purpose of discussion. In this particular paper, the primary model is the fascial model; the secondary model is the biomechanical model. With this in mind, a discussion of fascia and its properties, specifically lower extremity fascia and how it affects low back pain, will be pursued.

The Nature of Fascia

Fascia is a Latin word meaning, "band". All body structures are connected, united and supported by fascial components. Fascia interdigitates through all the organ systems of the body. In the cardiovascular system, it surrounds the heart as pericardium and flows into the linings of the blood vessels. It is pleura around the lungs. It covers the muscles as the myofascial layer. It is the periosteum of bone. Layers of connective tissue support the viscera. In the central nervous system, it is the dura mater with its meningeal reduplications and extensions. Subarachnoid and pial membranes form the cisternae and are intimate with the blood vessels which supply the brain. At various foraminae, the dura becomes continuous with fascia outside the brain connecting to and creating tensions with the cranium.[1] Fascia is firmly attached to the foramen magnum and in the upright positions descends like a series of curtains throughout the body. Fascia connects one organ system with another. George Snyder, Emeritus Professor of Anatomy at the Kirksville College of Osteopathic Medicine said, "It is what connects one specialty of medicine with the other."[2] The diffuse nature of fascia has implications microscopically as well as macroscopically. Each cell, as an entity unto itself, is supported by a system that is fascial in nature. The confinement of cellular fluid by the cell membrane is the initial beginning of structure and soma.[3] As cells combine, structure and shape take place in the developing organism. Function, as well as the potential for dysfunction, begins.

Growth moves from simple to complex, from undifferentiated to differentiated, from center to periphery, from trunk to branch. Molecules comprising the human organism arrange themselves in unique patterns so their

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individual functions support the totality of the system. Primordial bone develops into relatively inflexible structures that combine architecturally and biomechanically with fascia to form the support system of the developed organism. Fascia, as interlocking connective membrane, is in a constant state of motion to respond and adapt to the forces of the internal and external environment.[4]

In the musculoskeletal system soft tissue attaches to bone to create an efficient system of support. The tensile strength of fascia pulled against bone represents a tensegral structure.[5] Pneumatic and hydrostatic pressures controlled by myofascial structures augment this potential solidity.[6] Fluid-filled compartments of fascia attached to bony structures create strength and support. The relationship of fluid, fascia and bone is symbiotic for somatic function.

The precursor to fascia is collagen which appears as early as ten to twelve days after conception. Collagen is an abundant protein[7] and is to animals what cellulose is to plants. Undifferentiated cells of adult connective tissue retain their unique capacity for metamorphosis into specialized cells. Cells that remain quiet and inconspicuous during normal circumstances can become actively mitotic and transform into specialized cells during circumstances of stress.

Connective tissue functions as a fluid crystal. At times it is dense, at times it is elastic. It is always plastic and as a crystal, it has a piezoelectric property;[8] that is, when it is compressed, it emits an electrical charge. Trauma or disease can deform fascia and change energy fields altering the function of the organsim and creating somatic dysfunction.

Fascia is intimately associated with intracellular fluid and actively involved in metabolic exchange. The presence of foreign substances or toxins[9] in fluid, in combination with structural aberrations of fascia, all have a direct bearing on the efficiency of metabolic exchanges. The chemistries of hormones, diseases, diet and stress affect and are affected by the integrity of the fascia.[10]

Fascia is a dynamic system of the body which has the capacity to move from solid to gel depending on need. Its macro connections, reflections and reduplications provide every living tissue with a means of inter-adaptation as well as a lubricant for motion. Any tissue with such intimate and comprehensive inclusion in all systems of the body commands a high degree of priority. Consequently, when fascia is dysfunctional there are not only local but profound peripheral somatic effects.[11]

Somatic dysfunction is a constellation of disturbances which ultimately desires to be reintegrated into the system. When these disturbances occur, the synergy of the human organism is violated. As function continues, somatic components respond by changing into dysfunctional patterns.

Restoring dysfunctional patterns to efficiently functioning somatic components is of prime importance to the osteopathic physician. With this goal in mind, one must understand that wherever manipulative treatment is initiated on the body, the body functions as a whole. Part of our purpose in this paper is to relate a portion of the whole to a clinical condition.

Lower Extremity Fascia and Low Back Pain

Lower extremity fascia is significant in somatic dysfunction of the low back. It offers diagnostic clues for specific lumbar and pelvic dysfunction and provides a method of treatment for the low back. The normalization of lower extremity fascia can either resolve certain somatic dysfunctions of the low back or aid in the removal of forces that impede the correction of low back somatic dysfunction.

The psoas muscle, frequently indicated in low back pain, travels through the pelvis from its superior attachment at the lower thoracic and upper lumbar vertebrae to its inferior attachment on the inner aspect of the femur. The fascia that surrounds this muscle directly affects the diaphragm, viscera (primarily the kidneys), pelvis and lower extremities. Due to its size and attachments, this muscle has the capacity to pull the upright human frame forward and lateral. The quadratus lumborum and erector spinae mass musculature do not cross from the posterior to the anterior portion of the body and, as a result, do not have this same capacity. The tensor fascia lata, the iliotibial bands, the iliacus are connected with fascia that extends down the lower extremity into the foot. Dysfunction of these muscles may create changes palpable up to and through the diaphragm.

Fascial connections from the lower extremity to the pelvis, into the low back and diaphragm are significant and complex. The fascia in the lower extremities acts to stabilize the pelvis and the low back much in the way guy wires stabilize a large television antenna. This stabilization is not only lateral but also anterior and posterior. Dysfunction in the lower extremity fascia creates abnormal stresses on the low back and predisposes it to injury.

Evaluation of Lower Extremity and Related Fascia

Evaluation of lower extremity fascia is accomplished with the patient in the standing, sitting, supine and prone position. The evaluation includes observation and palpation. Observation includes static observation as well as observation of movement and ambulation.

Ambulation should be observed with the patient walking away from you as well as towards you. Disparities in symmetry provide an indication of fascial tension in one side of the body as compared to the other. The patient who rides up on his or her toes while ambulating may have fascial tightness in the lower extremities aggravated by dorsiflexion of the feet.

The patient who ambulates with a disparity between the upper half and the lower half of the body may have dysfunction in the region of the thoracolumbar diaphragm. Asymmetry in the swing of the extremities, both upper and the lower, suggests possible torsional fascial dysfunction.

In the standing position, the patient is observed anteriorly, laterally and posteriorly. Posterior observation gives an indication of symmetry in the lower extremities bilaterally. An out-turning of one lower extremity in comparison to the other suggests asymmetrical fascial dysfunction that can originate as high up as the low back.

