

**The AAO**

**FORUM FOR OSTEOPATHIC THOUGHT**

# JOURNAL

Official Publication of the American Academy of Osteopathy •

**TRADITION SHAPES THE FUTURE**

**VOLUME 28 • NUMBER 4 • DECEMBER 2018**

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THE AAO
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*The mission of the American Academy of Osteopathy is to teach, advocate, and research the science, art, and philosophy of osteopathic medicine, emphasizing the integration of osteopathic principles, practices, and manipulative treatment in patient care.*

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# View From the Pyramids

AAOJ Editor-in-Chief Janice Upton Blumer, DO, FAAO

## EDITORIAL

In his autobiography, the founder of osteopathic medicine wrote, “I am simply trying to teach you what you are; to get you to realize your right to health, and when you see the cures wrought here, after all other means have failed, you can but know that the foundation of my work is laid on Nature’s rock.”<sup>1</sup>

What a prophetic man to write such a quote. Ask any DO in practice and you will find that the majority have seen the “end of the road” patient: one who had tried everything previously with no success and shows up on their doorstep. I have been barraged by such patients lately—ones who look at you with hope in their eyes but ready to accept the disappointment they have felt from other providers. Many get better at the waystation of osteopathy, but some do not. How often do I lament “If I had only seen them at the beginning of their journey...”?

Not only does A.T. Still give osteopathic physicians a window into his philosophy with the above quote, he also gives us what is seemingly a premonition about the state of our current health system. He states what he is teaching is to “realize your *right* to health.” In essence, he is implying if we followed his teachings our entire lives—and embodied them for our patients—health would be the inevitable outcome. Unfortunately, many of these patients have often been “meddled” with, surgically and otherwise. Finding the *health* in a patient who lost it along the way can be a difficult task for the osteopathic physician.

Health care rights and access seem to be a foundation of many recent political platforms. With the most recent election, how many candidates built the foundation for support on the establishment of adequate health care both regionally and nationally? Instead of focusing on patient outcomes, many platforms are focused on delivery systems and access to health care. The trends

in hospital systems, however, are focusing on outcomes and patient satisfaction with care.

To that end, A.T. Still seemed to understand that the needs of the patient were at the center of health care, not the needs of the physician, hospital system, or insurance company. Perhaps if we focus on the needs of the patient, as A.T. Still discusses in the quote above, we would realize the right to health he so tenaciously fought for. Osteopathic medicine, with our distinctive philosophy and hands on health care, is perfectly positioned for the physician of the future, outcomes-focused and patient satisfaction worthy.

Regardless if the patient improves when they land in your office as mine had, having seen 5 other physicians, physical therapy and adjunctive therapy, and an armful of medications, they leave feeling they have been heard, attended to, and generally satisfied due to the unique approach of the osteopathic physician.

Perhaps the *rights* of the patient in A.T. Still’s patient-centric vision of the future of health care can guide and formulate the physician of the future. Perhaps, working on the side of the patient, aligned with their anatomy and health, rather than in opposition to it, our vision for the future can be a healthy one and we can realize what we truly are meant to be as both a physician and for our patients.

In gratitude,

Janice Blumer, DO, FAAO

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# AAO Calendar of Events



Mark your calendar for these upcoming Academy meetings and educational courses.

## 2018–19

Dec. 1	FAAO applications due	March 10-12	Pre-Convocation course—“ <a href="#">Fascial Distortion Model—Beyond the Basics: Osteopathy and FDM moving forward together!</a> ”— <b>Todd A. Capistrant, DO, MHA</b> , course director—Rosen Shingle Creek in Orlando, Florida
Dec. 7-9	“ <a href="#">A Visceral Approach to the Arteries of the Abdomen and Pelvis</a> ”— <b>Kenneth J. Lossing, DO</b> , course director—UNTHSC/Texas College of Osteopathic Medicine in Fort Worth		
Dec. 12	Committee on Fellowship in the AAO’s teleconference—8 p.m. Eastern	March 10-12	Pre-Convocation course—“ <a href="#">Visceral Lymphatics</a> ”— <b>Kenneth J. Lossing, DO</b> , course director—Rosen Shingle Creek in Orlando, Florida
Dec. 24-25	Christmas holiday—AAO office closed		
Dec. 31-Jan. 1	New Year’s holiday—AAO office closed	March 12	Committee on Fellowship in the AAO’s meeting—Rosen Shingle Creek in Orlando, Florida
Jan. 16	Committee on Fellowship in the AAO’s teleconference—8 p.m. Eastern	March 13	AAO Board of Governors’ meeting—Rosen Shingle Creek in Orlando, Florida
Jan. 21	Martin Luther King Jr. Day—AAO office closed		
Feb. 1-2	AAO Education Committee’s meeting—AAO office in Indianapolis	March 13-17	Convocation—“ <a href="#">Leading, Expanding and Cutting: The Edges of Osteopathic Medicine</a> ”— <b>Rebecca E. Giusti, DO</b> , program chair—Rosen Shingle Creek in Orlando, Florida
Feb. 18	Presidents Day—AAO office closed		
Feb. 22-24	“ <a href="#">Viscerosomatic Release: A Systemic Model for Neuromusculoskeletal Medicine</a> ”—John P. Tortu, DO, course director—UNTHSC/Texas College of Osteopathic Medicine in Fort Worth	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 10-12	Pre-Convocation course—“ <a href="#">Brain Therapy for Neonatal Reflexes &amp; Lifelong Reflexes in Adults and Children</a> ”— <b>Bruno Chikly, MD, DO (France)</b> , course director—Rosen Shingle Creek in Orlando, Florida	March 17	Post-Convocation— <a href="#">Residency Program Directors’ Workshop</a> — <b>Darren L. Grunwaldt, DO</b> , course director—Rosen Shingle Creek in Orlando, Florida

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# Proposed Code of Ethics for Treating Osteopathic Manipulation Demonstration Models in Front of Groups

Leslie Mae-Geen Ching, DO

SPECIAL COMMUNICATION

## Introduction

Generally, the purpose of osteopathic manipulative medicine (OMM) demonstrations is to show a screening or treatment approach or technique with a demonstration model, who is usually a volunteer. By showing this in front of a group of learners, this maximizes the learning experience. It is also helpful for the demonstration model since many kinesthetic learners learn best by tactile experience. It is important to keep medical ethics in mind for all professional interactions, including for physician instructors who are treating demonstration models, especially medical students, with OMM in group settings. Medical students are considered a vulnerable population in the language of medical research.<sup>1</sup> In a group setting, they may feel coerced to be a treatment model, and student-teacher relationships may be affected as a result.

The American Osteopathic Association (AOA) Code of Ethics<sup>2</sup> outlines an ethical approach for osteopathic medical students, residents, and physicians in clinical and educational settings. It incorporates aspects of the 4 principles of medical ethics: respect for autonomy, beneficence, non-maleficence, and justice.<sup>3</sup> Demonstration models do not fall under a patient-physician legal relationship. However, because these models are volunteering the use of their bodies in a professional setting, it is advisable to keep the Code of Ethics and principles in mind.

This paper will explore the 4 principles and the relevant sections in the AOA Code of Ethics and briefly address other resources in regards to treating demonstration models with OMM in group settings. This paper will also address generational differences in millennials and how these might affect participation in or perception of OMM demonstrations. A literature search revealed no articles written on a principled approach to OMM demonstrations so this will hopefully elicit interest and conversation on how best to approach this topic.

## The 4 Principles of Medical Ethics

### Autonomy

*Autonomy* describes the importance of the physician respecting the right of the competent patient to make decisions for his or

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her medical care. For treating demonstration models in front of groups, it is imperative to keep this principle in mind. The demonstration model should be given an explanation of the procedure. The procedure, risks, benefits, and side effects should be discussed especially before doing potentially traumatic techniques, such as high-velocity, low-amplitude or a somatoemotional release.<sup>4</sup> If the demonstration is not meant to show a comprehensive diagnosis and treatment, this should be explained to the model and the group. The demonstration model should be made aware that he or she does not need to agree to be treated and that this right of the model is respected. This also helps to model positive physician communication skills and ethics for the observers and explains to them what they might be witnessing.

### Beneficence and non-maleficence

*Beneficence* and *non-maleficence* describe 2 sides of the same concept. *Beneficence* means to cause a net benefit for the patient; *non-maleficence* is another way to say “do no harm.” The model should be treated in such a way that offers respect, autonomy, and maybe the benefit of a technique that can help his or her function or well-being. Non-maleficence in this context not only means physical harm but also emotional harm. For example, discussing whether

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the model has experienced physical or emotional abuse in the past in a group setting without his or her consent can result in anxiety, embarrassment, and anger.

### Justice

Gillon<sup>3</sup> describes *justice* in terms of distributive justice, rights-based justice, and legal justice. On different levels, these ideas may include personal, organizational, professional, and societal justice.

### Relevant Sections of the AOA Code of Ethics

The AOA's Code of Ethics is a document that describes medical ethics for the osteopathic physician, resident, or medical student. It can and should be applied to public demonstration as much as to private treatments. The sections on privacy, abandonment and sexual harassment are especially applicable.

**Section 1.** The physician shall keep in confidence whatever she/he may learn about a patient in the discharge of professional duties. Information shall be divulged by the physician when required by law or when authorized by the patient.<sup>2</sup>

The demonstration model is entitled to privacy. Indicate that he or she might be asked invasive questions and that the model should not feel coerced to go into detail in front of the group. The physician instructor should avoid eliciting sensitive information if the model seems uncomfortable. Remember that medical students are trained to be compliant to attending physicians. Their autonomy needs to be respected.

