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in teaching, promoting, and researching the science, art, and philosophy of osteopathic medicine, with the goal of integrating osteopathic principles and osteopathic manipulative treatment in patient care.

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Below are the topics available to reserve if you would like to support your portfolio with academic writing:

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If you are interested in any of these topics, send an email to Lauren Good and reserve your topic today. Manuscripts should be emailed to editoraaoj@gmail.com within three months of reserving a topic. See the AAOJ’s Instructions for Contributors for more information on submitting manuscripts.

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☐ “Methods” section
  • the name of the public registry in which the trial is listed, if applicable
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☐ Four multiple-choice questions for the continuing medical education quiz and brief discussions of the correct answers

☐ Editorial conventions adhered to
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Questions? Contact editoraaoj@gmail.com.
Recently, our profession has been tasked with truly understanding what it means to be an osteopathic physician. We thought we knew who we were, but recent current events in the profession have caused us to question and reexamine what it means to be a DO. The events I am referring to are the ACGME residency merger happening in 2020, the decoupling of AOA membership from board status, and the current AOA discussions about removing OMT content on specialty board certification exams.

The definition of an osteopathic physician depends on who you are talking to in our profession. To a medical specialist, an osteopathic physician is someone who looks at the whole patient and uses an osteopathic nuance that is tough to pinpoint but is distinctly different than their allopathic counterparts. They may not, however, use osteopathic manipulative treatment (OMT) in their practice. Many of these individuals feel they have little need for OMT on a certification exam and have thus expressed discontent at having to “relearn” the lost days of OMT labs in school for board certification. To the generalist, OMT may be integral and peppered into a busy practice. To the OMT specialist, OMT is an important part of the daily life of their practice; indeed, they may not exist without it. For some, the notion of a world where OMT did not exist on a board exam, or where our rich history is lost, is frightening and exhausting while for others it is simply another day at the office.

Our governing bodies have yet another idea of osteopathic identity: simply those who hold a DO degree, regardless of the use of OMT. These governing bodies have a symbiotic relationship with the physician, one in which the DO customer must find value or they leave and take their business elsewhere. With all these differing definitions seemingly at cross-purposes, is it any wonder we are at a loss to truly explain who we are? In an effort to find the truth, I went to some of our historic resources.

On the back cover of The DOs: Osteopathic Medicine in America, the description states:

Osteopathy as originally conceived by Andrew Still was a radically different approach to healing. Its philosophy, view of pathology, and system of patient care shared little with the components of orthodox medicine. Indeed, the founder cast himself and his followers as nothing less than revolutionaries seeking to overturn the entrenched allopathic order. However, as the D.O.s came to adopt a multidimensional conception of disease and their scope broadened, the objective differences between the two groups began to fade.¹

Perhaps our struggles to define ourselves are simply because of the “fading” of differences as we continue to navigate the ever-complex system of current medical practice.¹

Perhaps our struggles to define ourselves are simply because of the “fading” of differences as we continue to navigate the ever-complex system of current medical practice.

In The Philosophy and Mechanical Principles of Osteopathy, A.T. Still, MD, DO, wrote:

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.²

This definition seems clear to me: We cannot “lose” our hands in the equation or definition of who we are.

When I hear talk of removing osteopathic content from the board examination process, it makes me cringe. But truthfully, didn’t we do that to ourselves already? If we are really being honest with ourselves, the “fading” differences began with the battle for equal rights and privileges in the earlier part of the century. Time constraints, physician burnout, and insurance reimbursement and audits are just some more of the reasons OMT starts to slip out of a practice.
Mark your calendar for these upcoming Academy meetings and educational courses.

### March 10-12

**Pre-Convocation course—“Brain Therapy for Neonatal Reflexes & Lifelong Reflexes in Adults and Children”—Bruno Chikly, MD, DO (France), course director—Rosen Shingle Creek in Orlando, Florida**

**Pre-Convocation course—“Fascial Distortion Model—Beyond the Basics: Osteopathy and FDM moving forward together!”—Todd A. Capistrant, DO, MHA, course director—Rosen Shingle Creek in Orlando, Florida**

**Pre-Convocation course—“Visceral Lymphatics”—Kenneth J. Lossing, DO, course director—Rosen Shingle Creek in Orlando, Florida**

### March 12

**Committee on Fellowship in the AAO’s meeting—Rosen Shingle Creek in Orlando, Florida**

### March 13

**AAO Leadership Forum—8 a.m. to 1 p.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**AAO Board of Governors’ meeting—2 to 5 p.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**AAO Investment Committee’s meeting—5 to 6 p.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

### March 14

**AAO annual business meeting and luncheon—11:45 a.m. to 2:15 p.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

### March 15

**AAO Education Committee’s meeting—6:30 to 8 a.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**AAO Osteopathic Education Service Committee’s meeting—7 to 8 a.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**AAO Postdoctoral Training Committee’s meeting—2 to 3:30 p.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**AAO International Affairs Advisory Committee’s meeting—6:30 to 7:15 a.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**AAO Board of Trustees’ meeting—11 a.m. to 2 p.m. Eastern—Rosen Shingle Creek in Orlando, Florida**

**Post-Convocation—Residency Program Directors’ Workshop—Darren L. Grunwaldt, DO, course director—Rosen Shingle Creek in Orlando, Florida**

### March 17

**Convocation—“Leading, Expanding and Cutting: The Edges of Osteopathic Medicine”—Rebecca E. Giusti, DO, program chair—Rosen Shingle Creek in Orlando, Florida**

### March 2019

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Abstract

Context: Menstruation, although a normal physiologic process, can result in cramping and discomfort in women. The symptomatology may manifest as musculoskeletal changes that can be identified and addressed to provide relief for suffering patients.

Objective: To evaluate for common somatic dysfunctions and Chapman’s reflex points by performing full-body osteopathic structural exams (OSE) on women during menstruation compared to when they are not menstruating.

Methods: Participants were menstruating, female faculty, staff and students recruited from Kansas City University. Data was gathered in the form of OSE findings from 2 intervals of menstruation and compared to data gathered from 2 intervals of non-menstruation.

Each participant was evaluated at 4 visits: visit 1 during menstruation, visit 2 during non-menstruation, visit 3 during their subsequent cycle of menstruation, and visit 4 during their subsequent cycle of non-menstruation. At each visit, the participant was evaluated separately by the fellow and the physician.

Results: Of the 32 potential participants, 23 completed the study. In this population, 23 participants (100%) had a lumbar somatic dysfunction during one menstrual cycle, with only 14 (60.9%) having a lumbar dysfunction during non-menstruation ($P=0.004$). Of the 5 posterior Chapman’s reflex points evaluated, 17 participants (73.9%) had at least 1 of the Chapman’s points with dysfunction during 1 menstruation cycle compared to only 10 participants (43.5%) during non-menstruation ($P=0.039$). Three participants (13%) were found to have a left-sided innominate dysfunction during 1 menstrual cycle compared to only 1 participant (4%) having a left-sided innominate dysfunction during non-menstruation ($P<0.001$).

Conclusion: This study found 3 common areas of dysfunction in menstruating women that could be targeted by physicians for evaluation and treatment: the lumbar spine, the left innominate, and two posterior Chapman’s points. These findings aid in closing the gap from previously published data regarding the presence of somatic dysfunction in women during menstruation.
tissue texture changes, like warmth, spasm, and tenderness at corresponding vertebral levels, known as viscerosomatic reflexes. These musculoskeletal findings can aid in the diagnosis and treatment of many conditions, including symptoms during menstruation.

Our hypothesis is that findings from the osteopathic structural exam (OSE) in women are associated with menstruation, such that when a female is menstruating, she will exhibit identifiable patterns of OSE findings that differ from when she is not menstruating. The purpose of this study is to perform a full-body OSE to evaluate somatic dysfunctions and Chapman’s reflex points in women who are menstruating, compared to when they are not menstruating, to assess for potential differences in patterns of dysfunction. Knowledge gained from this study may aide in enhanced assessment, identification, and earlier treatment of somatic dysfunction in women during menstruation.

Methods

Design
This study used a nonexperimental design that included a noninterventional, single group, interrupted time series with participants serving as their own control group. A convenience sample of 390 women, including students, staff, and faculty at a single medical school, were invited to participate in the study.