Fascia interdigitates through all tissues of the body. Consequently, it is possible to have a developmental fascial dysfunction within a bone itself in the form of an intra-osseous lesion. The flat bones (temporals, scapulae and ilia) are frequent targets for intra-osseous dysfunction. Fascial deformation within the bone itself can create an asymmetry in the pelvis producing apparent external or internal rotation of the lower extremity. Valgus or valrum deformation of the knees as well as tibial torsions cause in-turning or out-turning of the inferior aspect of the lower extremities.

Lateral inspection of the patient in the standing position gives an indication of the straightness of the lower extremities. Knees that are not fully extended suggest pelvic dysfunctions with compensatory changes. The ilia and sacrum reflect dysfunctions in the lower extremities. Sacral base unleveling is not an uncommon phenomenon that can alter biomechanics in the spinal column up to the cranium.

With the patient in the standing position, the practitioner palpates the level of the iliac crests bilaterally from behind. An unleveling of the iliac crests gives an indication of pelvic dysfunction. With the practitioner's thumbs placed lateral to the sacroiliac joint, motion is initiated to the left and to the right to determine on which side motion is decreased. The restricted side reflects fascial dysfunction in the ipsilateral lower extremity. While the patient maintains this position, lower extremity adductors and abductors are palpated for fascial tension as are the tensor fascia lata and iliotibial bands (Photo 1).

In the seated position, the iliac crests are palpated for unleveling. Unleveling in this position suggests dysfunctions originating cephalad to the pelvis. While the patient is in the seated position, the trunk is rotated to the right and to the left to determine gross fascial dysfunction in the thoracic region. In the supine position, the lower extremities are observed for internal or external rotation suggesting fascial restriction. Both lower extremities are lifted by the practitioner to compare the weight of one leg with the other. Edema or pooling of fluid may reflect a unilateral fascial dysfunction and increase the weight of an extremity. With both extremities elevated, the practitioner internally and externally rotates each leg for comparison (Photo 2 and Photo 3). Traction is initiated on both lower extremities, and the pelvis is gently

Photo 1

Photo 2

Photo 3

→

swayed from one side to the other (Photo 4). This lateral motion indicates lower extremity fascial tension as it relates to the pelvis, up through and to the thoracolumbar region. With the lower extremities returned to the examination table, the practitioner exerts gentle pressure on the great toes of both feet initiating external rotation of both lower extremities, again checking for a disparity in fascial tension (Photo 5).

The feet are contacted by the practitioner's hands over the plantar fascia, and the foot is inverted and everted to evaluate symmetry. An inversion of the foot that engages the knee joint or the hip joint of one extremity more quickly than the other extremity suggests a fascial dysfunction on the lateral aspect of the extremity that engages more quickly. Eversion of the foot will give the practitioner an indication of fascial tightness on the medial aspect of the lower extremity.

Contacting a foot with one hand inferior to the malleoli and initiating a lateral motion from left to right gives an indication of ankle "joint play". This same maneuver can be accomplished over the knee joint, with one hand placed caudad and the other hand cephalad to the patella (Photo 6). A comparison is made between the right and left lower extremity.

While the patient is still in the supine position, the pelvis is contacted on its right side with one hand and its left side with the other hand, and lateral motion is instituted. If a dysfunction in lower extremity fascia that interdigitates through the pelvis is noted, increased fascial tension will be detected on the affected side.

Tightness in the aponeurotic areas over the greater trochanters gives an indication of fascial dysfunction in the lateral aspect of the upper portion of the lower extremities. Palpating muscle groups such as quadriceps femoris, gives an indication of fascial dysfunction in these tissues.

While the patient is in the supine position, the opportunity should be taken to evaluate the sacrum for craniosacral dysfunction as well as to evaluate the ilia bilaterally. The inguinal ligaments should be evaluated in their attachments at the anterior superior iliac spines and the pubes. The patient should be asked to bend his or her knees, and palpation of the pelvic diaphragm should be accomplished at the area of the ischial tuberosities (Photo 7).

With the patient in the prone position, evaluation of the fascia on the posterior aspect of the lower extremity can be accomplished with palpation of the plantar fascia and popliteal fascia. Muscles such as the gastrocnemius, soleus and hamstrings should be palpated at their margins to determine fascial dysfunction. Attention should be given to the structures of the posterior pelvis as they relate to the lower extremities. This includes the external rotator muscle group as well as the attachments of the sacroiliac, sacrotuberous and sacrospinatous ligaments. The abdominal fascia and its relationship with lower extremity fascia must be considered in low back pain. Fascial release on the ventral surface of the torso can affect the release of the fascia of the psoas muscle. The abdominis rectus and abdominal oblique muscles have impact on the pelvis.[12]

Summary

The fascia of the lower extremities acts to stabilize the low back much in the same way guy wires stabilize a large television antenna. Dysfunction of these stabilizers occurring in the lower extremities frequently does not present as a clinical problem; however, they predispose to clinical dysfunction. A patient who is somatically aware of this phenomenon can seek attention and often prevent impending dysfunction and low back pain.

Photo 4

Photo 5

Manipulative treatment of the lower extremities includes treatment of structures beginning at the plantar fascia and moving cephalad. The bones of the feet are a small part of anatomy but a large part of function. Tibial torsions need correcting as they affect the iliotibial bands and their lateral stabilizing properties. Consideration of relationships between the upper and lower portions of the lower extremities as well

Photo 6

Photo 7

as one leg in comparison with the other must be addressed and remedied in consideration of low back pain.

When one speaks of one portion of the anatomy affecting another, one must do this with a sense of caution. Fascia is cooperative. It adapts and makes adjustments throughout the entire human organism to assist in the proper functioning of any single portion of the anatomy. The human organism functions as a whole. Structure and function are interrelated. Fascia is the strength and form of the human organism. It is diffuse and interdigitates through the entire body. The integrity of fascia is protective. Its plastic and piezoelectric properties affect bioenergetic fields within the body. Fascia, its form and functions are significant in dysfunction of the human organism. The relation of the lower extremity fascia to function of the low back is but one illustration of the multiple relations of fascia within the body.

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4. Hanna, Thomas.: An Introduction to Somatic Philosophy and Psychology. Columbus Ohio, The Ohio State University, 1992, p. 45.

5. "Tensegrity" is a term coined by Buckminster Fuller, creator of the geodesic dome, to describe nature's common principle of structure to achieve a maximum of stability with a minimum of material. Lecture on Design at Design Conference, Aspen, Colorado, 1982.