**Section 4.** A physician is never justified in abandoning a patient. The physician shall give due notice to a patient or to those responsible for the patient's care when she/he withdraws from the case so that another physician may be engaged.<sup>2</sup>

If a treatment reaction or somatoemotional release does occur, make sure that the demonstration model feels supported physically and emotionally. Observers may feel distressed by this reaction, so explain the process to them. Above all, do not abandon the demonstration model. Make sure to check on them periodically. If necessary, have appropriate follow-up care arranged.

**Section 16.** Sexual harassment by a physician is considered unethical. Sexual harassment is defined as physical or verbal intimidation of a sexual nature involving a colleague or subordinate in the workplace or academic setting, when such conduct creates an unreasonable, intimidating, hostile or offensive workplace or academic setting.<sup>2</sup>

Sometimes techniques in potentially sensitive body areas may be appropriate for didactic purposes or for treatment of a demonstration model. Physician instructors demonstrating such techniques

on models should use appropriate language and clearly explain to the models and observers what they are doing. Sexual innuendo and joking language are inappropriate and should not be used. As discussed previously, consent should be obtained and autonomy should be respected.

### Other Educational Ethics

The American Association of Colleges of Osteopathic Medicine formed a Task Force on Ethics and Professionalism in early 2018.<sup>5</sup> At the time of this writing, they have met twice and recommendations are forthcoming.

The Association of American Educators has written a Code of Ethics for Educators that is also relevant to physician instructors.<sup>6</sup> They structure the code around 4 principles: ethical conduct towards students, practices and performance, professional colleagues, and parents and community. Some noteworthy points of intersection are the affirmation to not reveal confidential information, "to protect the student from conditions detrimental to learning, health, or safety,"<sup>6</sup> and to not purposefully encourage the teasing of students.

### Generational Differences

Today's medical students are generally millennials (those born between the 1980s and mid-2000s<sup>7</sup>) and have different approaches to classroom learning. They are sensitive to power imbalances and to appearing vulnerable in front of their peers, which can lead to decreased classroom participation.<sup>7</sup> A qualitative analysis by Roehling et al examined barriers to college undergraduate classroom participation and highlighted several concepts that are applicable to OMM demonstrations.<sup>7</sup> One concept was to "work to develop a comfortable classroom atmosphere at the very beginning of the semester while norms for participation are being established."<sup>7</sup>

In the setting of a demonstration at a workshop, these norms for participation could be established with the group at the beginning of the workshop, which can include clarifying that the demonstration model can withdraw consent for treatment at any time without any adverse judgments. As an example of a situation where these norms were not explicitly discussed beforehand, part of a recent demonstration at a school included drawing landmarks on the demonstration model's abdomen so that students could visualize their locations. The model's approval for this had been previously obtained but the observing students were not aware of this. When the physician instructor started drawing landmarks, it elicited several audible gasps and the incident was remarked about on course evaluations. Indicating that the model's approval had

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been obtained for this would have obviated much of the observers' concern.

Another concept proposed by Roehling et al was "do not let a student feel isolated or unsupported in a discussion" or, in this setting, a demonstration. If the demonstration model appears to be uncomfortable or having a side effect from the treatment, the observing students are going to be aware of this and also to any perceived lack of concern on the part of the physician instructor. This can adversely affect both the perception of the demonstration as well as the perception of the physician's ethics. Another approach that could be helpful is to ask the demonstration model if they are uncomfortable or having pain and to encourage them to give feedback about their experience to the group.

## Conclusions

Treating demonstration models in front of an audience is a valuable didactic tool for OMM. Although there is no legal patient-physician relationship, physician instructors should keep ethical guidelines in mind for the benefit of modeling good physician behavior and communication, as well as to respect the patient models' integrity.

Observers who are in the millennial generation are very conscious of perceived power imbalances and unfairness. Making sure that both the models and the observers are clear about the goals and objectives for the demonstrations can help to clarify unclear or potentially uncomfortable situations.

If demonstrating treatment, a physician instructor could consider these questions for guidance: Is this technique necessary or appropriate now for this patient and in this setting? Is there an established protocol for appropriate follow-up care if the model needs further management after this technique or treatment?

There are several directions to take this in the future. A survey of OMM departments' policies could be instructive. A possible study

would be an inquiry into how comfortable the demonstration models feel during the assessment and treatment, how supported they feel in refusing to do certain treatments or to answer certain questions, and if they feel that they have appropriate follow-up. The AACOM task force includes an Educational Council on Osteopathic Principles representative, so its recommendations could be helpful in drawing up a Code of Ethics specific for OMM departments if none already exist. The American Academy of Osteopathy could also include a section in their presenter agreements on ethical OMM demonstrations at courses and at conferences.

## Acknowledgements

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# Frequency of Somatic Dysfunction in Infants With Tongue-Tie: A Retrospective Chart Review

A. Hope Tobey, DO, FAAP, FACOP, and Albert J. Kozar, DO, FAOASM, R-MSK

## ORIGINAL CONTRIBUTION

### Abstract

#### Introduction

The recent increase in breastfeeding has brought an increased awareness of potential causes for breastfeeding difficulties. Many parents are choosing frenectomy or laser revision for their infants with tongue-tie (ankyloglossia). This study aims to identify somatic dysfunctions commonly found in infants with tongue-tie as a first step in distinguishing infants with feeding issues caused by somatic dysfunction from infants with feeding issues directly related to tongue-tie. Since somatic dysfunction of the cranial base and occiput have direct implications for impacting the hypoglossal nerve, which provides motor control of intrinsic tongue musculature, it is our hypothesis that infants with tongue-tie and feeding issues will have a high incidence of cranial base dysfunction.

#### Methods

A retrospective chart review was performed on 48 charts of infants diagnosed with tongue-tie who had been seen from June 2012 to January 2017 at a multispecialty practice. Thirty-one charts were excluded and 17 charts are reviewed here.

#### Results

Of the 17 infants with tongue-tie whose charts were included in the review, 76.4% had difficulties with latching and 35.3% had difficulty with suck or coordination of suck. All of the infants (100%) had occipital condylar dysfunction, 94.1% had restriction of at least 1 cranial suture, 94.1% had atlantooccipital (OA) joint dysfunction, and 23.5% had dysfunction at the sphenobasilar synchondrosis.

#### Conclusions

All of the infants with tongue-tie had somatic dysfunction at the cranial base. This again raises the question of whether or not the feeding issues were directly related to the tongue-tie or to the somatic dysfunction or to a combination of both. This study was limited by sample size and limited diversity of patient sampling. Further studies are necessary.

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#### Introduction

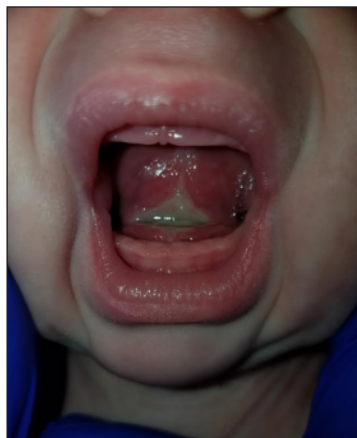
Tongue-tie (ankyloglossia) is defined as a restricted, thickened, or shortened lingual frenulum (*see Figure 1*). It is typically an isolated defect but can be associated with other facial defects. It can restrict the tongue's ability to elevate and extend, both of which are necessary for the infant to express milk while breastfeeding. It is more common in males<sup>1</sup> and occurs in 0.2% to 4.8% of infants.<sup>1,2</sup> A recent rise in women choosing to breastfeed (*see Table 1*), has led to an increased awareness of tongue-tie in the general population and its potential for affecting breastfeeding. This increased awareness has more parents questioning if their infant has a tongue-tie and if so, how is it impacting breastfeeding, what is the best course of treatment, and is a frenectomy or laser tongue-tie revision (*see Figure 2*) necessary.

Based on prior evidence that frenectomy did not significantly impact feeding or speech outcomes for most infants, a majority of pediatricians traditionally recommend not doing a frenectomy unless the tongue-tie interferes significantly with breastfeeding.<sup>5</sup> In fact, the *Nelson Textbook of Pediatrics* states that "A short lingual

(continued on page 11)



**Figure 1.** Three-day-old boy with shortened lingual frenulum.



**Figure 2.** Three-month old girl 3 days following laser tongue-tye revision.

*(continued from page 10)*

frenulum may be worrisome to parents but only rarely interferes with eating or speech, generally requiring no treatment.”<sup>6</sup> A study done in 2000 showed that only 10% of pediatricians and 30% of otolaryngologists who responded to a survey felt that tongue-tye frequently affected feeding, while lactation consultants and speech therapists were more likely to feel that it affected feeding.<sup>2</sup>

However, recent research has again raised the possibility of tongue-tye as a key to painful breastfeeding and/or poor latch.<sup>7-10</sup> Additionally, a few small studies demonstrated some potential benefit in feeding and nipple pain after frenectomy.<sup>11-13</sup> These studies have generated an increased interest from parents and some health care providers in frenectomy as a means of helping infants with difficulties in breastfeeding.<sup>11,14,15</sup> Unfortunately, most of these studies have low to insufficient strength of evidence.<sup>8</sup> Therefore, further high-quality research is necessary to establish a severity scale, correlate tongue-tye with symptoms, and provide evidence-based recommendations as to which infants would benefit from frenectomy and at what age.

Unfortunately, not all infants experience an objective improvement in breastfeeding after frenectomy.<sup>16</sup> Studies cite the incidence of

continued breastfeeding difficulties after frenectomy anywhere from 8% to 28.8%.<sup>13,16</sup> These infants return to their health care team for further evaluation and treatment. Because infants with a diagnosis of tongue-tye typically have no difficulty with bottle feeding<sup>14</sup> and many practitioners have nothing else to offer, the bottle often becomes the treatment plan regardless of the underlying etiology.