Participants
Recruitment occurred on the campus of Kansas City University (KCU) in January 2015, using flyers and emails sent to KCU email addresses. Recruitment included female faculty, staff, and students between the ages of 16-50 years. The initial recruitment email was sent to approximately 390 female KCU students, faculty, and staff. Interested participants responded via email and were then sent a short questionnaire to determine their eligibility. The following exclusion criteria were used: individuals of the male sex; individuals who were not currently employed by or enrolled in KCU; women who had undergone hysterectomy; and women who were menopausal, pregnant, or breastfeeding.

Eligible participants were then asked to complete an online pre-study survey and sign a document of informed consent after study details were provided. This 29-item pre-study survey included questions assessing menstruation history, level of personal menstrual pain customarily experienced during menstruation, gynecological and obstetrical histories, birth control use, surgical history, tobacco and alcohol use, exercise habits, and perceived stress level. Answers were gathered using multiple choice and free-text styled questions, including a 10-point universal scale for pain evaluation with the following rating anchors: (0=no pain, 5=moderate pain, 10=worst pain possible). This study was approved by KCU’s Institutional Review Board (#644885-2).

Evaluations
Participants were evaluated at 4 time frames over 2 menstrual cycles. Study visits 1 and 3 occurred on days 1-3 of menstruation of 2 consecutive menstrual cycles, and visits 2 and 4 occurred 4-6 days after completion of menstruation of the same 2 menstrual cycles. Participants were instructed to contact study investigators on the first day of their menstruation and then again after the completion of menstruation over 2 consecutive menstrual cycles to ensure that evaluations were completed during the desired time intervals.

The participant was evaluated during each study visit by the osteopathic manipulative medicine (OMM) fellow investigator, a fourth-year osteopathic medical student who has received a year-long OMM-focused specialty training fellowship. At each visit, participants also underwent a separate examination by 1 of 2 osteopathic clinical faculty physicians participating as co-investigators. The dual clinical evaluations of each patient during each study visit enabled for validity assessment of OMM fellow evaluations. No discussions of patient visit evaluations occurred between the fellow and physicians.

References
The osteopathic structural examination included evaluation of the sacrum; the cervical, thoracic, and lumbar spine regions; ribs; innominate; gynecologically-associated Chapman’s reflex points; and tissue texture changes surrounding mesenteric ganglia and abdominal lymph nodes. Vital signs, deep tendon reflexes, and upper and lower extremity muscle strength were also collected during each visit. The osteopathic structural exams assessed for the presence or absence of specific dysfunctions. Results were recorded on the pre-designed physical exam document. Data gathered from both the OMM fellow and the overseeing physician were assessed and compared for interrater reliability.

**Statistical Analysis**

Descriptive statistics including mean and standard deviation were generated for participants’ ages, cycle lengths, birth control methods, use of sanitary napkins and tampons, menstruation symptoms, gynecological diagnoses, and medications used to alleviate menstrual symptoms. Specific somatic dysfunctions were characterized using percentages and frequencies. Data analysis was performed using IBM SPSS Statistics (IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.).

Participants’ findings were grouped by body region for data analysis, and specific dysfunctions were given a numerical code for data evaluation. Further dichotomous categorization was performed by placing physical assessment data into presence or absence of dysfunction.

The McNemar test was used to compare consistency response through the frequency of dysfunction by body region determined by the OMM fellow between women during menstruation vs non-menstruation. The body regions found to have a significant difference ($P \leq 0.05$) in dysfunction between menstruation vs non-menstruation were further examined for interrater reliability between the OMM fellow and the osteopathic physician using the McNemar and Sign tests. The McNemar test is a statistical method used to evaluate marginal homogeneity of paired nominal data, and the Sign test assesses for persistent differences between pairs of observations.

**Results**

Of the 390 invited, 32 participants (8%) responded, met criteria, and were enrolled in the study. Of the 32 enrolled, 23 participants (72%) completed the history, survey, and study evaluations. Of the 9 participants who failed to complete the study, 6 dropped out due to scheduling conflicts, 2 due to changes in a menstrual cycle resulting in continuous or sporadic menstruation, and 1 due to personal reasons.

Of the 23 participants who completed the study, participant ages ranged from 23 to 43 years with a mean age of 27.17 years (SD +/- 5.84 years). Twelve women (52.2%) reported using birth control pills, 1 woman (4.3%) had a birth control implant, and 10 women (43.5%) used no form of birth control. Twenty-two (96%) participants reported having menstrual cycles lasting 2-7 days on average, with 1 participant (4%) reporting cycles lasting greater than 7 days on average. Participants reported that the time span between the first day of each of their cycles ranged from 21-35 days.

Twenty women (87%) reported using some type of medication prior to or during menstruation to relieve symptoms. The most common medication used by participants to alleviate symptoms (continued on page 10)

| Chart 1. Common symptoms reported by study participants prior to or during menstruation |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Abdominal Bloating | Abdominal Cramping | Breast Tenderness | Back Pain | Weakness | Generalized Body Aches | Headache | Other |
| 20 | 15 | 10 | 10 | 5 | 5 | 5 | 2 |

*Other: Hunger, excessive tiredness, nausea, vomiting, migraines, clotting, and overactive gastrointestinal system"
during menstruation was ibuprofen (14/20; 60.9%). Using a 10-point universal scale to indicate the level of pain experienced during menstruation, participants reported a mean pain level of 4.43 (SD 4.1 - 2.35) and a mode of 2. Chart 1 displays common symptoms participants reported experiencing prior to or during menstruation.

Eight participants (34%) indicated a gynecological diagnosis, with 3 of these women having more than 1 diagnosis. Specifically, 4 of these 8 women (50%) reported having a diagnosis of dysmenorrhea; 3 (38%) had endometriosis; 1 (13%) indicated having fibroids, and 3 (38%) reported being diagnosed with other gynecological conditions, ie, ovarian cysts, menorrhagia, and cervical dysplasia.

Of the 13 body regions evaluated for dysfunction during the study visits, 3 regions were found to have a statistically significant difference in presence of dysfunction during menstruation compared to non-menstruation, including the lumbar spine, posterior Chapman’s reflex points, and the left innominate. During each evaluation of L1-L5, the 6 dysfunctions assessed for were NRrSl (neutral, rotated right, sidebent left), NRISr (neutral, rotated left, sidebent right), FRrSr (flexed, rotated right, sidebent right), FRISr (flexed, rotated left, sidebent right), ERrSr (extended, rotated right, sidebent right), and ERISI (extended, rotated left, sidebent left).

A significantly higher frequency of dysfunction was noted in the lumbar spine during menstruation compared to non-menstruation between visits 1 and 2. All 23 participants (100%) had a lumbar somatic dysfunction during visit 1, with only 14 participants (60.9%) having a lumbar dysfunction during visit 2 (P=0.004).

Twenty participants (86.9%) had a lumbar dysfunction during visit 3; this percentage remained unchanged during visit 4. The most common lumbar dysfunction identified during menstruation at both visits 1 and 3 was NRISr (57.0%).

Of the 115 segmental evaluations of the lumbar spine during each visit (5 segments for each of the 23 subjects), 82 segments (71.3%) were found to be NRISr during visit 1, and 49 segments (42.6%) were NRISr during visit 3. Additionally, a higher frequency of dysfunction was found in L1-L3 (90% at visit 1 and 77% at visit 3) compared to L4-L5 (78% at visit 1 and 56.5% at visit 3). Table 1 reports the frequencies of all dysfunctions found in the lumbar spine during menstruation vs non-menstruation.

Of the 5 posterior Chapman’s reflex points evaluated, 17 participants (73.9%) were found to have at least 1 of the Chapman’s points with dysfunction at visit 1 compared to only 10 participants (43.5%) during visit 2. Similar to the lumbar findings, there were significantly higher frequencies of dysfunctions in posterior Chapman’s points during visit 1 than visit 2 (P=0.039). Although not significant, 14 participants (60.9%) were also found to have dysfunctional posterior Chapman’s points at visit 3 (menstruation) compared to 12 (52.2%) during visit 4 (non-menstruation) (P=0.687).

The most common posterior Chapman’s points found to reflect dysfunction during menstruation at both visits 1 and 3 were the fallopian tube (19/46; 52.2%) and vagina/uterus reflex points (20/46; 34.8%). During visits 2 and 4, the frequency of dysfunctional posterior Chapman’s points decreased substantially with patients exhibiting dysfunction in the fallopian tube and vagina/uterus reflex points only 21.7% (10/46) of the time. The frequencies of all dysfunctional posterior Chapman’s reflex points found when menstruating vs non-menstruating are recorded in Table 2.