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9. Fascia has a capacity to compartmentalize disease and prevent the spread of infection. Certain types of tumors are surrounded by connective tissues with a highly viscous ground substance. Other tumors are known to exude the enzyme hyaluronidase which breaks up complex mucopolysaccharides creating a less viscous ground substance allowing disease to spread more freely. Boyd, William.: Textbook of Pathology, Seventh Edition. Philadelphia, Pennsylvania, Lea and Febiger, 1961, pp 79-81.

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11. Considerations of body/mind separation, of afferent and efferent ways of thinking, of facilitation and inhibition within the reflex arc are classic; however, one must consider the possibility that the experiential process is not a localized phenomenon in the periphery or the central portion of the organism, but is a total experience that occurs in function or dysfunction without any Cartesian separation.

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12. The fascia around the viscera is important in viscerosomatic and somatovisceral responses associated with low back pain. The diaphragms of the body, specifically the pelvic and thoracolumbar diaphragms, are integral in low back pain. The crurae of the thoracolumbar diaphragm attach caudad at L2 and L3 and affect the lumbar spine. It is important that a synchronous piston-like action occur in both these diaphragms during pulmonary respiration.❑

Basic Percussion Vibrator Course "The Fulford Method" November 11-12, 1995

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8:00 a.m.
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Lab Session:
Diagnosis – Subtle Motion
Assess the Delicate Motion
Use of Correct Hand On Front of Body

Discussion of Motor:

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

Lab Session:
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
Richard W. Koss, DO

Rhythmic Balance Interchange
Robert C. Fulford, DO

Delivery of the Baby --
Trauma to Knee, Shoulders, Head

Lab Session:
Knee, Ankle, Foot, Trochanters, Pelvis

Sunday, November 12, 1995
8:00 a.m. - 4:00 p.m.

Review –
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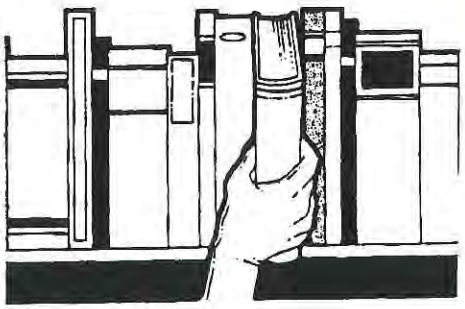

From "Practical Visions"

by F. P. Millard, DO
Journal Printing Company, Kirksville, MO 1922

We understand that in order to be able to make a proper diagnosis, a physician must not only be familiar with his anatomy, physiology, pathology and so forth, but he must also be a master mechanic, in that the human body is a machine. The study of applied anatomy is one of the most essential, not only surgically as we have a number of text books on surgical applied anatomy, but applied anatomy from a mechanical standpoint as well. This is not taught in the medical colleges. It is taught only in the osteopathic colleges. The application of each phase brought out, in that the relations of the various tissues are taught from an applied standpoint, can be figured out only as we consider that the body is a machine, and that structural changes take place, through accidents, stress and outside forces that are not taught in the older schools.

In order to be a good diagnostician, it is not enough, therefore, to have a complete knowledge of the human body, from a chemical standpoint, in relation to the various secretions, endocrines and so forth. We must also be able to determine upon examination wherein structural changes have caused perversion, not only in the nerve tracts, but also in the blood vessels and various tissues and organs that make up the composite whole.

It will all depend upon the viewpoint the practitioner has as to his ability to diagnose a case after thorough examination. If his viewpoint is distorted to the extent that he is not familiar with the physiological movements of the spine, he will not be able to make a complete diagnosis in any instance. If, for any reason, he has not been trained as to the effect of disturbance on various nerve centers, in their relation to organs and tissues, he will not be able to diagnose accurately in any instance.

Until Dr. A. T. Still discovered the principles and practice of osteopathy, there never had been a complete diagnosis made in any instance in the world's history. The ideas brought out by Dr. A. T. Still absolutely revolutionized the therapeutic reckonings. The older method of diagnosing from symptoms, subjective and objective, did not include the most important phase from a diagnostic standpoint. The osteopathic physician, who goes through the college and fails to grasp the idea relative to applied anatomy, will not be able to make the same diagnosis as the student who has a broader concept and who realizes the significance of pathological findings in their relation to the tissues from an applied anatomy standpoint. All through the entire course, the applied anatomy viewpoint must be kept in mind. Even in the dissecting room, as well as the technic department, the student must ever be on the alert to determine the applied viewpoint in every instance. It will be necessary to combine all of the various sources of information in relation to the human body when making the diagnosis of some bodily perversion. Every pathological phase must be deduced back to the point where the primary lesion existed. The reasonings made by an osteopath include the framework of the body and its structural arrangement, from both a normal and an abnormal viewpoint.

The reason some of our younger practitioners fail to get the proper viewpoint in making the diagnosis is because they cannot collectively assimilate the various workings of the human anatomy in all of its various phases and realize that the disturbances manifested, when making an examination, are due, in most cases, to a systemic disturbance that includes the entire central nervous system and its various connections.

No organic disease can exist without proportionately affecting the entire body. No one nerve can be irritated or disturbed to any extent without disturbing the harmony of the entire system. There is no such a thing as a local organic disturbance. We have to consider, in each instance, the various reflex propositions. We have to remember the relation of the various nerve branches to the central nervous system. We must consider the various nerve tracts that carry different impulses; the different motor tracts that control and supply certain areas and, at the same time, are under the great central nervous system. We must keep in mind the various areas of the body that are controlled by certain nerves through certain nerve centers. The distribution of the vasomotors; the motor, the sensory impulses and, above all, the fact that all of the local centers are secondary to the great controlling center located in the brain. We must keep in mind the various circulations; the arterial supply; the venous return circulation and the lymphatic circulation that permeates almost all tissues. It is impossible to be too careful about making a diagnosis. The more accurate the diagnosis, the more readily we will understand the case and secure results.

Huge Price Reduction $$

Osteopathic Medicine: A Description of Principles, Practice and Coding

Sponsored by the American Academy of Osteopathy, this video program is designed to assist state and local associations and individual osteopathic physicians in educating third party payers, healthcare regulators and policy makers about osteopath diagnosis and procedures.

This video covers the following topics:

- What is a DO?
- What is the osteopathic difference?
- How osteopathic (OMM) diagnosis and treatment work.
- Why the need for rediagnosis at each patient visit.
- Use of the new 98925-98929 CPT codes.

Presented in language understandable by the sophisticated lay person, this program should be presented to every third party payer that has ever questioned an osteopathic diagnosis or procedure. For state legislators and healthcare planners, regulators and policy makers, this program is an invaluable aid to understanding osteopathic medicine and OMM.