The lack of improvement in breastfeeding after frenectomy raises the question of what factors other than the tongue-tye may be negatively influencing those infants’ ability to breastfeed and whether or not the tongue-tye ever had a substantial negative impact on their breastfeeding.

Infant feeding difficulties have also been shown to improve by treating somatic dysfunction.<sup>17,18</sup> Somatic dysfunction of the cranial base and occiput have direct implications for impacting the hypoglossal nerve which provides motor control of intrinsic tongue musculature.<sup>19</sup> Additionally, somatic dysfunction of this area would be expected to affect the glossopharyngeal, vagus and spinal accessory nerves as they exit the jugular foramen, further impacting tongue motion, gag reflex, and swallow.

Normal function of the intrinsic muscles of the tongue is essential for effectiveness of the oral and pharyngeal phases of suck and swallow.<sup>17</sup> Without appropriate function, it becomes more difficult for infants to coordinate tongue motion, extract milk from the breast, and coordinate their swallow. These symptoms are also seen in infants diagnosed with tongue-tye.

This leads us to question if some infant breastfeeding difficulties are related to their tongue-tye, a somatic dysfunction, or combination of both. This study aims to identify the frequency of somatic dysfunction in infants with a diagnosis of tongue-tye. We propose that infants diagnosed with tongue-tye should first undergo a thorough feeding evaluation, including evaluation for somatic dysfunction, as a first step in distinguishing infants with feeding issues caused by

*(continued on page 12)*

**Table 1.** Increased frequency of breastfeeding in the USA. Adapted from the CDC’s Breastfeeding Report Card.<sup>3,4</sup>

	Ever breastfed	Breastfeeding at 6 months	Breastfeeding at 12 months	Exclusive breastfeeding at 3 months	Exclusive breastfeeding at 6 months
<b>2016</b>	81.1%	51.8%	30.7%	44.4%	22.3%
<b>2007</b>	73.8%	41.5%	20.9%	30.5%	11.3%

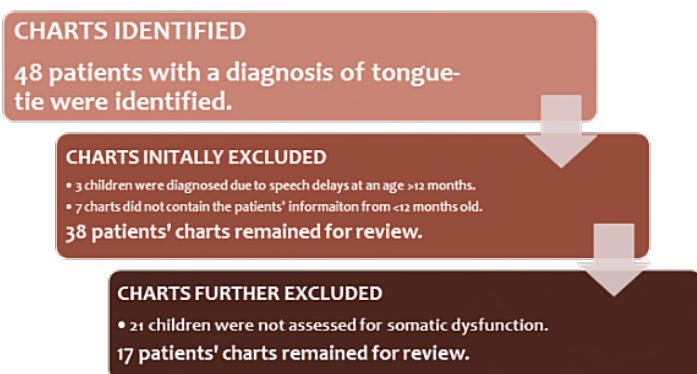
(continued from page 11)

somatic dysfunction from those infants with feeding issues directly related to tongue-tie. Further, it is our hypothesis that infants with tongue-tie and breastfeeding issues will have a high incidence of cranial base dysfunction.

## Methods

Institutional Review Board approval was obtained from the Edward Via Virginia College of Osteopathic Medicine. (IRB approval #2017-007) Following approval, the electronic medical record system (EMR) at an outpatient, multispecialty, academic clinic in Blacksburg, Virginia, was searched for all infants with a diagnosis of tongue-tie (ICD-9 750.0 or ICD-10 Q38.1). Records from the date of installation of the EMR in June 2012 thru January 2017 were searched. Forty-eight charts were identified with a diagnosis of tongue-tie. However, 3 charts were children diagnosed with tongue-tie for the first time over the age of 12 months, and 7 charts were children who came to the practice at an older age without the necessary information for chart review. Therefore, 38 infants with tongue-tie diagnosed under the age of 12 months were identified. Unfortunately, of those 38 infants, only 17 had been assessed for somatic dysfunction (Figure 3). All of the infants' osteopathic exams had been done by the same attending osteopathic physician as part of their physical exam. The infants not assessed for somatic dysfunction had been seen by a mixture of other attending physicians and residents in the practice. The 17 included charts were then reviewed for demographic information, type of delivery, method of feeding, presenting symptom, and somatic dysfunction.

**Figure 3.** Flow diagram for chart exclusion.



## Results

Of the 17 charts reviewed, 14 of the infants were born at term gestation, and 3 were born late pre-term. Thirteen infants were male and 4 were female. Fourteen infants were white, while 2 were Asian, and 1 was Hispanic. Eleven of the infants were delivered

**Table 2.** Patient symptoms (N=17).

Symptom	No.	Percent (%)
Difficulty with latch	13	76.4
Difficulty with suck/coordination	6	35.3
Frequent biting while feeding	4	23.5
Poor weight gain	1	5.9
Gastroesophageal reflux	3	17.6
Fussiness	2	11.8

vaginally, 2 were born by vacuum-assisted vaginal deliveries, and 4 were born by cesarean deliveries. All 17 of the infants were being breastfed, but 2 (a set of twins) were being supplemented with formula in addition to breastfeeding. Three of the infants were diagnosed with posterior tongue-tie and lip tie while the other 14 had been diagnosed with an anterior tongue-tie alone.

Of the 17 charts reviewed, a majority of patients (76.4%) had difficulty with latch. Other common complaints included difficulty with suck and/or coordination of their suck and frequent biting while feeding. Less frequent symptoms included gastroesophageal reflux, fussiness, and poor weight gain (Table 2).

Evaluation for somatic dysfunction revealed that all infants had a cranial somatic dysfunction in the region of the occipital condyles. A majority (94.1%) had atlantooccipital joint (OA) dysfunction and restriction noted along a suture line(s). The sutures most commonly affected were occipitomastoid and lambdoid. A significant amount of infants also had cervical (76.5%) and thoracic (64.7%) somatic dysfunctions. Almost half of the infants (47%) also had sacral and abdominal somatic dysfunction (Table 3).

## Discussion

All of the infants' charts reviewed in this study had somatic dysfunction at the occipital condyles. Remembering that at birth the occiput is still in 4 parts (squamous, basilar, and 2 condylar), it is thought that an intraosseous strain of the condylar parts can directly affect the hypoglossal,<sup>19</sup> while an interosseous strain between the temporal and occipital bones can directly affect the glossopharyngeal, vagus, and spinal accessory nerves as they respectively course through the hypoglossal and jugular foramina that border the condyles.<sup>20</sup> With these nerves providing innervation to muscles of the palate and both the intrinsic and extrinsic muscles of the tongue, it is possible that somatic dysfunction of the occipital condyles could have been a significant contributing factor in poor tongue motion and coordination, as well as issues with swallowing

(continued on page 13)



**Table 3.** Incidence of somatic dysfunction by body region.

Somatic dysfunction	No.	Percent (%)
<b>Cranial dysfunction</b>	17	100.0
Occipital condylar	17	100.0
Occipitoatlantal	16	94.1
Other cranial bone dysfunction	6	35.2
Sphenobasilar synchondrosis	4	23.5
<b>Cranial Suture restriction</b>	16	94.1
All sutures restricted	8	47.0
Occipitomastoid	6	35.3
Lambdoid	7	41.2
Metopic	1	5.9
Frontoparietal	1	5.9
Parietotemporal	1	5.9
<b>No documented suture involvement</b>	1	5.9
<b>Abdomen</b>	8	47.0
<b>Cervical</b>	13	76.5
<b>Lumbar</b>	6	35.3
<b>Pelvis</b>	7	41.2
<b>Rib</b>	1	5.9
<b>Sacrum</b>	8	47.0
<b>Thoracic</b>	11	64.7

(continued from page 12)

and therefore could have played a significant role in the breastfeeding difficulties of these infants.

We have shown that infants with tongue-tie have somatic dysfunction that could cause breastfeeding issues. We also know that treating somatic dysfunction in infants has been shown to improve breastfeeding difficulties<sup>17,18</sup> and that some studies have shown that as many as 50% of infants with tongue-tie are asymptomatic.<sup>7</sup> It is therefore possible that there are symptomatic infants with tongue-tie in whom somatic dysfunction is either a major contributor or the primary cause of their feeding difficulties and in whom frenectomy alone would not be therapeutic. Therefore, our recommendation is that all infants with tongue-tie and feeding difficulties have a complete feeding evaluation, somatic dysfunction screening, and if indicated, osteopathic manipulative treatment (OMT) prior to frenectomy.

This study was limited by the small sample size and limited patient diversity. Additionally, due to its retrospective nature, we were

unable to compare somatic dysfunction found in symptomatic infants with tongue-tie to somatic dysfunction found in asymptomatic infants with tongue-tie. Further research is needed to distinguish which infants with tongue-tie would benefit from OMT alone versus treatment with OMT and a frenectomy. A blinded prospective multicenter trial with increased sample size is needed to confirm these findings and evaluate the effect of OMT alone versus OMT and frenectomy, on the quality and duration of breastfeeding.

## Conclusion

Infants with tongue-tie have a high incidence of somatic dysfunction in areas which could affect feeding. We recommend that all infants with tongue-tie be screened osteopathically and treated with OMT if indicated. Further research is needed.

## Acknowledgements

The authors would like to thank Kimberly J. Wolf, DO, assistant professor at the Touro University College of Osteopathic Medicine in Vallejo, California, for her thoughtful editing.

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### Additional Resources

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The purpose of the continuing medical education quiz is to provide a convenient means of self-assessing your comprehension of the scientific content in the article “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.

To apply for 0.5 credits of AOA Category 2-B continuing medical education, fill out the form on page 15 and submit it to the American Academy of Osteopathy. The AAO will note that you submitted the form and forward your results to the American Osteopathic Association’s Division of Continuing Medical Education for documentation.