A significantly higher frequency of dysfunctions were noted in the left-sided innominate during visit 1 compared to visit 2 (P<0.001). During visit 1, 3 participants (13%) were found to have a left-sided dysfunction compared to only 1 participant (4%) having a left-sided innominate dysfunction during visit 2. Of the 3 left-sided innominate dysfunctions noted during visit 1, 2 (66.7%) were found to be posterior rotations and 1 (33.3%) an anteriorly rotated (continued on page 11)

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No dysfunction 6 13 8 13 9 15 15 20 15 20 23% 35.2%
NRrSl 6 5 6 5 6 4 6 4 6 4 13% 9.6%
NRISr 29 26 28 26 28 25 23 21 23 21 57% 51.7%
FRrSr 0 0 0 0 0 1 0 0 0 0 0.4% 0%
FRISr 3 2 2 2 0 2 1 1 1 1 3.0% 3.5%
ERrSr 0 0 0 0 0 0 0 0 0 0 0% 0%
ERISr 2 0 2 0 2 0 1 0 1 0 3.5% 0%

Key: M=Menstruating (visits 1 and 3); Non=Non-Menstruating (visits 2 and 4); NRrSl=neutral rotated right side bent left; NRISr=neutral rotated left side bent right; FRrSr=flexed rotated right side bent right; FRISr=flexed rotated left side bent left; ERrSr=extended rotated right side bent right; ERISr=extended rotated left side bent left.
Table 2. Frequency of dysfunctions in specific posterior Chapman’s reflex points identified by OMM fellow during menstruation (visits 1 and 3) and non-menstruation (visits 2 and 4).

<table>
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<tr>
<th>Reflex Point</th>
<th>M</th>
<th>Non</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder</td>
<td>4</td>
<td>3</td>
<td>1.7%</td>
</tr>
<tr>
<td>Uterus</td>
<td>7</td>
<td>6</td>
<td>3%</td>
</tr>
<tr>
<td>Fallopian Tubes</td>
<td>20</td>
<td>10</td>
<td>8.7%</td>
</tr>
<tr>
<td>Vagina/Uterus</td>
<td>19</td>
<td>10</td>
<td>8.3%</td>
</tr>
<tr>
<td>Vagina/Clitoris</td>
<td>10</td>
<td>5</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

Key: M=menstruating (visits 1 and 3); Non=non-menstruating (visits 2 and 4).

(continued from page 10)

dysfunction. The total dysfunctions of the left innominate from menstruating visits 1 and 3 (4/46; 8.7%) were higher than those noted on non-menstruating visits 2 and 4 (3/46; 6.5%). The right-sided innominate shared a similar trend with 27 (58.7%) dysfunctions found during menstruation (visits 1 and 3) compared to 24 (52.2%) dysfunctions found during non-menstruation (visits 2 and 4). Of the 27 right-sided innominate dysfunctions noted during menstruation, the majority were found to be anterior rotations (25/27; 92.6%).

Interrater reliability analysis found no significant difference in the frequencies of lumbar spine somatic dysfunctions noted between the OMM fellow and the osteopathic physician during visit 1 ($P=0.50$) or visit 2 ($P=0.79$). Similarly, no significant difference was found between the OMM fellow and osteopathic physician in the frequencies of dysfunction determined in posterior Chapman’s reflex points for visits 1 and 2 ($P=0.12$, $P=1.0$, respectively). The OMM fellow and the osteopathic physician found greater dysfunction in posterior Chapman’s points during visit 1 (17 and 13, respectively) compared to visit 2 (10 and 11, respectively).

Lastly, the presence/absence of dysfunction of the left innominate found during visits 1 and 2 by the OMM fellow showed no significant difference when compared to the findings during visits 1 and 2 by the physician ($P=1.0$ and $P=0.12$, respectively). Both groups of investigators found greater dysfunctions during menstruation vs non-menstruation.

Discussion

Few studies have been published evaluating common osteopathic structural examination findings in women during menstruation. Most publications have only evaluated select regions of the body. For example, Walsh and Polus evaluated spinal dysfunction indexes and found higher dysfunctions in the premenstrual syndrome (PMS) study group in the cervical and thoracic regions and in the symptoms of lower back tenderness and muscle weakness. This publication supports the current findings of significant somatic dysfunction in the lumbar spine during menstruation.

Coyne evaluated the relationship between muscle tension and PMS. Although this was not a focus of the current study, Coyne found the frontalis muscle to have greater tension during the premenstrual phase. Genders et al assessed for pelvic dysfunction in women diagnosed with dysmenorrhea and found increased sacroiliac joint motion dysfunction in the dysmenorrhea study population. Their findings support the presence of significant somatic dysfunction of the innominate during menstruation found in this study. Four particular studies evaluated postural stability throughout the menstrual cycle. Each of these studies found significant changes in posture throughout a woman’s menstrual cycle. These results may relate to the findings here since postural changes can result in somatic dysfunction.

The purpose of the current study was to work towards filling the gap in the literature by evaluating common OSE findings in menstruating women throughout the entire body. Of the full-body OSEs completed, only 3 body regions in the study participants were found to have statistically significant differences during menstruation vs non-menstruation: the lumbar spine, posterior Chapman’s reflex points, and the left innominate. A better understanding of these patterns of dysfunction during menstruation can open up avenues into investigation of specific somatic dysfunctions associated with specific gynecological pathologies like primary dysmenorrhea.

There have been several studies published showing that OMM can be effective in alleviating symptoms of primary dysmenorrhea, including low back pain and pelvic pain. For example, Zecchillo and colleagues performed a randomized, single-blinded, control trial using OMM on women ages 18-40 years with regular menstrual cycles and the clinical diagnosis of primary dysmenorrhea. They found that the women in the OMM group had decreased menstrual pain and improved quality of life compared to those in the control group. Molins-Cubero et al performed a pilot, double-blinded, randomized, controlled study in Spain to assess the effect of OMM on women with regular menstrual cycles and clinically diagnosed primary dysmenorrhea. Their results displayed a significant reduction in the pressure pain threshold for both sacroiliac joints adjacent to the posterior superior iliac spines in the women who received manipulation. Additionally, Schwerla and colleagues in Germany also performed a study on women with clinically diagnosed primary dysmenorrhea and found a significant
(continued from page 11)

reduction of pain intensity, reported days of general pain, and reported duration of intense pain after manipulative intervention.

The current study found that when evaluating the lumbar region, the spinal levels of L1-L3 were the most common site for dysfunction in menstruating women. The most common dysfunction of the lumbar spine found during visits 1 and 3 (during menstruation) was L1-L3 NRlSr. Similarly, the viscerosomatic reflex levels to the uterus and the fallopian tubes are located at T9-L2 and T10-L2, respectively. The location of the most common lumbar dysfunctions found in the menstruating women within this study can potentially be attributed to the shared location of the gynecologic viscerosomatic reflex levels as stated above. Additionally, the distal proximity of the psoas muscle to the gynecologic organs can also play a role in creating this common upper lumbar dysfunction. Inflammation of the gynecologic organs during menstruation may cause subsequent viscerosomatic dysfunction of the psoas, which could manifest as dysfunction at its origin on the lumbar spine, including levels L1-L3.\(^\text{15,16}\)

The significant dysfunctions in posterior Chapman’s points that were found during menstruation in this study included the fallopian tubes and vagina/uterus posterior points. The vagina/uterus posterior Chapman’s point is located on the superior articular processes of the sacrum bilaterally. The fallopian tube posterior Chapman’s points are located at the superior portion of the sacroiliac joint bilaterally and at the junction of the femoral head and ischium bilaterally. As Chapman’s reflex points are palpable tissue texture changes representing internal pathology of an organ system, the finding of these significant points in the study population alludes to an inflammatory process occurring in the fallopian tubes and/or vagina/uterus during menstruation.