The video medium is utilized to demonstrate specific examples of osteopathic diagnosis and treatment emphasizing the uniquely osteopathic approach to the whole person. This is a program you can show to anyone who has wondered about our profession.

Osteopathic medicine: a description of principles, practice and coding is available now at $19.95 S/H included. This is a tool DOs have long needed!

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Osteopathic Diagnosis & Treatment Service

Dear Academy Members:

The Osteopathic Diagnosis & Treatment Service will be offered during Convention.

Sunday:	12:00 noon - 5:00 pm
Monday:	9:00-11:00 am and 2:30-5:00 pm
Tuesday:	9:00-11:00 am and 1:00-5:00 pm
Wednesday:	9:00-11:00 am

Your friends, colleagues and students will appreciate any time you can donate to this service. Please complete the form at the bottom of this page and return it to the Academy office at your earliest convenience.

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

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

With Great Appreciation,

David D. Musgrave, DO
Chairman, OD&TS

	Sunday	Monday	Tuesday	Wednesdat
9-10 am		_____	_____	_____
10-11am		_____	_____	_____
1-2pm	_____		_____	
2-3pm	_____	_____	_____	
3-4pm	_____	_____	_____	
4-5pm	_____	_____	_____	

_____
Printed Name

In Memoriam

Joseph L. Love, Sr., DO

Joseph L. Love, Sr., DO passed away in June 1995 in Austin, Texas where he had practiced osteopathic medicine for 55 years.

Dr. Love received his Doctor of Osteopathy degree in 1934 at Kirksville College of Osteopathic Medicine and entered a graduate program at the University of Texas at Austin in 1935. He received a master's degree in economics in 1937, and did further work in that subject.

An Honorary Life Member of American Academy of Osteopathy, Dr. Love received that organization's highest honor, the A. T. Still Medallion of Honor in 1988. Other professional honors included election as president of the Texas Osteopathic Medical Association (TOMA), 1944-1946; president of the TOMA District VII, 1938 and president of the American College of Osteopathic General Practitioners (ACOGP) in 1941. ACOGP named Dr. Love "General Practitioner of the Year" in 1982. He was a delegate to the American Osteopathic Association from 1936-1946 and a member of the Board of Trustees of the Kirksville College of Osteopathic Medicine from 1961-1970.

A member of both the Downtown Austin Lions' Club and the Austin Chamber of Commerce over 50 years, Dr. Love was also a 32nd Degree Mason, Scottish Rite; a Shriner, a member of Central Christian Church in Austin and a member of the University Club.

Dr. Love is preceded in death by his wife, Virginia Ellis Love who passed away in 1990.

The Academy sends its deepest sympathy to the family and friends of Dr. Love.

Marion L. Scott, DO

Editor's Note: The executor of the Estate of Dr. Scott just recently notified the Academy of her death. The AAO apologizes for not getting this information to the membership prior to this time.

Dr. Marion L. Scott, of Cambridge, Maryland, died April 16, 1993.

A graduate of Kirksville College of Osteopathic Medicine in 1939, Dr. Scott opened her practice in Mt. Clemens, Missouri where she was in partnership for 46 years with the late Dr. Elizabeth Wilson. Dr. Scott was on staff at Mt. Clemens General Hospital for 1944 to 1976 and for several years served as Chief of Staff. She moved to Cambridge when she retired in 1987.

She was a founder of Mt. Clemens General Hospital and a member of the Academy for 20 years.

Errata

Three-Dimensional Counterstrain and App

Editor's Note: The following is a list of misprints for the article by Carlson, J.A., Carlson, J.M. and Earl D.T., in the Summer 1995 issue of the *Journal of the American Academy of Osteopathy*. Due to the publication deadline, they were unable to be included in that issue.

p. 24 paragraph 1:

Articulo-Fascial Planes:

There are three anatomic articulofascial planes which can help explain the mechanics of the 3-DCL. These articulofascial planes are the anterior, anteriomedial (with two components) and the posterior.

The anterior articulofascial plane is superficial and can, for practical purposes, be considered superficial fascia. This plane begins at the dorsum of the foot and continues ipsilaterally up to the frontalis muscle on the cranium (figure 1).

The anteriomedial articulofascial plane has two components- superficial and deep. These components are unique in that they begin ipsilaterally on one side and progress to the contralateral side. This is in contrast to the anterior and posterior planes which stay ipsilateral their entire course. Beginning with the superficial component (figure 2a), this articulofascial plane begins from the arch of the foot and continues in an ipsilateral path in the following order: posterior tibilalis, pes anserine musculature and rectus abdominus. From the rectus