Be sure to answer each question in the quiz. You must score a 75% or higher on the quiz to receive CME credit. The correct answers will be published in the next issue of the *AAOJ*.

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1. Tongue-tie is present in what percentage of infants?
  - a. 0.2%–4.8%
  - b. 4.9%–7.02%
  - c. 6.2%–9.0%
  - d. 8.0%–12.2%
  - e. 15%
2. Recent research has linked tongue-tie with which of the following symptoms?
  - a. Frequent episodes of oral thrush
  - b. Improved coordination of suck and swallow
  - c. Increased length of each feeding
  - d. Increased parental desire to breastfeed
  - e. Painful breastfeeding
3. When counseling a family on whether or not their infant should have a frenectomy, which of the following statements is true and would be an important point for parents to consider?
  - a. All tongue-tied infants will have some improvement in feeding after a frenectomy.
  - b. American Academy of Pediatrics recommends frenectomy for all infants with tongue-ties.
  - c. Frenectomy may help with feeding in some but not every tongue-tied infant.
  - d. Tongue-ties have never been shown to affect speech in children
  - e. There is never an indication to clip a tongue-tie in an infant
4. When evaluating an infant with tongue-tie for somatic dysfunction, you are most likely to find somatic dysfunction in which of the following areas?
  - a. Clavicle
  - b. Hyoid and strap muscles
  - c. Occipital condyle
  - d. Ribs
  - e. Sphenobasilar synchondrosis

Below are the answers to *The AAO Journal's* September 2018 quiz on the article titled "Prescribing Herbal Medicines to Complement Osteopathic Manipulative Treatment for Chronic Pain and Dysfunction" by David R. Beatty, DO.

1. **a.** Taking turmeric orally has been found to be helpful in reducing inflammation.
2. **c.** The piriformis point is a helpful counterstrain point for the relief of sciatica.
3. **b.** Black cohosh is felt to improve osteoarthritis.
4. **c.** When used for upper extremity edema, upper extremity petrissage can be used to treat lymphedema.

# An Exploration of Zink's Common Compensatory Pattern: Comparing Myofascial Restrictions to Segmental Spinal Somatic Dysfunctions: A Retrospective Study

Jesus Sanchez Jr., DO; Justin Brohard, DO; and Richard Thai, DO

## ORIGINAL CONTRIBUTION

### Abstract

#### Background

Zink's Common Compensatory Pattern (CCP) is a pattern of somatic dysfunction that can be observed in the spinal transitional zones. The CCP can be described as left/right/left/right rotation in the regions of C0/C1/C2, C7/T1, T12/L1, and L5/S1, respectively. It has been proposed that Zink's pattern can be identified by both myofascial and segmental assessments. This retrospective study investigates myofascial restrictions and spinal somatic dysfunctions to determine whether an agreement exists between myofascial rotation restrictions and osteopathic structural exam findings.

#### Methods

Osteopathic manipulative medicine (OMM) screening exams were completed for incoming first-year osteopathic medical students at the Western University of Health Sciences College of Osteopathic Medicine of the Pacific in August 2012. In this retrospective study, there were 208 participants, of which 15 had documented significant previous medical history. For the structural exam, rotational restrictions were assessed at OA, C7, T12, and L5. Myofascial restrictions were assessed at the craniocervical, cervicothoracic, thoracolumbar, and lumbosacral transitional zones.

This method of assessment creates 8 separate variables. These variables were recorded using a simple binomial system with 3 options: R for right rotation, L for left rotation, and O for lack of rotational restriction. The authors then evaluated these variables using kappa statistical analysis and the Fisher's exact test to determine if there was any statistically or clinically significant correlation present between the structural findings and the myofascial restrictions.

#### Results

Of the 208 participants, 14 individuals (6.731%) matched all 4 of the structural exam restrictions with the myofascial restrictions, 24 (11.538%) matched 3 of the 4 transition zones, 62 (29.808%) matched 2 zones, 73 (35.096%) matched 1, and 35 (16.827%) exhibited 0 matches.

From the Western University of Health Sciences College of Osteopathic Medicine of the Pacific. When this study was completed, Dr. Brohard was a fourth-year student at Western University and Dr. Thai was a third-year student.

Financial disclosure: None reported.

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Of the 15 individuals with documented significant previous medical history, 2 individuals (13.333%) had all 4 matches, 1 (6.667%) had 3 matches, 6 (40%) had 2 matches, and 6 (40%) had 1 match.

Of the 198 individuals without significant limitations, 12 individuals (6.218%) had all 4 matches, 23 (11.917%) had 3 matches, 56 (29.016%) had 2 matches, 67 (34.715%) had 1 match, and 35 (18.135%) lacked any agreement between structural and myofascial findings.

On initial kappa analysis with all 208 participants, the authors found a total of 325 matches within the data, yielding a kappa value of 0.0527 with a 95% confidence interval of 0.0025 to 0.1028. For the 15 participants with medical limitations, the authors found the kappa value to be 0.2450 with a 95% confidence

*(continued on page 17)*



*(continued from page 16)*

interval of 0.0615 to 0.4284 ( $P=0.0063$ ). For the 198 individuals without limitations, the authors found the kappa value to be 0.0373 with a 95% confidence interval of -0.0147 to 0.0893 ( $P=0.1488$ ).

### Conclusion

Regarding the group of 208 participants, there is a weak, but statistically significant correlation between all data points. For the 15 individuals with significant medical limitations, there is a statistically significant correlation between structural and myofascial exam findings, excluding the lumbosacral transition zone. For the remaining 198 individuals, there is no statistically significant correlation between structural and myofascial findings.

Ambiguity of significant medical limitations and lack of interrater reliability should be addressed in future research. With the limitations of this retrospective pilot study, the authors hope to further investigate the correlation between myofascial restrictions and structural exam findings.

### Introduction

Although Zink's Common Compensatory Pattern (CCP) is not a thoroughly investigated topic, current literature from the Osteopathic Survey of Somatic Dysfunction and Zink Compensatory Patterns in Solalá, Guatemala, suggests that Zink's CCP of L/R/L/R was observed in 29% of their participants.<sup>1</sup> Furthermore, a right rotation pattern of the cervicothoracic transitional zone was observed in 69% of participants. Within the 69%, 46% also had a compensated left rotation of their craniocervical and thoracolumbar zones.

While this research suggests that there is an increased prevalence of Zink's CCP within a population, the sample size was only 40 participants. This research, along with others, indicates that there may be an increased prevalence of this compensatory pattern, but so far, all research has involved only myofascial restrictions, with no data on segmental spinal rotation as evaluated in a typical osteopathic clinical screening exam.

The purpose of this retrospective study is to investigate the myofascial restrictions and the segmental spinal somatic dysfunctions to determine if there is a correlation between myofascial rotational restrictions and osteopathic structural exam findings. The authors hope that the study will provide more detailed information that will increase understanding of the compensatory patterns that may exist and increase understanding of how to apply this information in the clinical setting.

At the Western University of Health Sciences College of Osteopathic Medicine of the Pacific (WesternU/COMP) in Pomona, California, osteopathic medical students learn about Zink's CCP in the second year of their osteopathic philosophy and principles curriculum. The authors hope that this research will improve the educational experience of students by providing a stronger understanding of Zink's CCP and how it can be applied to the osteopathic clinical practice.

### Background

One of the primary tenets of osteopathic medicine is that structure and function are interrelated within the body and that an issue with structure can compromise function. Because of this tenet, osteopathic physicians base much of their clinical philosophy on identifying dysfunction in the structure of the body in hopes of allowing the function to return to a normal state of health and homeostasis.

J. Gordon Zink, DO, FAAO, wrote about this relationship of the structure of the three diaphragms in the body and how they relate to overall function and homeostasis.<sup>2</sup>

Rather than looking at individual structural components, it has been proposed that one can group the human body into a series of structural and functional patterns. These patterns would make it possible to identify common patterns within a population as well as to tailor clinical approaches based on identified patterns.

One of these patterns commonly identified in patients is Zink's CCP.<sup>3</sup> Over many years of clinical practice, Zink discovered this pattern of somatic dysfunction in his patients and found that certain combinations exist more frequently among his patient population.

These patterns of somatic dysfunction typically involve the spinal transitional zones, which include: C0/C1/C2, C7/T1, T12/L1, and L5/S1. When there is somatic dysfunction present within 1 transitional zone, the adjacent transitional zones tend to compensate for this dysfunction. Once this compensation has occurred, a pattern often arises, involving somatic dysfunction at each of the transitional zones.

In the CCP as outlined by Zink, C0/C1/C2 is rotated to the left, C7/T1 is rotated to the right, T12/L1 is rotated to the left, and L5 is rotated to the right on the sacrum, which in turn induces a left-on-left forward torsion of the sacrum. In other words, a given patient would be expected to have a pattern of L/R/L/R in the spinal transition zones.<sup>4-6</sup>

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It has been proposed that this pattern can be identified through both myofascial and segmental assessments, but little information exists on the correlation between these findings. Zink also noted that patients with this CCP were not significantly limited in their daily function, and therefore this pattern may be one of health.<sup>3</sup>

TePoorten has since expanded upon Zink's concept by using a 10-step protocol of musculoskeletal manipulations to treat the 4 diaphragms of the body in order to promote a pattern of health.<sup>7</sup> If this concept is supported by research, then it can have significant implications for treatment protocols and patient care. Being able to apply these compensatory patterns in clinical practice may help osteopathic clinicians in their diagnostic assessment of patients and in their ability to effectively treat toward health.