In this study, dysfunction of the left innominate during menstruation was found to be statistically significant, with anterior and posterior rotations being the most common dysfunctions. Although not significant, the most abundant dysfunction found in the right innominate during menstruation was also an anterior rotation. Women may be more susceptible to developing dysfunction of the innominates approximately 1 week prior to the onset of menstruation due to pelvic ligamentous laxity secondary to the release of the hormone relaxin. If these dysfunctions are not corrected, they may be pervasive, extending into the woman’s menstrual cycle, at which time the hormone relaxin is no longer bioavailable.

While menstruation alone is not an indication for OMM, knowledge of these common somatic dysfunctions found during menstruation may assist osteopathic clinicians in creating a more targeted approach when evaluating and treating women with generalized somatic dysfunctions and symptoms related to menstruation and potentially primary dysmenorrhea.

Limitations of the Study

It should be noted that this study has several suggested limitations. Potential bias could stem from an unblinded participant population. Specifically, the Chapman’s reflex points were considered present when the patient reported tenderness at the area being palpated. There is the possibility of a Hawthorne effect with study participants reporting more tenderness during their menstruating evaluations vs during the non-menstruating evaluations due to simply being evaluated in a study environment.

Additionally, the medical students enrolled in our study, as part of their ongoing osteopathic medical education, were required to participate in biweekly OMM training sessions where they were evaluated and treated by peers. Involvement in these sessions could have resulted in OSE changes from one evaluation to the next.

Other limitations of this study include only examining diagnostic findings but not treating any of the somatic dysfunctions noted or present. As the dysfunctions were not treated, we are unable to determine the clinical impact of treatments. It also was not documented if participants were symptomatic at the time of evaluation during visits 1 and 3 (during menstruation). The presence or lack of symptoms during evaluation could have impacted the presence of somatic dysfunctions.

Another limitation was the small sample size and narrow patient population. The 23 active participants represented a small, select population of women, with only 8 of the participants reporting a diagnosis of a gynecological disorder.

Lastly, as participants had varying gynecological pathologies, birth control usage, and social histories, it is difficult to assume that all study members could be placed in the same cohort. These important differences in the study population could be potential confounding variables to the results. Due to the small sample size, however, these confounding variables could not be further evaluated.

Conclusion

This study begins to address the gap in the literature regarding common osteopathic structural examination findings in women during menstruation. The study defines 3 common areas of dysfunction in menstruating women that physicians could target for evaluation and potential treatment.

(continued on page 13)
(continued from page 12)

Future studies could further examine the presence of somatic dysfunctions in the lumbar spine, innominates, and posterior Chapman’s reflex points when the patient is menstruating and symptomatic. Symptomatic patients could then be treated using OMM, and changes in symptomatology post-treatment could be evaluated to provide additional evidence for osteopathic treatments in addressing menstrual manifestations.

Common dysfunctions found within specific gynecologic disease states could also be investigated to help the practitioner create a more targeted assessment and treatment plan for affected patients. Additionally, future studies could evaluate differences of somatic dysfunctions found within a symptomatic, menstruating group of women compared to an asymptomatic, menstruating group. Lastly, a larger patient population should be evaluated in order to obtain a more accurate depiction of common somatic dysfunction found during menstruation.

References:
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Authors: Kelsie L. Cabrera, DO; Adrianna M. Darwish, DO; Kelly L. Lurz, DO; Rance L. McClain, DO; Elizabeth McClain, DO; Joshua Cox, DO; and Larry Segars, PharmD


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Complete the quiz to the right by circling the correct answers. Send your completed answer sheet to the American Academy of Osteopathy. The AAO will forward your results to the American Osteopathic Association. You must answer 75% of the quiz questions correctly to receive CME credit.

1. According to this article, dysmenorrhea has been correlated to have a statistically significant increase in structural findings in what 3 areas?
   a. Lumbar, lower thoracic, visceral
   b. Lumbar, innominate dysfunction, posterior Chapman’s points
   c. Cervical, visceral, anterior Chapman’s points
   d. Lower extremity, visceral, innominates
   e. None of the above

2. The most common Chapman’s point found on menstruating women with dysmenorrhea was which of the following?
   a. Bladder
   b. Kidney
   c. Fallopian tube
   d. Adrenal
   e. None of the above

3. Dysmenorrhea occurs in what percentage of women throughout their lifetimes?
   a. 25%
   b. 50%
   c. 75%
   d. 85%
   e. 100%

4. Viscerosomatic reflexes to the uterus are found between the spinal levels of ________?
   a. T1-5
   b. T6-8
   c. T9-L2
   d. L3-5
   e. S1-2

Below are the answers to *The AAO Journal’s* December 2018 quiz on the article titled “Frequency of Somatic Dysfunction in Infants With Tongue-Tie: A Retrospective Chart Review” by A. Hope Tobey, DO, FAAP, FACOP, and Albert J. Kozar, DO, FAOASM, R-MSK.

1. a. Tongue-tie is present in 0.2-4.8% of infants.
2. e. Recent research has linked infant tongue-tie with painful breastfeeding.
3. c. Frenectomy may help with feeding in some but not every tongue-tied infant.
4. c. When evaluating an infant with tongue-tie, you are most likely to find somatic dysfunction in the occipital condyle.
Rescued Root Canal: A Case Report on OMT for Jaw Pain Following Repeat Root Canal Procedure

Kristyna K. Fong, OMS IV, and Tobin D. Rummel, DO

Abstract
Jaw pain after dental and orthodontic procedures presents commonly in primary care and osteopathic manipulative medicine (OMM) clinics. Osteopathic cranial manipulative medicine (OCMM) treatment of the jaw and head can both provide pain relief and improve temporomandibular joint function after dental procedures.

In this case report, a 47-year-old woman with severe jaw pain had worsening pain after a repeated root canal procedure and was unable to chew solid foods. She was scheduled for another root canal for the affected tooth but after serial cranial osteopathic treatments, she was to avoid a third procedure due to periodontal tissue improvement. To the author’s knowledge, this is the first case report involving the use of osteopathic manipulative treatment (OMT) for jaw pain following root canal procedures.

Introduction
Osteopathic cranial manipulative medicine and dentistry are closely connected when treating somatic dysfunctions of the mouth, teeth, jaw, and face. After dental work, patients can have weeks of discomfort, including neuropathic pain, temporomandibular joint disorder, headache, neck pain, and head pain. In dentistry procedures like the root canal, prolonged protrusion of the mandible with operator-induced inferior forces can induce strains and misalign cranial articulations in the rest of the head.

Root canal therapy is the most commonly used method for treating pulpitis and periapical periodontitis. As the American Association of Endodontists website explains, “Endodontic treatment is necessary when the pulp, the soft tissue inside the root canal, becomes inflamed or infected. The inflammation or infection can have a variety of causes: deep decay[,] repeated dental procedures on the tooth or a crack or chip in the tooth.” A dentist or an endodontist can evaluate and assess if a root canal procedure is necessary to treat and save a tooth.

Postoperative pain, defined as any degree of pain that occurs after root canal treatment, has a reported frequency ranging from 3% to 58%. Postoperative pain is multifactorial and can affect the quality of life of the patient, which is frustrating for both the patient and clinician. Cranial osteopathic treatment of the jaw and head can be beneficial post–root canal procedure to treat induced somatic dysfunctions and may prevent the need for additional endodontic procedures.

Report of Case
A 47-year-old woman presented with neck pain that radiated to the right side of her jaw and face. Symptoms began 2 years previously after having root canal procedures on teeth 28 and 29, the first and second premolars. One month prior to presentation, the patient had a repeat root canal procedure on tooth 28 due to persistent tooth pain with suspected reinfection. She characterized her jaw pain as “sharp and shooting or throbbing,” sometimes with muscle spasm. The pain was intermittent, and the severity was rated 6/10 at worst. Aggravating triggers included chewing, menstruation, and stress. She could tolerate soft foods only. Pain improved with over-the-counter analgesics, essential oils, and heat. She denied weakness, paresthesia, and headaches. The patient worked as a realtor, and her insomnia secondary to jaw pain further exacerbated...
job stressors. Social history was positive for tobacco, caffeine, and weekly alcohol consumption.

**Patient History**

The patient’s medical history was significant for a motor vehicle accident in 2000 in which she suffered a mild whiplash injury. The patient had no known drug allergies. Her current medication consisted of carisoprodol for sleep as needed secondary for jaw pain. Review of systems was positive for insomnia. Otherwise, her remaining review of systems was negative.