Figure Drawings by J. Castillo

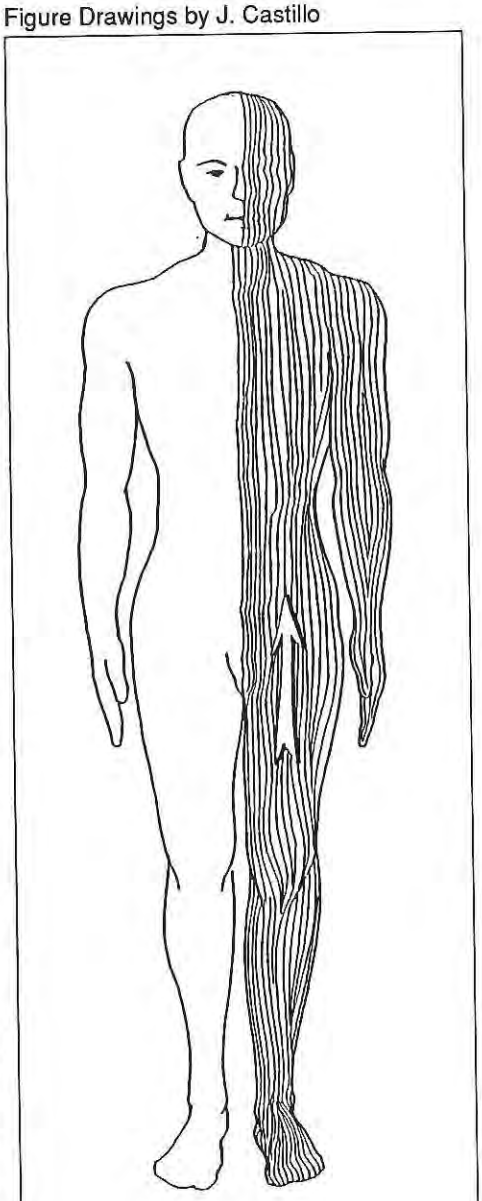

Figure 1
ANTERIOR Articulofascial Plane

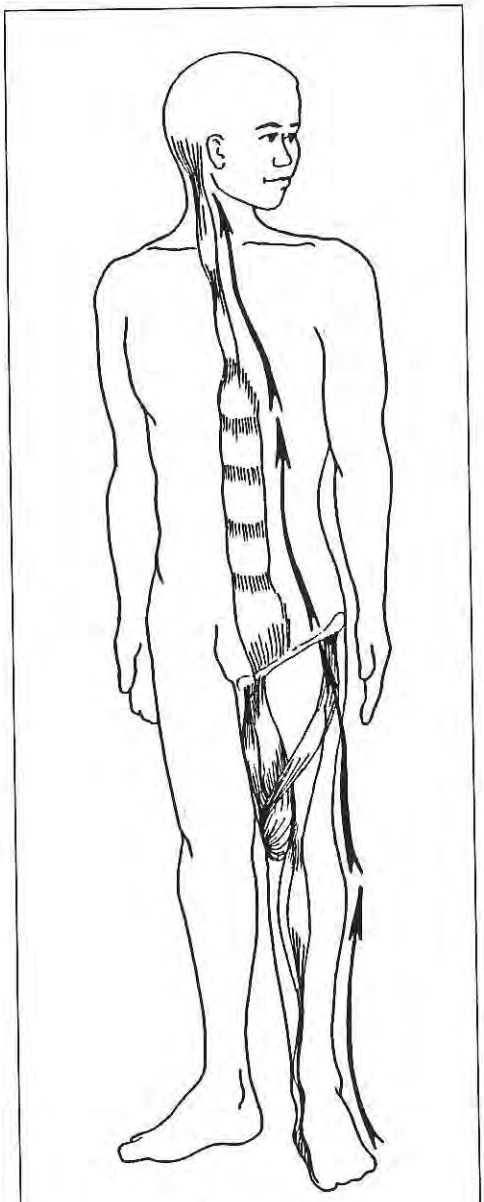

Figure 2a
ANTERIOMEDIAL Articulofascial Plane (SUPERFICIAL COMPONENT)

Slip:
Lifts (3-DCL) Theoretical Concept lications

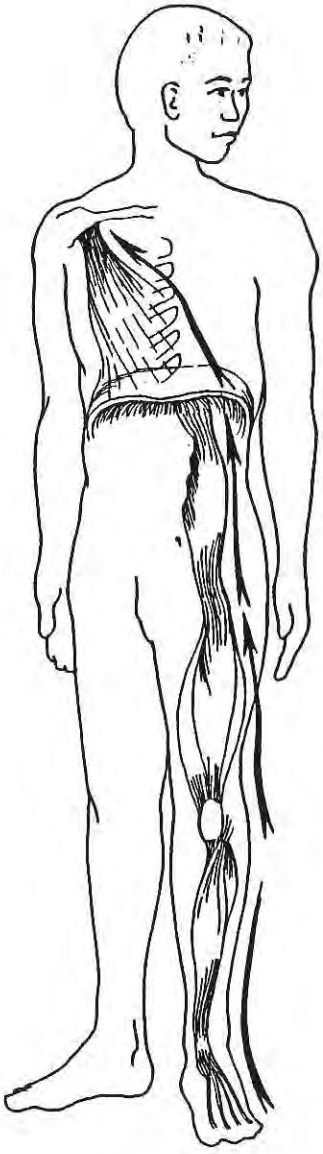

Figure 2b
ANTERIOMEDIAL Articulofascial Plane (DEEP COMPONENT)

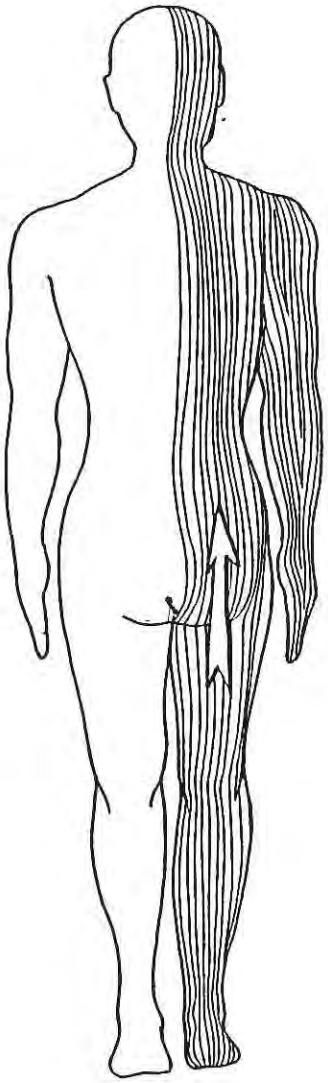

Figure 3
POSTERIOR Articulofascial Plane

abdominus, the plane crosses over to the contralateral side using the sternalis muscle which is continuous with the sternocleidomastoid muscle and finally inserting onto the temporal bone. The deep component (figure 2b) of the anteriomedial articulofascial plane begins on the dorsum of the foot where it progresses on an ipsilateral side in the following order: anterior tibialis, quadriceps and ilio-psoas. From the ilio-psoas, the plane uses the anterior sacroiliac joint as a fulcrum to cross contralaterally, attaching onto the thoracic diaphragm. The thoracic diaphragm (which attaches onto the last six ribs) is in a continuum with the pectoralis major and minor muscles. This deep plane eventually ends at the glenohumeral joint.

The last articulofascial plane to consider is the posterior plane (figure 3). This plane, like the anterior plane, can be considered superficial fascia on the posterior part of the body. This plane is a continuation of the plantar fascia of the foot and runs on the ipsilateral side, ending on the occipital portion of the cranium.

p. 27, paragraph 2:

One key point when applying lifts is the importance of a good arch support prior to using anterior and posterior lifts.

Captions:

Figures 7 and 8 captions are reversed.

AAO Case Study: Demonstration of the Fundamental Tenent of Osteopathy

by Sharon Ann Stanley, DO
Santa Cruz, California

Identification

M. H. is a 25-year-old Caucasian female who owns her own graphic art business. She is very alert, talkative and rather distracted in conversation.

Chief Complaint

M. H. complained of chronic daily headaches since the age of fourteen following the most recent surgery for osteogenesis imperfecta. The headaches often had a photophobic prodrome and were predominantly right-sided with associated neck and upper back pain and spasm. She also related a history of recurrent bilateral hip and low back pain associated with prolonged standing.

History of Chief Complaint

M. H. related a daily history of headaches related to orthopedic surgery to stabilize her femurs at age fourteen. She stated that the headaches had been worsening progressively since that time, and that she had begun to note neck and upper back pain over the past two years. She also felt that her work with a computer exacerbated her symptoms. M. H. stated that her hip pain seemed to be associated with increased activity, especially standing, and had been increasing in severity over the past two months.