## Materials and Methods

All data used for this retrospective study were collected in August 2012 by second-year osteopathic medical students during initial osteopathic screening exams for incoming first-year osteopathic medical students at WesternU/COMP. The study was approved

by Western University's institutional review board (Protocol #13/IRB/112).

These screening exams are conducted routinely for the incoming osteopathic medical students each year. The authors of this manuscript were not involved in the data collection process, and all identifying information was removed from the data before they were provided for use in this retrospective study.

There were 208 total participants, of which 15 had significant documented medical histories involving various pathologies. Because of the retrospective nature of this study, the authors did not have access to the criteria involved in determining which participants had significant medical history or other inclusion and exclusion criteria.

The data included segmental diagnoses for the atlantooccipital (OA), C7, T12, and L5 spinal levels in the standard recording method (F/E/N SL/SR RL/RR) as outlined in *Foundations of Osteopathic Medicine*.<sup>5</sup> Data also included gross rotational myofascial restrictions at the spinal transition zones as outlined by Zink and TePoorten.<sup>2,6</sup>

To evaluate for Zink's myofascial restrictions, the spinal transition zones were evaluated for gross rotational restrictions using the following assessment methods as described by Zink<sup>3</sup> and TePoorten<sup>7</sup>:

*Craniocervical transition zone:* Gentle rotation of the head was induced using the base of the occiput while the patient was supine.

*Cervicothoracic transition zone:* Gentle rotation of the shoulder girdle was induced using the clavicle-scapula complex by placing one hand on each shoulder with the patient supine.

*Thoracolumbar transition zone:* Gentle rotation of the lower rib cage was induced using ribs 10-12 with the patient supine.

*Lumbosacral transition zone:* Gentle rotation of the pelvic girdle was induced using the innominates by contacting the anterior superior iliac spines and iliac crests with the patient supine.

The methods used to record these data allowed the authors to use an organization scheme that resulted in 8 separate variables: OA rotation, C7 rotation, T12 rotation, L5 rotation, craniocervical-myofascial rotation, cervicothoracic-myofascial rotation, thoracolumbar-myofascial rotation, and lumbosacral-myofascial rotation. These variables were recorded using a simple binomial system with



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**Figure.** Interpretation of the kappa statistic.<sup>8</sup> Table adapted from statisticshowto.com.<sup>9</sup>

Kappa	Interpretation of kappa
0	Equivalent to chance agreement
0.10–0.20	Minimal agreement
0.21–0.40	Fair agreement
0.41–0.60	Moderate agreement
0.61–0.80	Substantial agreement
0.81–0.99	Almost perfect agreement
1	Perfect agreement

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3 options: R for right rotation, L for left rotation, and O for lack of rotational restriction.

Kappa analysis was used to determine whether statistically significant agreement or correlation existed between the findings on structural exam and myofascial evaluation. The kappa analysis gives a quantitative measure of agreement between 2 variables. With this numerical analysis, it can be determined whether agreement on findings between myofascial assessment and osteopathic structural exam occurred due to chance ( $\kappa=0$ ) or perfect agreement ( $\kappa=1$ ). Interpretation of kappa is typically as follows: 0=poor, 0.20=slight, 0.40=fair, 0.60=moderate, 0.80=substantial, 1.0=perfect agreement (Figure).<sup>8</sup>

A Fisher's exact test also was used for statistical analysis. This test is very similar to a chi-squared test in that it compares values between 2 groups to determine statistical correlation, but it is better suited to evaluate small sample sizes due to added statistical constraints. The results of this test are represented by a *P*-value, which is considered statistically significant when less than 0.05.

## Results

Upon initial evaluation of the raw data, the authors were able to identify the number of matches that existed between the 2 sets of data. These matches indicate a possible agreement between the structural findings and the myofascial findings.

Because the data points were collected at the 4 transition zones in the spine, this provided 4 separate variables to evaluate for matches. After all 208 data sets had been evaluated, it was found that there were 14 individuals (6.731%) whose structural findings perfectly matched the myofascial findings, of which only 1 individual held the L/R/L/R common compensatory pattern.

There were 24 individuals (11.538%) who exhibited a match in 3 of the 4 transition zones, 62 individuals (29.808%) with 2 matches, 73 individuals (35.096%) with 1 match, and 35 individuals (16.827%) who did not exhibit any matches between their structural findings and their myofascial findings.

The data were further split into 2 subgroups: those without significant medical history or limitations and those with limitations. Of the 15 individuals with significant limitations, 2 individuals (13.333%) had matches at all 4 transition zones, 1 individual (6.667%) had 3 matches, 6 individuals (40%) had 2 matches, and 6 individuals (40%) had 1 match.

Of the 198 individuals without significant limitations, 12 individuals (6.218%) had 4 matches, 23 individuals (11.917%) had 3 matches, 56 individuals (29.016%) had 2 matches, 67 individuals (34.715%) had 1 match, and 35 individuals (18.135%) lacked any agreement between structural and myofascial findings.

Kappa analysis was used to determine whether this agreement between findings is statistically significant or due purely to chance. Taking all variables into account separately, there are 832 total possible matches, and because a trinomial variable system was used, it was expected that there would be 275 matches (33.33%) simply by chance. On initial kappa analysis with all 208 participants, a total of 325 matches were found within the data, 50 more than expected by chance. This provided a kappa value of 0.0527 with a 95% confidence interval of 0.0025 to 0.1028.

Data were further broken into 2 kappa analyses: 1 for individuals with limitations and 1 without. For the 15 participants with medical limitations, the kappa value was 0.2450 with a 95% confidence interval of 0.0615 to 0.4284 ( $P=0.0063$ ). For the 198 individuals without limitations, the kappa value was 0.0373 with a 95% confidence interval of -0.0147 to 0.0893 ( $P=0.1488$ ).

These kappa results were again further broken down to evaluate agreement between variables at each of the spinal transition zones individually (Table 1).

Due to the kappa analysis results of those individuals with significant medical limitations, a Fisher's exact test also was used to determine whether the presence of medical limitations correlated to the number of matches present between structural findings and myofascial findings. This test showed a *P*-value for association between limitation status and number of matches of 0.1762 (Table 2).

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## Discussion

Collecting data in 2 discreet sets, 1 for structural findings and the other for myofascial findings, allowed the authors to compare similar variables individually and to compare entire sets of findings. This means it is possible to observe a correlation between structural and myofascial findings and to observe whether or not the findings follow the compensatory patterns outlined by Zink.

The initial analysis of the raw data showed that there is a trend toward agreement of structural findings and myofascial findings when evaluating the 4 spinal transition zones. This was indicated by the percentage of matches found in the data, with a total of 325 matches out of a possible 832 matches. Based on chance alone, 275 matches would be expected within this data set. There were 50 more matches than expected, approximately a 6% increase over chance.

In addition, 14 of the 208 participants (6.731%) had 4 matches, indicating that their structural exam findings correlated perfectly with their myofascial findings at the 4 spinal transition zones. Furthermore, there were 24 individuals (11.538%) who exhibited a match in 3 of the 4 transition zones.

The overall kappa analysis yielded a value of 0.0527 with a 95% confidence interval of 0.0025 to 0.1028 ( $P=0.0341$ ), which indicates a moderate statistical significance. This looked at all variables collectively to see if there was any correlation, not considering how many matches exist within a single data set. The results were further

broken down to determine if clinical limitations had an impact on the correlation between structural and myofascial findings.

Individuals with limitations had a kappa value of 0.2450 with a 95% confidence interval of 0.0615 to 0.4284 ( $P=0.0063$ ), which represented a fair correlation between data.

For the remaining 198 individuals, the kappa value was 0.0373 with a 95% confidence interval of -0.0147 to 0.0893 ( $P=0.1488$ ), indicating no statistically significant correlation between structural and myofascial findings. Therefore, at least in the individuals with medical limitations, there is a correlation between structural findings and myofascial findings at the spinal transition zones.

The kappa analysis results were broken down further (Table 1), revealing that in individuals without limitations, there was a lack of statistical correlation at each of the spinal transition zones. In individuals with limitations, the previously identified correlation held true at each of the transition zones besides the lumbosacral transition zone.

Because these data indicated a correlation between findings only in individuals with medical limitations, a Fisher's exact test was performed to determine if having these limitations significantly increased the likelihood of a correlation between findings. In this test, the hypothesis was that having a significant medical history increased the participant's chance of agreement between structural and myofascial findings, and it increased the chance of a higher number of matches. Results showed that although a trend may exist in favor of this hypothesis, this trend is not statistically significant (Table 2).

While evaluating the provided data, the authors were able to identify several areas of weakness or areas that can be improved in further studies.

**Table 1.** Individual kappa statistics were broken down into individual spinal transition zones for both subgroups of data sets. The table shows the number of matches (0, 1, 2, 3, 4) by limitation status (N=208).

	0	1	2	3	4	Total
No limitations	35	67	56	23	12	193
Limitations	0	6	6	1	2	15

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**Table 2.** Results from Fisher's exact test for all participants. P-value from Fisher's exact test for association between limitation status and number of matches: 0.1762.

	No limitations (n=193)			Limitations (n=15)		
Region	Kappa	95% CI	P-value	Kappa	95% CI	P-value
Craniocervical	-0.015	(-0.0116, 0.086)	0.7719	0.261	(-0.064, 0.585)	0.1134
Cervicothoracic	0.043	(-0.062, 0.148)	0.4017	0.323	(-0.069, 0.716)	0.0762
Thoracolumbar	0.026	(-0.074, 0.126)	0.5952	0.314	(-0.046, 0.673)	0.0692
Lumbosacral	0.095	(-0.010, 0.199)	0.0768	0.000	(-0.328, 0.328)	1.00



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Although the total sample size of 208 was adequate, when broken down into 2 groups, the group of students with limitations only had 15 participants. Although it may be enough to show trends in data, this number is insufficient to determine statistical significance of trends identified within the data. This may stem from a somewhat arbitrary method of classifying participants into the category of limitations. When the data were collected during the initial health screening, any participant who was flagged for screening by a physician was placed into the category of limitations. Because of this classification, there is no way to accurately state that these limitations have a significant impact on the outcome of this study, and in future research it would be useful to have more information about these limitations.