**Evaluation**

A physical exam revealed normal vital signs. The patient had a BMI of 40.7. Results of the neurological exam were unremarkable. Osteopathic findings for the head and neck were rated 3/3 severity by the treating physician. Other findings in different regions were diagnosed; however, they were not as severe as the reported findings below.

**Head and face dysfunctions**

- head sidebent right, rotated left
- right eye more inferior than left
- atlanto-occipital joint flexed, sidebent right and rotated left
- left sphenobasilar synchondrosis (SBS) torsion
- vertex compression
- internally rotated right temporal
- externally rotated left maxillary zygoma
- multiple teeth inferiorly compressed
- mandibular compression with inferior alveolar contracture
- left maxilla more prominent

**Cervical dysfunctions**

- atlanto-axial joint rotated right
- C2-C5 neutral side bent right, rotated left
- C6 extended side bent left rotated left
- C7 flexed side bent left rotated left

The patient was diagnosed with sphenobasilar synchondrosis (SBS) compression, inferior alveolar nerve contracture, compression of multiple teeth, and somatic dysfunctions of the head. Other differential diagnoses were trigeminal neuralgia, temporomandibular joint disorder (TMJD), cluster headache, and myofascial pain syndrome.

The clinician’s plan was to schedule a follow-up appointment in 1 week and to reassess each visit to determine the need for follow-up. Lifestyle recommendations were given as follows:

- Exercise: Daily cardio for 20-30 minutes, yoga for belly breathing and flexibility.
- Nutrition: Reduce refined carbohydrates including alcohol, reduce caffeine intake, encourage tobacco cessation.

**Treatment**

Osteopathic manipulative treatment was performed 1 week after the initial visit. Cranial SBS compression was treated with osteopathic cranial manipulative medicine (OCMM) to allow for better articulation between bones and to increase cranial rhythmic impulse. The teeth were treated with indirect techniques, balanced ligamentous tension, and OCMM.

By the end of the 5 treatments, the patient’s pain severity decreased from 6/10 to 4/10. Cranial motion between compressions increased significantly with decompression of the mandible and myofascial and cranial treatment of the inferior alveolar nerve sheath. After this first set of treatments, the patient was reevaluated by her endodontist who concluded that placing a post to stabilize tooth 29 was no longer indicated. Although she no longer needed a post, the patient’s treatment course was mildly complicated by nightly teeth grinding, which caused incomplete stability of the new position with mild regression between each visit. Therefore, the patient required additional follow-up appointments to maintain full use with decreased pain. At her eleventh visit, her pain was reduced to 2/10, and she reported that she was now able to eat nuts.

**Discussion**

Meyer and Gustowski propose that molar extractions may induce cranial strains, but there is no review of the impact of root canals and cranial dysfunctions. The sphenoid bone is a significant structure that houses the foramina in which nerves, arteries, and veins pass. Restricted sphenoid bone motion can cause abnormal tensions placed on the structures passing through the foramina; for example, Magoun proposed that patients post-tooth extraction were found to have dysfunctions of temporal, maxilla, mandibular, and sphenoid bones, concluding that they were predisposed to trigeminal neuralgia. In the present patient, the dental trauma may have induced contracture of the right inferior alveolar nerve, multiple teeth compression, and mandibular compression. These are the key somatic dysfunctions that the treating physician addressed after SBS decompression.

The fetal development of the mandible is divided into 2 distinctive growth patterns characterized by intramembranous ossification of the mandibular body and endochondral ossification of the con-
Lee et al suggest that the primary growth center of the mandible (MdPGC), located near the middle portion of the embryonal jaw, is an important anatomical landmark detected as a primary site of intramembranous and endochondral ossification from which the growth directions or amounts of mandible can be measured.

The patient in this case had a compression located near the MdPGC at the division of the inferior alveolar and incisor nerve with enough compression on the nerve space to cause an adhesion and subsequent inferior alveolar nerve sheath contracture.

This mandibular compression may have caused reduced normal mobility in the mandible and altered compensatory pattern of motion holding the right temporal bone in internal rotation. As a result, the altered mechanics of the temporal bone may have physiologically induced an inferior and lateral strain on the sphenoid. On the compensatory contralateral side, the left maxilla was externally rotated inducing a maxilla-zygoma compression.

Conclusion
Dental trauma and malocclusion can cause compression between cranial sutures which may disrupt normal physiologic motion. In this case, a patient with severe jaw pain after multiple root canal procedures was found to have multiple somatic dysfunctions, most notably an SBS compression, teeth compression and mandibular compression with an inferior alveolar nerve contracture. After a series of treatments to decompress and stabilize teeth to surrounding structures, the recommended endodontic procedure to insert a post to stabilize tooth 29 was no longer indicated. Therefore, through restoration of structure, near full function of the patient’s teeth was restored, ultimately allowing her to chew solid foods again.

Addressing these key areas such as nerve contractures, compressed teeth and the mandibular-maxilla articulation with OMT can lead to clinically significant improvement in patients’ cranial motion and ability to masticate with decreased pain. A patient with persistent head and jaw pain after dental work could significantly benefit from a referral to an osteopathic practitioner trained in OCMM to facilitate teeth restoration. This case suggests further research should be considered for the efficacy of cranial and osteopathic treatment for jaw pain after dental procedures.

References
THANK YOU

We offer our sincere thanks to the following people who provided peer reviews in 2018:

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Hippocrates wrote “The physician must......have two special objects in view with regard to diseases, namely, to do good and to do no harm. The art consists of three things, the disease, the patient and the physician. The physician is the servant of the art (or, of nature, as it is found in some manuscripts according to Galen), and the patient must combat the disease along with the physician.”

On this subject a footnote states, “Galen, in his commentary remarks that the first time he read it” (this classical passage) “he thought it unworthy of Hippocrates to lay it down as a rule of practice......but that after having seen a good deal of practice of other physicians and observed how often they were justly exposed to censure for having bled, or applied a bath or given medicines or wine unseasonably he came to recognize the propriety and importance of the rule......”.

It seems that the practice of medicine today does not differ basically from that practiced in the ages represented by these two great physicians and although Galen pointed at others it seems that each physician should look first at his own practices. A physician should do good and no harm. Of course, since there are no absolutes of “good” and “harm” it must be recognized that any treatment which can change the reaction of a patient may be either potentially beneficial or potentially harmful, depending upon how the patient reacts. In general, effective treatment then becomes an idiomatic process, adapted to the existing peculiarities and idiosyncrasies of the particular patient under consideration. A specific treatment cannot benefit all patients if given routinely, and, indeed, it is apt to harm some. Therefore, although trite, the statement that a treatment must be specifically adapted to the needs of the patient at the time of its application is the first and most important rule for a physician to follow.

Moreover, if there are several possible avenues of approach to a patient’s complaint, it seems obvious that differences in effects good and/or bad on a given patient may be postulated. These probable effects call for a choice in treatment so that the patient may derive the most benefit. Also, since any treatment may be potentially harmful, the choice must involve the second part of Hippocrates’ rule, i.e., “do no harm”, to the extent that harm be minimal if it cannot be avoided entirely. In other words, the treatment selected should be the one which secures the desired results in a reasonable time with a minimum of bad side effects. This is the second rule.

In order to make these general rules effective, the physician must make a choice as to what type of treatment to use. For example, in a low back pain he must, if it is found that the pain is not reflex or referred, choose between a surgical or a medical approach. If surgical, what operation or other procedure is indicated? If medical, shall the patient be hospitalized or not. Shall he receive osteopathic manipulation, drugs, physical therapy or other as psychoanalysis. If one of these is chosen, what kind and how? When and how much? And if several may be indicated, how may they best be combined if at all. In all this complexity of choosing the beneficial treatment, the possibilities of harming the patient are too often forgotten in practice today. The immediate effect, while possibly satisfactory, does not compensate for secondary or ultimate damage. In choos-
ing therapy the forewarnings of Hippocrates and Galen should be remembered.

Choice of therapy by a given physician will depend upon his training, experience, ability and judgement. If poorly trained in one field, such as manipulation in which he may have had little experience, or which he applies ineptly, the physician will not choose that type of treatment. If skilled in orthopedic surgery only, he will think first of surgery and be more apt to operate than other physicians will; if trained in symptomatic approach he will think primarily of drugs and physical therapy; if he is a psychiatrist his approach will be on that basis. If he is trained and skillful in manipulation, the patient will be given manipulation. Any physician, however, while justifiably confining his efforts to fields in which he is trained and skillful, should give the patient the best treatment available. This requires consultation and referral to supplement the physician’s own efforts.