Past Medical History

The patient has been hospitalized on approximately 12 occasions for medical and surgical evaluation of bony changes secondary to her diagnosis of osteogenesis imperfecta. M. H. had also been treated for non-Hodgkin's lymphoma (diffuse histiocytic) in 1989 with multiagent chemotherapy and is currently in remission. Additionally, the patient related a history of dysplastic Pap smear in 1993. Past family history is positive for cancer, high blood pressure, allergies and alcoholism .

Past Surgical History

Orthopedic open reduction and internal fixation bilaterally in femurs and tibias X12 secondary to osteogenesis imperfecta, 1969-1983 Cervical conization, 1993

Allergies

No known allergies.

Medications

Migquin capsules as directed for headache. Ibuprofen 600mg T.I.D. or prn for pain and spasm.

Social Habits

Patient denied use of tobacco, alcohol or caffeine. She admitted to a very stressful occupation with long working hours. She was on a vegetarian, low-fat diet.

Physical Examination

This was a 25-year-old female in obvious discomfort. Her vital signs were: P 80; R 16; BP 122/78; Ht. 4'6"; Wt. 146 lbs. The patient appeared moderately overweight and alert. Skin, head, eyes, ears, nose and throat were all within normal limits. Heart had a regular rate and rhythm. Lungs were clear to auscultation. Abdomen was soft with no palpable masses. Neuromuscular examination revealed normal reflexes of upper and lower extremities. There was deep muscle tenderness and restricted range of motion in both the thoracic and cervical regions.

Structural Examination: Significant loss of normal cervical lordosis, with increased kyphosis from T1 to T4. Lumbar lordosis was increased with its apex at L3. Leg lengths were equal. The patient had a left sacral torsion and the right ilia was rotated anteriorly, inferiorly. Both hips had significant restrictions in external rotation and abduction. The right shoulder was low and the inferior lateral angles of the scapula were equal. The thoracic inlet had significant fascial tension bilaterally. The diaphragm had significantly

decreased excursion bilaterally. L5 was extended, rotated right, sidebent left; T12 extended, rotated left, sidebent left; T1 flexed, rotated right, sidebent left; C7 and C6 extended, rotated left, sidebent right; C1 rotated left. Condylar compression of the occiput and a left sidebending rotation were present in the cranium.

Initial Assessment

1. Migraine cephalgia
2. Osteogenesis imperfecta with secondary bony decompensations
3. Somatic dysfunction of the head, cervical, cervicothoracic, lumbosacral and pelvic regions
4. Stress-related anxiety

Treatment Plan

A treatment plan consisting of osteopathic manipulative treatment involving osteopathy in the cranial field, myofascial release and muscle energy was recommended twice weekly for three weeks and then weekly for six weeks. The patient was counseled regarding appropriate exercises to improve range of motion and physiologic function as well as dietary changes that could be helpful in the management of migraine cephalgia. The patient was also instructed in various relaxation techniques and support networks to help her deal with her high workload stress level.

Course of Treatment

M. H. responded very well to treatment, and reported complete relief of the pelvic and low back symptoms within two treatments. The neck pain and spasm improved more slowly, and the migraine cephalgia began decreasing in intensity over the first month and then decreased in frequency over the next month. Diaphragm motion improved significantly, and the various segmental somatic dysfunctions began resolving in association with their myofascial components. The cranial rhythmic impulse increased in amplitude and the various strain patterns began resolving after three or four treatments. The patient began to need less medication and both the Ibuprofen and Migquin were titrated down accordingly. At this time, the patient no longer requires NSAIDs and has not used Migquin for approximately two months. Her course of treatment has lasted approximately eight months.

M. H. also began a weight loss and stretching program, as well as engaging in relaxation techniques daily and whenever she experiences the prodrome of a migraine. She has currently lost fifteen pounds and is seeing this physician on an "as needed" basis for any exacerbation of her symptoms.

The patient has noted an increase in her overall energy and activity level with much less anxiety about the possible occurrence of migraines. The patient declined any radiographic studies, citing her past radiation exposure, therefore a postural study was not performed. The patient was referred back to her oncologist and gynecologist for follow-up evaluation of her non-Hodgkin's lymphoma and cervical dysplasia, respectively, and encouraged to join a local support group for women with cancer. She responded well to all of these suggestions and currently feels much more optimistic about her future.

Discussion

This very interesting case demonstrates the fundamental tenent of osteopathy: that the body will heal itself given the appropriate anatomical and physiological support. Despite the patient's severe structural deformity, complex medical history and the long-standing nature of her complaints, she responded quickly and dramatically to appropriate osteopathic manipulative treatment, along with stress-relieving life-style changes. This case also demonstrates the importance of engaging the patient in self-responsibility for their health and recognition of the choices that are available.

Stress was playing a significant part in this patient's condition, and working with the various environmental, emotional, nutritional and structural components allowed the patient to make informed life-style changes. Replacing the symptomatic treatment that medication affords with appropriate osteopathic anatomic and physiologic treatment, relaxation techniques and regular exercise ensures that the patient can achieve the greatest health possible given their particular limitations.

The treatment of the entire body is always necessary in cases such as this to allow the cranial mechanism and the various bony and myofascial components to resolve themselves into a more healthy anatomico-physiologic pattern. ❑

FIFTH ANNUAL OMT UPDATE

OMT – ADVANCED OSTEOPATHIC LIFE SUPPORT

PLUS PREPARATION FOR OMM BOARDS

OCTOBER 19-22, 1995

BUENA VISTA PALACE HOTEL, LAKE BUENA VISTA, FLORIDA

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

- OMT Review - "hands on experience and troubleshooting"
- Integration of OMT in treatment of various cases
- Preparation for OMM practical portions of certifying boards
- Preparation for AOBSPOMM (American Osteopathic Board of Special Proficiency in Osteopathic Manipulative Medicine) certifying boards
- Information on CODING for manipulative procedures
- Good review with relaxation and family time

DATES:
October 19-22, 1995
(Thursday PM - Sunday AM)

LOCATION:
Buena Vista Palace, Lake Buena Vista, Florida

CME HOURS:
4 days; 22 hours; AOA Category 1-A
21 hours; AAFP Approved
(Intermediate level course offered by the AAO)

FEES: (SEE REGISTRATION FORM)

REFUND POLICY
All cancellations must be received in writing by September 19, 1995. An administrative fee of 15 percent of the total registration fee will be charged for all cancellations made by this date. No-shows and cancellations received after September 19, 1995 will receive no refund.