The other major weakness the authors identified in the method of data collection is possible lack of interrater reliability and consistency. The large number of incoming students required several second-year medical students to be involved in performing the evaluations. Though all data collectors were similarly trained second-year osteopathic medical students, it is difficult to say that each person's palpatory skills were similar enough to ensure a high level of consistency between raters.


Although these weaknesses may present significant limitations on the study, the authors feel that the trends identified still validly represent trends present in the overall population, and they plan to pursue them in future studies.

Since this is a retrospective study, it was used to identify these areas of weakness so that a much more precise method of data collection for a future study can be devised. For this further study, the authors plan to make several changes to ensure a higher level of precision and consistency in data collection.

The classification of medical limitation will be made using more specific findings on medical history to specify inclusion and exclusion criteria for the study groups. Using this method can ensure that the limitations being considered are likely to significantly affect outcomes, and it will allow trends to be identified within these specific limitations. This will also allow recruiting more participants that may fit into the limitations category so the sample size of that group can be increased.

To limit the error in interrater reliability, only 2 people will perform data collection on all future participants. One collector will perform the structural exam on every participant while the other data collector gathers myofascial data. This will ensure that all participants are evaluated in the same manner so that the data can be accurately evaluated.

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To improve consistency and accuracy of the data collection, graders will be predoctoral teaching fellows within the Neuromusculoskeletal Medicine/Osteopathic Manipulative Medicine Department at WesternU/COMP who have completed their first 2 years of training and have participated in faculty-guided consistency training prior to the start of the study.

Once these limitations have been addressed, the accuracy and validity of the results will be greatly strengthened so that accurate conclusions can be drawn about trends present in the population and potentially correlate these findings to Zink's Common Compensatory Patterns.

## Conclusion

Despite the limitations of this pilot study, the authors have been able to identify several interesting trends in the data thus far, raising a few questions to be answered in a follow-up study. Though generalizations cannot be made about the overall population at this point, it seems that within the data presented here, there is a correlation between structural exam findings and myofascial restrictions at the spinal transition zones.

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Based on this observation, it may be possible to screen for somatic dysfunction using a simple form of myofascial assessment. If so, it may allow for a quick assessment in the clinic or hospital setting and provide a great deal of information to help improve diagnosis and possibly treatment approaches to patient with somatic dysfunction. Also, this information may be used to improve osteopathic medical education and impact the clinical course of patients to improve outcomes and patient satisfaction.

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Tobey AH, Kozar AJ. Frequency of somatic dysfunction in infants with tongue-tie: a retrospective chart review. AAOJ. 2018;28(4):10-14.

**case report**

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. AAOJ. 2018;28(1):15-18.

Lewis DD. Osteopathic evaluation and post-surgical rehabilitation approach in a patient with myelopathy and tetraparesis related to cervical ependymoma: a case report. AAOJ. 2018;28(2):39-43.

Lewis DD, Summer GK. An osteopathic approach to low back pain and

short leg syndrome in a patient with traumatic brain injury following motor vehicle crash: a case report. AAOJ. 2018;28(3):12-17.

**cervical myelopathy**

Lewis DD. Osteopathic evaluation and post-surgical rehabilitation approach in a patient with myelopathy and tetraparesis related to cervical ependymoma: a case report. AAOJ. 2018;28(2):39-43.

**chronic pain**

Beatty DR. Prescribing herbal medicines to complement osteopathic manipulative treatment for chronic pain and dysfunction. AAOJ. 2018;28(3):18-26.

Lewis DD. Osteopathic evaluation and post-surgical rehabilitation approach in a patient with myelopathy and tetraparesis related to cervical ependymoma: a case report. AAOJ. 2018;28(2):39-43.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients

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with non-specific chronic back pain in a rural outpatient setting. AAOJ. 2018;28(2):29-33.

#### **circulation**

Nuño V, Peña NJ, Hughes TNF, Cuny LAM, Pierce-Talsma SL. Teaching osteopathic principles and practices: easy as ABCs. AAOJ. 2018;28(2):34-38.

#### **clinical practice**

Goldman SI, Van Buskirk RL. Rethinking superior and inferior sacroiliac shear: a new approach to diagnosis and treatment. AAOJ. 2018;28(1):21-28.

#### **common compensatory pattern**

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. AAOJ. 2018;28(1):9-14.

Sanchez J Jr, Brohard J, Thai R. An exploration of Zink's common compensatory pattern: comparing myofascial restrictions to segmental spinal somatic dysfunctions, a retrospective study. AAOJ. 2018;28(4):16-22.

#### **consent**

Blumer JU. View from the Pyramids: boundaries. AAOJ. 2018;28(1):5.

Ching LM. Proposed code of ethics for treating osteopathic manipulation demonstration models in front of groups. AAOJ. 2018;28(4):7-9.

#### **counterstrain**

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. AAOJ. 2018;28(1):15-18.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. AAOJ. 2018;28(2):29-33.

#### **discrimination**

Peppers BP, Blumer JU, Hostoffer RW, Rowane MP, Thomas KA, Byrnes TR Jr. National Institutes of Health and

osteopathic medicine: another call for action and equality in a legal struggle won long ago. AAOJ. 2018;28(2):9-27.

#### **editorial**

Blumer JU. View from the Pyramids. AAOJ. 2018;28(4):5.

Blumer JU. View from the Pyramids: boundaries. AAOJ. 2018;28(1):5.

Blumer JU. View from the Pyramids: perception. AAOJ. 2018;28(2):5.

Blumer JU. View from the Pyramids: white coats. AAOJ. 2018;28(3):5.

Rowane MP. AAO responds to Larry Nassar abuse case. AAOJ. 2018;28(1):7-8.

#### **FAAO thesis**

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. AAOJ. 2018;28(1):9-14.

#### **frenectomy**

Tobey AH, Kozar AJ. Frequency of somatic dysfunction in infants with tongue-tie: a retrospective chart review. AAOJ. 2018;28(4):10-14.

#### **headgear**

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. AAOJ. 2018;28(1):15-18.

#### **health care**

Blumer JU. View from the Pyramids. AAOJ. 2018;28(4):5.

#### **herbal medicine**

Beatty DR. Prescribing herbal medicines to complement osteopathic manipulative treatment for chronic pain and dysfunction. AAOJ. 2018;28(3):18-26.

#### **high-velocity, low-amplitude (HVLA)**

Goldman SI, Van Buskirk RL. Rethinking superior and inferior sacroiliac shear: a new approach to diagnosis and treatment. AAOJ. 2018;28(1):21-28.

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and

incorporation of a new Still technique—part 2. AAOJ. 2018;28(1):9-14.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. AAOJ. 2018;28(2):29-33.

#### **innominate shear**

Goldman SI, Van Buskirk RL. Rethinking superior and inferior sacroiliac shear: a new approach to diagnosis and treatment. AAOJ. 2018;28(1):21-28.

#### **Korr, Irvin M.**

Byrnes TR Jr. Book review—*Living Long and Loving It: Achieving a Healthy and Active Lifestyle* by Irvin M. Korr, PhD, and Rene J. McGovern, PhD. AAOJ. 2018;28(2):7-8.

#### **low back pain**

Lewis DD, Summer GK. An osteopathic approach to low back pain and short leg syndrome in a patient with traumatic brain injury following motor vehicle crash: a case report. AAOJ. 2018;28(3):12-17.

#### **lymphatic system**

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. AAOJ. 2018;28(1):9-14.

#### **medical education**

Blumer JU. View from the Pyramids: white coats. AAOJ. 2018;28(3):5.

Ching LM. Proposed code of ethics for treating osteopathic manipulation demonstration models in front of groups. AAOJ. 2018;28(4):7-9.

Nuño V, Peña NJ, Hughes TNF, Cuny LAM, Pierce-Talsma SL. Teaching osteopathic principles and practices: easy as ABCs. AAOJ. 2018;28(2):34-38.

#### **medical ethics**

Ching LM. Proposed code of ethics for treating osteopathic manipulation demonstration models in front of groups. AAOJ. 2018;28(4):7-9.

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### **motor vehicle crash**

Lewis DD, Summer GK. An osteopathic approach to low back pain and short leg syndrome in a patient with traumatic brain injury following motor vehicle crash: a case report. *AAOJ*. 2018;28(3):12-17.

### **muscle energy**

Goldman SI, Van Buskirk RL. Rethinking superior and inferior sacroiliac shear: a new approach to diagnosis and treatment. *AAOJ*. 2018;28(1):21-28.

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. *AAOJ*. 2018;28(1):15-18.

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. *AAOJ*. 2018;28(1):9-14.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. *AAOJ*. 2018;28(2):29-33.

### **myofascial release**

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. *AAOJ*. 2018;28(1):9-14.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. *AAOJ*. 2018;28(2):29-33.

### **myofascial restrictions**

Sanchez J Jr, Brohard J, Thai R. An exploration of Zink's common compensatory pattern: comparing myofascial restrictions to segmental spinal somatic dysfunctions, a retrospective study. *AAOJ*. 2018;28(4):16-22.

### **Nassar, Larry**

Blumer JU. View from the Pyramids: boundaries. *AAOJ*. 2018;28(1):5.

Rowane MP. AAO responds to Larry Nassar abuse case. *AAOJ*. 2018;28(1):7-8.