There is, however, a considerable difference in making a choice of therapeutic measures as compared to manipulation. Osteopathic manipulation to be really effective requires the development of a skill and understanding comparable to any art such as piano playing or sculpture. The use of medicines and physical therapy can be much more easily grasped and their use requires no long periods of practice to develop proficiency. The approach to the patient other than that of manipulation can be standardized to a workable degree. It can frequently be read out of a book and immediately applied, by those who have a good basic medical training. Not so osteopathic manipulation. Because of difficulty in learning and developing it the application of osteopathic manipulation may vary in quality through an extremely wide range. It is sometimes mere imitation or a crude or inept process and it certainly seems that its intelligent application is beyond the comprehension of those who have not been well-trained in the semantics and the thinking of osteopathy. Therefore, even when specifically indicated, osteopathic manipulation is less apt to be chosen in therapy than the easier applied and understood approaches which often seem to do better judging from a symptomatic evaluation, than the poor manipulation available.

Yet, the benefit of manipulation as applied by generations of osteopathic physicians to thousands of patients cannot be denied. Nor can it be successfully maintained that all of these benefits could have been secured by any other methods. It cannot be claimed that those patients which could have been handled successfully by other means should have been so treated to the exclusion of the manipulative therapy. For example, the advent of antibiotics certainly should not supersede completely the regimen based on manipulation which was so effective in treating pneumonia for many years before the advent of antibiotics and modern chemotherapy. On the other hand, lifesaving antibiotics should be administered if indicated by the need of the patient in spite of potential harmful side effects. However, to the physician who has seen many patients recover quickly and uneventfully from pneumonia on a therapy consisting only of manipulation and good nursing, it does not seem reasonable to risk the possible side effects of antibiotics and drugs unless the condition and reaction of the patient is precarious and unsatisfactory and these may be specifically indicated. To those who do not know how to manipulate a patient with pneumonia, antibiotics and drugs are the only recourse. Because this is the usual state of affairs does not make the latter procedure fulfill the requirements for a regimen of doing the most good with the least harm. In practice, variation in the experience and ability of physicians makes a wide variation in the therapy used. But it is certain that the physician who knows how to manipulate well can help his patient a great deal more in a wide variety of conditions than if he does not have this ability.

To help decide the relatively most safe and effective treatment available at the time, the osteopathic physician is guided by the biologic principles basic to osteopathic theory and practice. Treatment, it seems, should be consonant with both the principle that the more perfect the body the better it functions and the principle which complements it that the body has the functions of defense, healing and/or repair if it can survive. The more perfect the body, the more effective are these functions.

Therapy should be directed first toward survival, second, toward achieving a state permitting the optimum use of those inherent abilities and faculties which improve function and tend to restore and maintain health.

Symptomatic therapy per se is not a part of osteopathic medicine, though the control of symptoms such as pain, fever and sleeplessness may be a part of the program of putting the patient into a state in which he may react optimally. The value of this control of symptoms should in all cases be weighed against effects of therapy which may be more detrimental than the untreated symptoms.

Therapy dictated by etiology may be osteopathic if the process of control or destruction of the noxious influence does not do more harm than good and other treatment cannot be found which may be as effective as treating the etiologic factor. This latter is pointed out by Hippocrates when he indicated that the patient is part of healing “art” and “the patient must combat the disease along with the physician”. The approach to tuberculosis and many other conditions must be chiefly on the basis of making the patient more able to survive and improve through his own resources.

(continued from page 19)
The ability of the osteopathic physician to transform the principle of improving the ability of the patient to achieve and maintain health into effective action, and his emphasis on this principle in determining treatment, is the chief difference between his therapy and that of most physicians. He is trained to emphasize the reaction of the patient in and to his environment and to himself as one of the most important factors in health and disease. This ecological approach by the osteopathic physician is activated to a considerable degree by his ability to improve the reactions of the patient by manipulative procedures although other therapy is frequently valuable when applied in the light of osteopathic principles. The ecological approach recognizes and copes with the noxious (to the patient) influences within and outside the patient but considers them as they affect the patient; not as an entity to be combated without considering the reactions of the patient. Treatment is not directed primarily at a named disease, and in fact it is frequently used effectively before a name is given to the condition to alter his response so that he can better adapt his responses to make a more comfortable and efficient recovery and prolong his life in the environment he must live in.

Diagnosis, among other things, should provide a clear idea of the reason for treating a certain patient so that the therapy may be the best possible under the circumstances. Is therapy to be palliative, prophylactic, orthopedic, curative, or emergency, or a combination of these objectives?

Emergency treatment, whether it be for example the removal of an appendix which endangers life, a blood transfusion to save life, or digitalis to strengthen a failing heart, permits survival and sustains life until the resources of the patient can take over. If and when the need ceases or is eradicated, further emergency treatment is needless, and indeed contraindicated.

If therapy is to be alterative or curative as is the intent of many drugs, much osteopathic manipulation, some physical therapy, diet and most psychotherapy, the object is to change the ability of the patient so that he can carry on normal, for him, activity in his environment. When this eventuates, further treatment becomes meddlesome and is contraindicated. In this connection it is interesting to note that Dr. A. T. Still scolded his students when they treated patients with osteopathic manipulation after the need ceased, stating that this made them ill. Many patients do not feel well because of the prolonged use of treatment which may have been indicated and useful originally but which now does harm.

If therapy is to be orthopedic as is much surgery, much osteopathic manipulation and physical therapy the object is to make the patient physically better able to use his resources in maintaining a healthful existence in his environment. This therapy can be overdone in a desire to reach an ideal structural rather than a good functional result.

(continued on page 22)
If therapy is to be prophylactic as in vaccination and other immunization, diet and hygiene and some osteopathic manipulation, the object is to better the defense. Etiological medicine on the public health level then becomes a part of ecological medicine and is important. Prophylactic medicine by manipulation, the value of which has been demonstrated through the years, is too little practiced today. Also, patients are not apt to be educated as to their part in the “art” and consequently they are prone to pay little attention to the essentials of maintaining a high level of reserve which can cope with the environment. Public health education seems to be failing to get over the point that the individual is responsible to a large degree for his own well being. So the physician, just as Hippocrates, did, must use valuable time to educate the patient in his responsibility.

If therapy is to be palliative or symptomatic, as most medicines, some osteopathic manipulation and some psychotherapy, the object seems to be to give time for the organization of the resources of the body. Otherwise, except in hopeless cases, palliation is meddling, often harmful as is obvious in the irresponsible use of such drugs as the barbiturates and the tranquilizers, the misuse of psychotherapy and as previously noted the misuse of manipulation.

To the osteopathic physician, who has developed unusual skill and experience in the use of manipulation in all of these categories of treatment as well as having used and/or observed the use of the common drugs, biologicals, surgical procedures and psychotherapeutic methods, manipulation seems to be applicable in treatment except in a few unusual conditions and emergencies. In many instances it would seem to be the method of choice and in others it can be a strong supportive factor potentiating as it usually does other therapy chosen and minimizing its side effects. In many cases it is the sole approach used other than the general hygienic and dietary advice. The case is rare which cannot be materially benefited by judicious manipulation and there are many cases which cannot be helped materially without it. Osteopathic manipulation to the skilled operator seems most often the treatment which is effective and least harmful. However, it must be noted that the time and strength of the physician requires that he limit under present conditions the use of manipulation to those who need it most and who will not be harmed much by other therapy which may bring the desired benefits. This lack of time and manpower is one of the most serious obstacles in the use of manipulation. This problem arises; should the physician give better treatment which is often solely manipulation to a fewer number or treat a greater number by other means with the probability of less benefit and more harm? Each physician who can manipulate well must answer this question. Those who cannot manipulate do not know this particular dilemma, which becomes more pressing as the ability to manipulate effectively increases.

I. M. Korr gives the theoretical basis which substantiates these practical observations in his articles which have appeared in the Journal of the American Osteopathic Association and have been reprinted in the Yearbook of the Academy of Applied Osteopathy. In these it seems he points out that treatment and especially manipulation directed toward breaking the reflex cycle related to disease processes by altering the somatic component seems to be the basis for the only known truly scientific theory of treatment. So on a practical and on a scientific basis the use of manipulation by a competent osteopathic physician seems not only justified but it seems imperative for adequate and complete treatment of most patients.