LODGING: **BUENA VISTA PALACE (AN OFFICIAL HOTEL OF WALT DISNEY WORLD®)**

Participants will receive a rate of $155 single/double occupancy. This is prime season in Orlando, so please call early and make your hotel reservations. **September 19, 1995 is the reservation cutoff date** and you cannot be guaranteed a room after that date or at that price. Call 1 (800) 327-2990 for reservations and be sure and tell them you are with the American Academy of Osteopathy's group.

PROGRAM

Ann L. Habenicht, DO, Program Chairperson

Certified AOBSPOMM, Certified ACOFP

THURSDAY, OCTOBER 19

5:00 pm	Opening Reception
5:30- 5:45	Overview of the Course; "Applications of osteopathic concepts in clinical medicine... What to use: When and Why" Ann L. Habenicht, DO
5:45- 6:15	Cranial Osteopathy" includes question/answer period Melicien Tettambel, DO, FAAO
6:15- 6:45	Counterstrain" – Ann Habenicht, DO
6:45- 7:15	Myofascial Release" – Judith A. O'Connell, DO, FAAO
7:15- 7:45	Visceral Manipulation" – John Glover, DO
7:45-8:15	Muscle Energy" – Boyd R. Buser, DO
8:15- 8:45	High Velocity/Low Amplitude" – Ken Nelson, DO, FAAO
8:45- 9:15	Exercise Prescription" – John G. Hohner, DO
9:15- 9:30	Closing Comments – Ann L. Habenicht, DO

FRIDAY, OCTOBER 20

7:00am	Breakfast Lecture Coding Update – Getting Paid for What You Do" – Judith O'Connell, DO, FAAO
8:00-10:30	Lecture: "Thoracic Trouble-shooting" (to include various modalities approach - HVLA, ME, Counterstrain, indirect-MFR & cranial) Skills Session: Thoracic – John Glover, DO
10:30-11:00	Break

11:00- 1:30	Lecture: "Cervical/Suboccipital Troubleshooting" Skills Session: Cervical/Suboccipital – Melicien Tettambel, DO, FAAO Wrap-Up Session: (Summary) – Faculty
Friday PM	Free time for Exploration

Saturday, October 21

7:00am	Breakfast Lecture Coding Update -- Part II Judith O'Connell, DO, FAAO
8:00-10:30	Lecture: "Upper Extremity Troubleshooting" Skills Session: Upper Extremity – John Hohner, DO
10:30-11:00	Break
11:00- 1:30	Lecture: "Lumbar/Pelvis Troubleshooting" Skills Session: Lumbar/Pelvis – Boyd Buser, DO Wrap-Up Session: (Summary) – Faculty
Saturday PM	Free Time

Sunday, October 22

7:00am	Breakfast Lecture – Coding Update Part III Judith O'Connell, DO, FAAO
8:00-10:30	Lecture: "Lower Extremity Troubleshooting" Skills Session: Lower Extremity – Ken Nelson, DO, FAAO
10:30-11:00	Break
11:00- 1:30	Preparation for Manipulative Boards – Boyd R. Buser, DO John Glover, DO John Hohner, DO Ken Nelson, DO, FAAO Judith O'Connell, DO, FAAO

Case Study Preparation – "How to write them"
Written Exam Prep – "What to expect"
Oral Prep -- "What to expect & how to do it"
Individual Troubleshooting

****** Alternate Program ******

11:00- 1:30	Sports Medicine Extremity Review Mark McKeigue, DO Ann Habenicht, DO Melicien Tettambel, DO, FAAO

ADJOURN

Conference Registration Form
OMT Update Registration

October 19-22, 1995
Buena Vista Palace; Lake Buena Vista, Florida

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Mark McKeigue, DO
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Sports Medicine Proficiency

Judith O'Connell, DO, FAAO
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John Glover, DO
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John G. Hohner, DO
Certified AOBSPOMM
Certified ACOFP

Ken Nelson, DO, FAAO
Certified AOBSPOMM
Certified ACOFP; Certified AAFP

Melicien Tettambel, DO, FAAO
Certified AOBSPOMM
Certified AOBOGS

OMM Residency Training and Certification

by Hugh Ettlinger, DO and Zina Pelkey, DO
St. Barnabas Hospital, Department of OMM, Bronx, New York

"What is Osteopathy? It is a scientific knowledge of anatomy and physiology in the hands of a person of intelligence and skill, who can apply that knowledge to the use of man when sick or wounded by strains, shocks, falls or mechanical derangement or injury of any kind to the body. An up-to-date Osteopath must have masterful knowledge of anatomy and physiology." [A.T. Still, *The Philosophy and Mechanical Principles of Osteopathy*]

With all the advances in health care over the last 100 years, what is the role of osteopathic philosophy and principles in contemporary medical practice? The traditional osteopathic approach to diagnosis adds another dimension. A simple 10 step, three minute exam can yield clues to diagnosis that may help to focus further diagnostic studies saving hundreds or thousands of dollars. The traditional osteopathic approach to treatment or management of disease can help bring about a speedier recovery, saving the patient from the suffering of prolonged illness and saving costs as well. The traditional osteopathic approach to health maintenance can prevent or slow the progression of chronic pain or illness.

Graduates of osteopathic medical schools have the basic skills to provide their patients with all three of these benefits of osteopathic care on a basic level. Given the complexity of medical care today, the ability to integrate osteopathic principles and practices into total hospital and outpatient care often requires a higher level of expertise. The skilled application of osteopathic philosophy and principles has become a specialty with its own training programs and certifying process.

As the economics and delivery systems of health care in the United States are in a period of change, it has become more important to establish osteopathic manipulative medicine as more than a basic treatment modality that all DO's have been trained in. Osteopathic manipulative medicine has gone through a period of rapid growth and adaptation to keep up with changes in medicine and medical practice in the 90s. The efforts of Dr. Judith A. O'Connell and others have insured the recognition of physician performed manipulation by HCFA and CPT. These efforts have resulted in significant improvement in third party reimbursement for osteopathic manipulation, and will help secure OMM as a continuing, viable practice option regardless of what changes occur in the health care profession in the future. An important part of this process was the development of a certifying process for skilled osteopathic manipulative medicine. In March of 1990, the American Osteopathic Board of Trustees approved the establishment of the American Osteopathic Board of Special Proficiency in Osteopathic Manipulative Medicine. This action was the outcome of discussions between representatives of leadership of the American Osteopathic Association and the American Academy of Osteopathy. Under the chairmanship of Anthony Chila, DO, FAAO, the goal of establishing a certifying board that is stringent in its requirements and on par with all of the AOA certifying boards is being met. Clearly, the certifying process is going to become more and more important for determining reimbursement.