### **National Institutes of Health**

Blumer JU. View from the Pyramids: perception. *AAOJ*. 2018;28(2):5.

Peppers BP, Blumer JU, Hostoffer RW, Rowane MP, Thomas KA, Byrnes TR Jr. National Institutes of Health and osteopathic medicine: another call for action and equality in a legal struggle won long ago. *AAOJ*. 2018;28(2):9-27.

### **National Library of Medicine**

Peppers BP, Blumer JU, Hostoffer RW, Rowane MP, Thomas KA, Byrnes TR Jr. National Institutes of Health and osteopathic medicine: another call for action and equality in a legal struggle won long ago. *AAOJ*. 2018;28(2):9-27.

### **original contribution**

Beatty DR. Prescribing herbal medicines to complement osteopathic manipulative treatment for chronic pain and dysfunction. *AAOJ*. 2018;28(3):18-26.

Nuño V, Peña NJ, Hughes TNF, Cuny LAM, Pierce-Talsma SL. Teaching osteopathic principles and practices: easy as ABCs. *AAOJ*. 2018;28(2):34-38.

Sanchez J Jr, Brohard J, Thai R. An exploration of Zink's common compensatory pattern: comparing myofascial restrictions to segmental spinal somatic dysfunctions, a retrospective study. *AAOJ*. 2018;28(4):16-22.

Tobey AH, Kozar AJ. Frequency of somatic dysfunction in infants with tongue-tie: a retrospective chart review. *AAOJ*. 2018;28(4):10-14.

### **original research**

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. *AAOJ*. 2018;28(1):9-14.

Peppers BP, Blumer JU, Hostoffer RW, Rowane MP, Thomas KA, Byrnes TR Jr. National Institutes of Health and osteopathic medicine: another call for

action and equality in a legal struggle won long ago. *AAOJ*. 2018;28(2):9-27.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. *AAOJ*. 2018;28(2):29-33.

### **orthodontic intervention**

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. *AAOJ*. 2018;28(1):15-18.

### **osteopathic cranial manipulative medicine**

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. *AAOJ*. 2018;28(1):15-18.

### **osteopathic manipulative treatment**

Beatty DR. Prescribing herbal medicines to complement osteopathic manipulative treatment for chronic pain and dysfunction. *AAOJ*. 2018;28(3):18-26.

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. *AAOJ*. 2018;28(1):15-18.

Lewis DD. Osteopathic evaluation and post-surgical rehabilitation approach in a patient with myelopathy and tetraparesis related to cervical ependymoma: a case report. *AAOJ*. 2018;28(2):39-43.

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. *AAOJ*. 2018;28(2):29-33.

### **osteopathic philosophy**

Goldman SI. Incorporating osteopathic philosophy into residency programs. *AAOJ*. 2018;28(3):7-11.

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### **osteopathic residency**

Goldman SI. Incorporating osteopathic philosophy into residency programs. AAOJ. 2018;28(3):7-11.

### **Oswestry Disability Index**

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. AAOJ. 2018;28(2):29-33.

### **pediatric headache**

Heineman K. Osteopathic manipulative treatment in the management of pediatric headache and orthodontic intervention: a case report. AAOJ. 2018;28(1):15-18.

### **physicians' health**

Blumer JU. View from the Pyramids: white coats. AAOJ. 2018;28(3):5.

### **pilot study**

Sanchez J Jr, Brohard J, Thai R. An exploration of Zink's common compensatory pattern: comparing myofascial restrictions to segmental spinal somatic dysfunctions, a retrospective study. AAOJ. 2018;28(4):16-22.

### **retrospective chart review**

Tobey AH, Kozar AJ. Frequency of somatic dysfunction in infants with tongue-tie: a retrospective chart review. AAOJ. 2018;28(4):10-14.

### **rural medicine**

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. AAOJ. 2018;28(2):29-33.

### **sacroiliac shear**

Goldman SI, Van Buskirk RL. Rethinking superior and inferior sacroiliac shear:

a new approach to diagnosis and treatment. AAOJ. 2018;28(1):21-28.

### **screening**

Nuño V, Peña NJ, Hughes TNF, Cuny LAM, Pierce-Talsma SL. Teaching osteopathic principles and practices: easy as ABCs. AAOJ. 2018;28(2):34-38.

### **segmental spinal somatic dysfunctions**

Sanchez J Jr, Brohard J, Thai R. An exploration of Zink's common compensatory pattern: comparing myofascial restrictions to segmental spinal somatic dysfunctions, a retrospective study. AAOJ. 2018;28(4):16-22.

### **short leg syndrome**

Lewis DD, Summer GK. An osteopathic approach to low back pain and short leg syndrome in a patient with traumatic brain injury following motor vehicle crash: a case report. AAOJ. 2018;28(3):12-17.

### **special communication**

Ching LM. Proposed code of ethics for treating osteopathic manipulation demonstration models in front of groups. AAOJ. 2018;28(4):7-9.

Goldman SI. Incorporating osteopathic philosophy into residency programs. AAOJ. 2018;28(3):7-11.

### **spinal decompression**

Lewis DD. Osteopathic evaluation and post-surgical rehabilitation approach in a patient with myelopathy and tetraparesis related to cervical ependymoma: a case report. AAOJ. 2018;28(2):39-43.

### **Still technique**

Goldman SI, Van Buskirk RL. Rethinking superior and inferior sacroiliac shear: a new approach to diagnosis and treatment. AAOJ. 2018;28(1):21-28.

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and

incorporation of a new Still technique—part 2. AAOJ. 2018;28(1):9-14.

### **Still, Andrew Taylor**

Blumer JU. View from the Pyramids. AAOJ. 2018;28(4):5.

### **thoracic inlet**

Lewis DD. Advancing the understanding and treatment of the thoracic inlet and incorporation of a new Still technique—part 2. AAOJ. 2018;28(1):9-14.

### **tongue-tie**

Tobey AH, Kozar AJ. Frequency of somatic dysfunction in infants with tongue-tie: a retrospective chart review. AAOJ. 2018;28(4):10-14.

### **touch**

Blumer JU. View from the Pyramids: boundaries. AAOJ. 2018;28(1):5.

### **traumatic brain injury**

Lewis DD, Summer GK. An osteopathic approach to low back pain and short leg syndrome in a patient with traumatic brain injury following motor vehicle crash: a case report. AAOJ. 2018;28(3):12-17.

### **visceral manipulation**

Wilson DJ, Gorham JL, Lamb T, Lui S, Daniel T. Osteopathic manipulation improves functional status in patients with non-specific chronic back pain in a rural outpatient setting. AAOJ. 2018;28(2):29-33.

### **Zink, J. Gordon**

Sanchez J Jr, Brohard J, Thai R. An exploration of Zink's common compensatory pattern: comparing myofascial restrictions to segmental spinal somatic dysfunctions, a retrospective study. AAOJ. 2018;28(4):16-22. ■



# VISCEROSOMATIC RELEASE: A SYSTEMIC MODEL FOR NEUROMUSCULOSKELETAL MEDICINE

Feb. 22-24, 2019 • UNTHSC Texas College of Osteopathic Medicine in Fort Worth

## Course Description

This course is designed to enhance attendees' palpatory skills (tissue texture, asymmetry and restriction of motion of both somatic and visceral interconnected structures); enhance knowledge of related somatic/visceral anatomy with fascial continuity via traditional Chinese medicine energy channel mapping; and provide a framework for cross-organ symptomatology and somatic dysfunction, bridging gaps between internal medicine subspecialties and neuromusculoskeletal medicine.

## Prerequisite

Registrants should have completed a basic cranial course and have a grounding in balanced ligamentous tension, ligamentous articular strain and visceral techniques.

## Course Times

Friday and Saturday from 8 a.m. to 5:30 p.m.  
Sunday from 8 a.m. to 12:15 p.m.

## Continuing Medical Education

20 credits of AOA Category 1-A CME anticipated.

## Meal Information

Morning coffee and tea will be provided. Lunch will be provided Friday and Saturday. Notify AAO Event Planner [Gennie Watts](#) of any special dietary needs no fewer than seven days in advance.

## Course Location

UNTHSC Texas College of Osteopathic Medicine  
3500 Camp Bowie Blvd., MET – 470 Lab  
Fort Worth, TX 76107

## Travel Arrangements

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

## Course Director

**John P. Tortu, DO**, graduated from the Philadelphia College of Osteopathic Medicine in 2000. He spent 17 years in private practice, and in 2009, he developed the viscerosomatic release (VSR) concept. Since then, Dr. Tortu has presented the VSR concept to a multitude of audiences, including at the AAO's 2014 Convocation in Colorado Springs, at the Michigan State University College of Osteopathic Medicine in East Lansing and at the University of North Texas Health Science Center Texas College of Osteopathic Medicine in Fort Worth. A 2017 case report published in *The AAO Journal* detailed how the authors adapted the VSR concept as described by Dr. Tortu to address Sindig-Larsson-Johansson syndrome in a pre-teen athlete, noting that the safe and effortless treatment reversed the need for a surgery.



Registration Fees	On or before Dec. 17, 2018	Dec. 18, 2018– Feb. 14, 2019	On or after Feb. 15, 2019
Academy member in practice*	\$910	\$960	\$1,160
Resident or intern member	\$710	\$760	\$960
Student member	\$510	\$560	\$760
Nonmember practicing DO or other health care professional	\$1,210	\$1,260	\$1,460
Nonmember resident or intern	\$1,010	\$1,060	\$1,260
Nonmember student	\$810	\$860	\$1,060

\* The AAO's associate members, international affiliates and supporter members are entitled to register at the same fees as full members.