This concludes the presentation on the requested topic but so much has been said in this discussion about manipulative therapy which may seem to be confusing and controversial that it seems necessary to say something more to clarify what is meant by manipulation in this paper.

To illustrate the problem, the following incident is reported. A physician read a paper in which the surgical treatment of eleven cases of bronchiectasis was discussed and evaluated. During the discussion it was stated that all of these cases had received osteopathic manipulation and other conservative treatment before being subjected to the surgery which was necessary because of failure of previous treatment. After hearing this a certain physician in the audience said to another, “I do not understand how even in the patients of the whole hospital staff (it was a small hospital) in a year or two there could be found so many patients with bronchiectasis so severe they required surgery because manipulation failed. I have seen only a few such cases in my 20 years of practice.” The reply was “whose manipulation?” These doctors were evidently not on the same level of proficiency in manipulation. One, according to his statement, rarely in his 20 years of practice had found a case too severe to handle successfully by conservative measures featuring manipulation, and the other, the surgeon, had found in a very few years a considerable number of cases he could not handle conservatively. Even differences in diagnostic ability and criteria of what constituted a good result from conservative therapy would not seem to account for all of this difference. The factor of variability in ability to administer an effective osteopathic manipulative treatment seems to account for the difference to an important degree.

Manipulative therapy is not subject to standardization as is surgery, drug therapy and other therapies (except psychotherapy). It has been difficult to teach and when learned has required a great deal

(continued on page 23)
of practice and concerted thought to develop it into an effective and dependable therapeutic agent. Many physicians therefore, even though they have the D. O. degree, do not seem to understand the nature of osteopathic manipulation and how it can be used, judging from their practice. Many physicians seem to regard manipulation as an orthopedic procedure only. Others consider it primarily palliative. Its use in the alterative field is unjustifiably waning.

As to the method of application of manipulation there are a variety of opinions. Some seem to think that osteopathic manipulation must be a “corrective” thrust, moving bones and “setting” joints. Others think the thrust barbarous and use only non-thrust types of treatment. Between these two extremes are many variations and combinations of manipulative technics. It seems that in all of these variations the semantics and therefore the thinking is on a structural basis. “Technic” as usually taught neglects the functional approach to treatment. Man, by most physicians who use manipulation, is considered to be a structure and it is forgotten that he is also a function; actually a structure-function.

Function in this sense is meant the obverse of structure and not psychic or psycho-somatic as disease is sometimes classified into functional and organic. Function as meant here may be defined as a structure in action at a given time and is a phase of the process which may be named structure-function. It is unfortunate that the education and training of physicians in manipulation is entirely structural in its semantics so that functional thinking and technic becomes as difficult to understand and use as a foreign language. The more educated and more able to manipulate structure, the harder it becomes for the physician to use the semantics of function and to think and act on a functional level. But is has been demonstrated that some of those without professional training, freshmen in an osteopathic college or lay persons because they have no preconceived notions can learn the elements of functional technic quickly and easily if properly taught although of course they do not know when and why they should use it. This fact is overlooked by our educators.

It is also certain that functional technic is an extremely effective manipulative therapy usable in many cases which do not seem amenable to the structural approach. It is also remarkably accurate and specific since the changes of the patient’s tissues indicates during the process what to do in the continuing execution of the treatment as well as indicating when to cease. Functional technic is practically non-traumatic, being more pleasant to give and to receive than much structural technic. Its learnability, its usability, scientific accuracy and its effective and certain alteration of the reaction of the patient could well change the attitude of many who think the learning and development of skills in the technic of manipulation difficult and not worth the effort.

Technical ability therefore varies not only within the range permitted by semantics of structure but also the variation can be extended greatly by the use of the functional approach. The wide variability in the results achieved by manipulation by different doctors often makes it hard for them to carry on intelligent communication on the subject. This is because the word manipulation actually can mean an infinite variety of actions whereas too often it means to a physician certain definite action which he assumes to be what all understand the word to mean. This assumption of a common meaning for a familiar word can lead to confusion and misunderstanding. Therefore, this brief exposition on manipulation is presented in the hope that the meaning of this paper will be clearer.

In summary, it has been pointed out that: (1) osteopathic manipulation is a variable and when one says he has used it another has no way of knowing exactly what was done to the patient; also, many D.O.’s do not fully appreciate and use manipulation because they lack ability and experience in its use; (2) osteopathic manipulation can be scientific in principle and application, especially if the functional technic is used; (3) few therapeutic regimens are adequate without it; (4) most patients are best handled with manipulative therapy as a principle part of the regimen and some should be handled almost entirely by manipulation; (5) therapy based on (3) and (4) conform more closely than any other to the precepts quoted from Hippocrates and Galen as “Musts” of practice which hold true today as they have for thousands of years.

Bibliography
2. Ibid (page 104- Footnote).
New in the AAO’s Online Store

Mindful Relationships: Seven Skills for Success—Integrating the Science of Mind, Body and Brain

B. Grace Bullock

ISBN: 978-1909141704
189 pp., Paperback
$29.50 ($26.55, member price)

Human existence depends on relationships. Our brains rely on interconnected neural networks to function. Our minds relentlessly encode complex matrices of meaning to make sense of the world. And our physical and psychological development is contingent on the social bonds we share with others. Mindful Relationships: The Seven Skills for Success integrates the science of mind, body and brain to reveal how stress undermines these relationships, and what we can do about it. Chronic stress threatens our wellbeing and relationship success by creating systemic dysregulation of the mind, body and brain. This dysregulation leaves us relying on primal defense strategies like ....

The Five Osteopathic Models: Rationale, Application, Integration—From an evidence-based to a person-centered osteopathy

Raymond J. Hruby, editor, American edition

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Far from being simply a sequence of techniques, as practiced in many countries, osteopathy is an independent primary health care system based on principles applied through a manual practice: a unique profession that takes care of the whole person through the application of five models (biomechanical, neurological, respiratory-circulatory, metabolic, and behavioral). These conceptual models of the relationship between structure and function allow osteopaths to evaluate treatment with the aim of promoting health rather than curing disease. This book is intended as a manual for both students and osteopathic ....

Foundations of Morphodynamics in Osteopathy

Torsten Liem and Patrick Van den Heede, editors

ISBN: 978-1909141247
703 pp., Hardcover
$110 ($99, member price)

In 35 chapters written by the editors and a team of internationally renowned contributors, the book covers the underlying principles of osteopathic palpation from a biodynamic and “morphodynamic” perspective, and their application in the cranial field and the spinal cord. It emphasises the importance of considering not just the patient’s physical self, but also the inner consciousness. It teaches how to assess tissue-energy characteristics, and to use this understanding in managing the whole patient. The work discusses biophysical, neurobiological and psychological interactions as well as the interplay of developmental dynamics and further epigenetic influences on the organism. As well as the primary respiratory mechanism ....
Brain Therapy for Neonatal Reflexes & Lifelong Reflexes in Adults and Children

Course Description
Many children and adults have neurological disorders, learning disabilities or cognitive challenges. Studies show these individuals often have retained or reoccurring neonatal/primary reflexes. Optimally, these reflexes are inhibited in the first months of life. Neonatal reflex inhibition allows for more sophisticated neurological structures to develop.

Adults can see the reoccurrence of these neonatal/developmental reflexes in many pathologies, including trauma, PTSD, Parkinson’s, stroke, dementia, etc.

In children, these reflexes can be found in many dysfunctions including learning disabilities, sensory integration dysfunctions, trauma, cerebral palsy, ADD/ADHD, concentration problems, auditory, visual or vestibular issues, poor postural control, dyslexia, speech language delays, ASD, Down syndrome, etc.

There are approximately 28 neonatal reflexes at birth. We will go over most of these reflexes using quick, precise and efficient osteopathic CNS techniques to help integrate them. Inhibitory movement patterns will also be presented.

Prerequisite
Registrants must have taken Dr. Chikly’s “Brain 1” course or at least two cranial courses.

Continuing Medical Education
24 credits of NMM-specific AOA Category 1-A CME anticipated.

Course Times
Sunday and Monday from 8:30 a.m. to 6 p.m.
Tuesday from 8:30 a.m. to 4:30 p.m.