The most direct path for certification is the AOA approved OMM Residency. This two-year program provides an opportunity for broad training in the application of osteopathic philosophy and principles. The residency program completes the picture of OMM as a true modern medical specialty. This training brings us back to the original intent of A. T. Still by expanding the scope of application far beyond the limiting context of back pain and into total patient care.

OMM Residents are trained to apply Osteopathic principles in the evaluation and treatment of hospitalized patients in the medical, surgical, obstetrical, pediatric and psychiatric wards. Outpatient clinics receiving referrals from neurology, rheumatology, orthopedics ENT, physiatry, surgery, obstetrics, pediatrics and general medicine provide a diverse and challenging population for the application of osteopathic concepts.

As with any specialty residency,

didactic studies and research projects are important components of the program. The large diverse patient population provides an excellent base for long needed osteopathic outcome studies. OMM residents study anatomy, physiology, neurology, physiatry and medicine from the osteopathic perspective. The study and discussion of philosophy and osteopathic principles continue the classic educational tradition. Teaching skills are developed in lectures, small group discussions and workshops, and one-on-one with medical students and interns. Teaching assignments at the osteopathic medical school provide the resident with the opportunity to improve their teaching skills as they review basic osteopathic principles and techniques.

Upon completion of an AOA approved OMM Residency, individuals are qualified to sit for the AOBSPOMM Boards. They may practice the osteopathic manipulative medicine specialty as an osteopathic diagnostician, a hospital consultant and an outpatient practitioner. Teaching may continue to be part of their contribution to the osteopathic profession.

At present there are eight OMM Residency programs. These include a hospital-based program at St. Barnabas Hospital/NYCOM and college-based programs at TCOM, UNECOM, OU-COM, KCOM, MSU/COM, CCOM and PCOM. It is our hope that as more and more osteopathic physicians become certified by AOBSPOMM more programs of this type will serve to integrate the osteopathic approach into our teaching hospitals and outpatient centers. In this way the unique contribution that osteopathy makes to the field of medicine will flourish as A. T. Still intended it.

"As envisaged by its founder, Dr. Andrew Taylor Still, the science of Osteopathy includes a knowledge of philosophy, anatomy, and physiology for the whole body, together with their clinical application in both diagnosis and treatment." Rollin E. Becker, DO. ❑

...see next page

For A Basic OMT Review, attend the AAO's Program during the 1995 AOA Convention in Orlando

(possible 35 hours)

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(see pages 28-29 for more information)

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American Academy of Osteopathy

1995 Convention Program Schedule
October 16-18, 1995
Orange County Convention Center, Orlando, Florida

"OMT: Basic Osteopathic Life Support"

Guy DeFeo, DO, Program Chairperson

Monday, October 16,1995

9:00- 9:15 am Welcome and Overview of Program
9:15- 1:15 pm Counterstrain Module
Mark S. Cantieri, DO and G. Bradley Klock, DO

"This four-hour module will allow short introductory lectures followed by hands-on sessions. The four main topics and demonstrations will focus on evaluation and treatment of cervical, pelvis, thoracic and upper extremities. The faculty will facilitate instruction with table trainers."

1:15- 2:30 pm Alumni Luncheons
3:00- 4:00 pm Utilization of OMM in the Hospital Setting

Tuesday, October 17,1995

8:00- 8:15 am Update on today's program
8:15-12:15 pm High Velocity and Low Amplitude Module
Ann L. Habenicht, DO, John Hohner, DO

"This four-hour module will allow short introductory lectures followed by hands-on sessions. The four main topics and demonstrations will focus on evaluation and treatment of the hips, sacrum, cervical and lumbar regions. The faculty will facilitate instruction with table trainers."

1:30- 5:30 pm Muscle Energy Module
Walter C. Ehrenfeuchter, DO, FAAO

"This four-hour module will allow short introductory lectures followed by hands-on sessions. The four main topics and demonstrations will focus on evaluation and treatment of the hips, sacrum, cervical and lumbar regions. The faculty will facilitate instruction with table trainers."

Wednesday, October 18,1995

8:00- 8:15 am Morning Update
8:15-12:15 pm Myofascial Release Module
Judith A. O'Connell, DO, FAAO

"This four-hour module will allow short introductory lectures followed by hands-on sessions. The four main topics and demonstrations will focus on evaluation and treatment of the cervical, thoracic, ribs and upper extremities. The faculty will facilitate instruction with table trainers."

12:30- 2:30 pm AAO Northup Luncheon
Stephen D. Blood, DO, FAAO
3:00- 4:00 pm OMT Coding Update

Cruise the Western Caribbean for 7-Days with the American Academy of Osteopathy

and it's Third-Annual Cruise/CME Program. AAO will be Aboard a Brand New Princess Ship, the "Sun Princess" – January 13-20, 1996

Round trip from Fort Lauderdale – you will visit Cozumel; Montego Bay, Jamaica; the Grand Cayman Island and the Princess Cays, in addition to participating in...

An Excellent 20-HOUR Category 1-A CME Course in

Basic Osteopathic Diagnosis and Treatment; "Joint Mobilization and Articulatory Technique"

Program

Spinal Biomechanics Introductions
Somatic Dysfunction Diagnosis & Screening
HVLA Technique Principles: Indications and Contraindications
Coding for Diagnosis and Reimbursement
Extremities:
- Anatomy, Motion Characteristics and Diagnosiss
- Upper Extremity (hands-on)
- Lower Extremity

Lumbar & Pelvis
- Lumbar & Pelvis Anatomy, Motion Characteristics and Diagnosis
- Pelvis Workshop (hands-on)
- Lumbar Spine Workshop (hands-on)

Thorax & Ribs
- Anatomy, Motion Characteristics and Diagnosis
- Thoracic Spine Workshop (hands-on)
- Ribs Workshop (hands-on)

Cervical Spine
- Anatomy, Motion Characteristics and Diagnosis
- Lower Cervical Workshop (hands-on)
- Upper Cervical Workshop (hands-on)
- Complete Treatment Approach

Faculty

Boyd R. Buser, DO, CSP-OMM, Program Chairperson
Mark Cantieri, DO, CSP-OMM
Eileen DiGiovanna, DO, FAAO
G. Bradley Klock, DO, CSP-OMM

Objectives of Course

To diagnose and treat motion restriction in the musculosketetal system. To review the basic anatomy and terminology.

Who May Attend Course

Educational objectives for AAO are to provide programs aimed to improve understanding of philosophy and diagnostic and manipulative skills of osteopathic physicians and foreign DOs with a full license or a registration, medical, podiatric and dental professions within their licensed privileges of practice, and for those in programs leading to such license.

Cabin space released to the public November 1
• Course limited to 30 participants •

American Academy of Osteopathy

For more information, contact
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