## Registration Form

### Viscerosomatic Release: A Systemic Model for Neuromusculoskeletal Medicine

Feb. 22-24, 2019

Name: \_\_\_\_\_ AOA No.: \_\_\_\_\_

Nickname for badge: \_\_\_\_\_

Street address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

- ☐ I am a practicing health care professional.  
☐ I am a resident or intern.  
☐ I am an osteopathic or allopathic medical student.

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

Credit card No.: \_\_\_\_\_

Cardholder's name: \_\_\_\_\_

Expiration date: \_\_\_\_\_ 3-digit CVV No.: \_\_\_\_\_

Billing address (if different): \_\_\_\_\_

I hereby authorize the American Academy of Osteopathy to charge the above credit card for the amount of the course registration.

Signature: \_\_\_\_\_

View the [AAO's cancellation and refund policy](#).

View the [AAO's photo and video release statement](#).



Register online at [www.academyofosteopathy.org](http://www.academyofosteopathy.org), or submit this registration form and your payment by email to [GWatts@academyofosteopathy.org](mailto: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.





# BRAIN THERAPY FOR NEONATAL REFLEXES & LIFELONG REFLEXES IN ADULTS AND CHILDREN

A Pre-Convocation Course • March 10-12, 2019 • Rosen Shingle Creek in Orlando

## 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](mailto:globallyyourstravel@cox.net).

## Course Director

**Bruno Chikly, MD, DO (France)**, is a graduate of the medical school at St. Antoine Hospital in Paris, where his internship in general medicine included training in endocrinology, surgery, neurology and psychiatry.

Dr. Chikly also has the French equivalent of a master's degree in psychology. In 2009, he received a doctorate in osteopathy from CROMON (Holistic Research Center for Osteopathic and Natural Medicine) and AIROP (Italian Association for Postural Occlusion Re-education) in Italy, and he is on the French National Registry of Osteopathy.

Dr. Chikly is an internationally renowned educator, lecturer and writer. He is the author of the book *Silent Waves: The Theory and Practice of Lymph Drainage Therapy*, as well as the creator of a DVD titled *Dissection of the Brain and Spinal Cord*, and he is working on a book about osteopathic manipulation and the brain. He lives in Scottsdale, Arizona, with his wife and partner, Alaya.



## Registration Fees

	On or before Jan. 17, 2019		Jan. 18 through Feb. 22, 2019 <sup>1</sup>	
	With Convo	Without Convo	With Convo	Without Convo
Save 10% when you register for the AAO's 2019 Convocation.				
Academy member in practice <sup>2</sup>	\$828	\$920	\$918	\$1,020
Resident or intern member	\$648	\$720	\$738	\$820
Nonmember practicing DO or other health care professional	\$1,098	\$1,220	\$1,188	\$1,320
Nonmember resident or intern	\$918	\$1,020	\$1,008	\$1,120

<sup>1</sup>Registrations received after Feb. 22 will be processed on-site, incurring a \$150 late fee. <sup>2</sup>The AAO's associate members, international affiliates and supporter members are entitled to register at the same fees as full members. This course is not appropriate for students.

## Registration Form

### Brain Therapy for Neonatal Reflexes & Lifelong Reflexes in Adults and Children

March 10-12, 2019

Name: \_\_\_\_\_ AOA No.: \_\_\_\_\_

Nickname for badge: \_\_\_\_\_

Street address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

☐ I am a practicing health care professional.

☐ I am a resident or intern.

☐ 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.

Credit card No.: \_\_\_\_\_

Cardholder's name: \_\_\_\_\_

Expiration date: \_\_\_\_\_ 3-digit CVV No.: \_\_\_\_\_

Billing address (if different): \_\_\_\_\_

I hereby authorize the American Academy of Osteopathy to charge the above credit card for the amount of the course registration.

Signature: \_\_\_\_\_

View the [AAO's cancellation and refund policy](#).

View the [AAO's photo release statement](#).



Register online at [www.academyofosteopathy.org](http://www.academyofosteopathy.org), or submit this registration form and your payment by email to [GWatts@academyofosteopathy.org](mailto: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.



# FASCIAL DISTORTION MODEL—BEYOND THE BASICS: Osteopathy and FDM moving forward together!

A Pre-Convocation Course • March 10-12, 2019 • Rosen Shingle Creek in Orlando

## 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

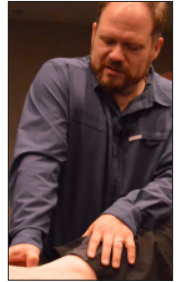
**Rosen Shingle Creek**, 9939 Universal Blvd., Orlando, FL 32819  
[Make your hotel reservations online now.](#) To make your reservations by phone, call 1-866-996-6338 and use booking code 35809.

## Travel Arrangements

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

	On or before Jan. 17, 2019		Jan. 18 through Feb. 22, 2019 <sup>1</sup>	
<i>Save 10% when you register for the AAO's 2019 Convocation.</i>	With Convo	Without Convo	With Convo	Without Convo
Academy member in practice <sup>2</sup>	\$828	\$920	\$918	\$1,020
Resident or intern member	\$648	\$720	\$738	\$820
Student member	\$378	\$420	\$468	\$520
Nonmember practicing DO or other health care professional	\$1,098	\$1,220	\$1,188	\$1,320
Nonmember resident or intern	\$918	\$1,020	\$1,008	\$1,120
Nonmember student	\$648	\$720	\$738	\$820

<sup>1</sup>Registrations received after Feb. 22 will be processed on-site, incurring a \$150 late fee. <sup>2</sup>The AAO's associate members, international affiliates and supporter members are entitled to register at the same fees as full members.

## Registration Form

### Fascial Distortion Model—Beyond the Basics: Osteopathy and FDM moving forward together!

March 10-12, 2019

Name: \_\_\_\_\_ AOA No.: \_\_\_\_\_

Nickname for badge: \_\_\_\_\_

Street address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

- ☐ 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.

Credit card No.: \_\_\_\_\_

Cardholder's name: \_\_\_\_\_

Expiration date: \_\_\_\_\_ 3-digit CVV No.: \_\_\_\_\_

Billing address (if different): \_\_\_\_\_

I hereby authorize the American Academy of Osteopathy to charge the above credit card for the amount of the course registration.

Signature: \_\_\_\_\_

View the [AAO's cancellation and refund policy](#).

View the [AAO's photo release statement](#).



Register online at [www.academyofosteopathy.org](http://www.academyofosteopathy.org), or submit this registration form and your payment by email to [GWatts@academyofosteopathy.org](mailto: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.



# VISCERAL LYMPHATICS

A Pre-Convocation Course • March 10-12, 2019 • Rosen Shingle Creek in Orlando

## 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](mailto:globallyyourstravel@cox.net).

## 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.



Registration Fees	On or before Jan. 17, 2019		Jan. 18 through Feb. 22, 2019 <sup>1</sup>	
	With Convo	Without Convo	With Convo	Without Convo
Save 10% when you register for the AAO's 2019 Convocation.				
Academy member in practice <sup>2</sup>	\$751.50	\$835	\$841.50	\$935
Resident or intern member	\$571.50	\$635	\$661.50	\$735
Student member	\$301.50	\$335	\$391.50	\$435
Nonmember practicing DO or other health care professional	\$1,021.50	\$1,135	\$1,111.50	\$1,235
Nonmember resident or intern	\$841.50	\$935	\$931.50	\$1,035
Nonmember student	\$571.50	\$635	\$661.50	\$735

<sup>1</sup> Registrations received after Feb. 22 will be processed on-site, incurring a \$150 late fee. <sup>2</sup> The AAO's associate members, international affiliates and supporter members are entitled to register at the same fees as full members.

## Registration Form

### Visceral Lymphatics

March 10-12, 2019

Name: \_\_\_\_\_ AOA No.: \_\_\_\_\_

Nickname for badge: \_\_\_\_\_

Street address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

- ☐ I am a practicing health care professional.  
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# Component Societies and Affiliated Organizations

## Calendar of Upcoming Events

**Jan. 17-20, 2019**

Osteopathy's Promise to Children

***The Power of the Natural Autoregulation System of a Human Body and the Role of Stress and Emotion on Balance and Health: The Key to Practice Osteopathy for Adults And Children***

Course director: Philippe Druelle, DO (F-Qc), DScO  
Osteopathic Center San Diego  
No CME credits anticipated.

Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

**Feb. 8-10, 2019**

Florida Academy of Osteopathy

***Techniques of the Osteopathic Masters Course—Techniques for the Body***

Course director: Michael Hadley, DO  
Florida Hospital East Orlando

20 credits of AOA Category 1-A CME anticipated

To learn more or register, call Lisa Belliveau at 727-581-9069.

**Feb. 14-17, 2019**

Osteopathy's Promise to Children

***Advanced Explorations in Pediatric Osteopathy: Innovative Healing Approaches***

***to Support Rapid Transformation in the Child***

Course director: Shawn K. Centers, DO, MH, FACOP  
Osteopathic Center San Diego

20 credits of AOA Category 1-A CME anticipated

Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

**March 1-2, 2019**

Osteopathy's Promise to Children

***Integrated Osteopathic Dental Team: Expanding the Integrative Team Approach to Sleep Disturbances***

Course directors: Julie Mai, DO, and Darick Nordstrom, DDS  
Osteopathic Center San Diego

16 credits of AOA Category 1-A CME anticipated

Learn more and register at [the-promise.org/cme/](http://the-promise.org/cme/).

**April 3-7, 2019**

American Osteopathic Association  
of Prolotherapy and Regenerative Medicine

***Spring 2019 Prolotherapy and Cadaver Lab***

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

***Intermediate Cranial Course:***

***Expanding the Osteopathic Concept Beyond the Basics***

Course directors: 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/).

**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.