Meal Information
Breakfast and lunch are on your own. Coffee and tea will be provided.

Course Location
Rosen Shingle Creek, 9939 Universal Blvd., Orlando, FL 32819
Make your hotel reservations online now. To make your reservations by phone, call 1-866-996-6338 and use booking code 35809.

Travel Arrangements
Contact Tina Callahan of Globally Yours Travel at (480) 816-3200 or globallyyourstravel@cox.net.

Registration Form
Brain Therapy for Neonatal Reflexes & Lifelong Reflexes in Adults and Children
March 10-12, 2019

Name: _____________________________ AOA No.: _______________________

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Course Description
The Fascial Distortion Model is a model of thinking that allows clinicians to utilize patients’ gestures and verbal descriptions to focus soft tissue treatment for fast and effective relief of pain. By incorporating the FDM with traditional OMM techniques, powerful results can be achieved. By applying the FDM philosophy to your practice, you can decrease treatment time and improve outcomes.

No previous experience with the FDM will be required. For those familiar with the FDM, this is an opportunity to gain a deeper understanding. This will be an excellent introduction to the model and a good starting point on the journey of incorporating FDM into your practice. The second part of the course will be focused on incorporating the FDM with concepts such as visceral manipulation, cranial manipulation, dry needling, and frequency specific microcurrent therapy. The use of FDM in the pediatric population and FDM treatment of fractures also will be discussed.

Continuing Medical Education
24 credits of NMM-specific AOA Category 1-A CME anticipated.

Course Times
Sunday through Tuesday from 8 a.m. to 5 p.m.

Meal Information
Breakfast and lunch are on your own. Coffee and tea will be provided.

Course Location
Rosen Shingle Creek, 9939 Universal Blvd., Orlando, FL 32819

Make your hotel reservations online now. To make your reservations by phone, call 1-866-996-6338 and use booking code 35809.

Travel Arrangements
Contact Tina Callahan of Globally Yours Travel at (480) 816-3200 or globallyyourstravel@cox.net.

Course Director
Todd A. Capistrant, DO, MHA, earned both his doctor of osteopathic medicine degree and his master in health administration degree in 1997 from the Des Moines (Iowa) University College of Osteopathic Medicine. He is one of only three physicians in the United States who are currently certified to teach seminars on the FDM, and he is the president of the American Fascial Distortion Model Association.

Dr. Capistrant specializes in OMM, and he is certified by the American Board of Family Medicine. He is a member of the growing OMM department at the Tanana Valley Clinic in Fairbanks, Alaska, and he serves as a regional dean for the Pacific Northwest University of Health Sciences, College of Osteopathic Medicine in Yakima, Washington.

Registration Fees

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*Registrations received after Feb. 22 will be processed on-site, incurring a $150 late fee. The AAO’s associate members, international affiliates and supporter members are entitled to register at the same fees as full members.

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Course Description
In this course, attendees will explore the anatomy and function of the lymphatic system, in relationship to the visceral movement. When the lymphatics of the viscera are obstructed, the lymphatic and interstitial fluids back up, increasing the tension in the visceral attachments. This is associated with a decreased mobility of the organs, a visceral dysfunction. Of the nearly 450 lymph nodes in the body, about two-thirds are associated with the viscera.

Osteopathic approaches to the lymphatics began with Dr. Still. Those approaches were passed on to his students such as William Garner Sutherland, John Martin Hiss, Elmer Barber, Frank Chapman and Frank P. Millard. Some of these students expanded on what they had learned from Still. Only in the last 40 years has modern science discovered that the lymphatic system actually contracts and propels the lymphatic fluids, through what is called lymphangions, or “lymph hearts.” This contraction and movement is palpable and useful in diagnosing and treating a large range of osteopathic and medical issues.

Continuing Medical Education
22 credits of NMM-specific AOA Category 1-A CME anticipated.

Course Times
Sunday and Monday from 8:30 a.m. to 5:30 p.m.
Tuesday from 8:30 a.m. to 4:30 p.m.

Meal Information
Breakfast and lunch are on your own. Coffee and tea will be provided.

Course Location
Rosen Shingle Creek, 9939 Universal Blvd., Orlando, FL 32819
Make your hotel reservations online now. To make your reservations by phone, call 1-866-996-6338 and use booking code 35809.

Travel Arrangements
Contact Tina Callahan of Globally Yours Travel at (480) 816-3200 or globallyyourstravel@cox.net.

Visceral Lymphatics
March 10-12, 2019

Visceral Lymphatics
Course Director
Kenneth J. Lossing, DO, studied visceral manipulation with Jean-Pierre Barral, DO (France). An internationally recognized lecturer, Dr. Lossing contributed to the second and third editions of the American Osteopathic Association’s Foundations of Osteopathic Medicine textbook as well as the upcoming fourth edition. He is a 1994 graduate of the Kirksville College of Osteopathic Medicine, and he is board certified in both neuromusculoskeletal medicine and family medicine.

As the Academy's 2014-15 president, Dr. Lossing starred in a two-minute video segment of "American Health Front!" that focused on osteopathic manipulative medicine.

Dr. Lossing and his wife, Margret Klein, OA, run a private practice in San Rafael, California.

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Registration Form
Visceral Lymphatics
March 10-12, 2019

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Signature: __________________________

I am a practicing health care professional.
☐ I am a resident or intern.
☐ I am an osteopathic or allopathic medical student.
☐ I will attend the AAO’s 2019 Convocation.

The AAO accepts check, Visa, MasterCard and Discover payments in U.S. dollars. The AAO does not accept American Express.

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Register online at www.academyofosteopathy.org, or submit this registration form and your payment by email to GWatts@academyofosteopathy.org; by mail to the American Academy of Osteopathy, 3500 DePauw Blvd., Suite 1100, Indianapolis, IN 46268-1136; or by fax at (317) 879-0563.
Component Societies and Affiliated Organizations
Calendar of Upcoming Events

April 3-7, 2019
American Osteopathic Association of Prolotherapy and Regenerative Medicine
**Spring 2019 Training Seminar**
Program chair: Gerald Harris, DO
The Westin Austin Downtown
Austin, Texas

27 credits of AOA Category 1-A CME anticipated
Learn more and register at [www.prolotherapycollege.org](http://www.prolotherapycollege.org).

May 3-5, 2019
Osteopathy’s Promise to Children
**Expanding the Osteopathic Concept Beyond the Basics**
Course director: Raymond J. Hruby, DO, MS, FAAODist, and R. Mitchell Hiserote, DO
Osteopathic Center San Diego
24 credits of AOA Category 1-A CME anticipated
Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

June 7-9, 2019
Rocky Vista University College of Osteopathic Medicine
**Still Exaggeration Technique**
Course director: Jerry Dickey, DO
Parker, Colorado
21 credits of AOA Category 1-A CME anticipated
Learn more and register at [www.stillexaggeration.com](http://www.stillexaggeration.com).

July 17-21, 2019
Osteopathy’s Promise to Children
**Foundations of Osteopathic Cranial Manipulative Medicine**
(The 40-Hour Basic Cranial Course)
Course director: R. Mitchell Hiserote, DO
Osteopathic Center San Diego
40 credits of AOA Category 1-A CME anticipated
Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

July 21-23, 2019
Rocky Mountain American Academy of Osteopathy and the American College of Osteopathic Neurologists and Psychiatrists
**Osteopathy and the Brain: Mood and Anxiety Disorders**
Course director: Ellice Goldberg, DO
Faculty: Teodor Huzij, DO
Rocky Vista University
Parker, Colorado
18 credits of AOA Category 1-A CME anticipated

Sept. 7, 2019
Osteopathy’s Promise to Children
**OMT for Systemic Disorders and Physiological Functions: Cardiopulmonary & Immune Systems**
Course director: Hollis H. King, DO, PhD, FAAO
Osteopathic Center San Diego
8 credits of AOA Category 1-A CME anticipated
Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

Oct. 5, 2019
Osteopathy’s Promise to Children
**OMT for Systemic Disorders and Physiological Functions: Gastrointestinal & Nervous Systems**
Course director: Hollis H. King, DO, PhD, FAAO
Osteopathic Center San Diego
8 credits of AOA Category 1-A CME anticipated
Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

Visit [www.academyofosteopathy.org/affiliate-cme](http://www.academyofosteopathy.org/affiliate-cme) for additional listings.