In the clinical practice article that starts on page 7, the authors describe a new application for Still technique to correct an upslipped innominate somatic dysfunction.
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in teaching, promoting, and researching the science, art, and philosophy of osteopathic medicine, with the goal of integrating osteopathic principles and osteopathic manipulative treatment in patient care.

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Leslie M. Ching, DO, program chair
Oct. 7-10, 2017
Philadelphia Convention Center

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Among the speakers are Kendi L. Hensel, DO, PhD; Kimberly J. Wolf, DO, FACOP; Lisa E. Hart, DO; and Ava C. Stanczak, DO, FAAP, FACOP. In addition, Kenneth J. Lossing, DO, will deliver the annual Thomas L. Northup Lecture. Dr. Lossing was the AAO’s 2014-15 president, and he has practiced osteopathic manipulative medicine in northern California for more than 20 years.

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The AAO Forum for Osteopathic Thought

Tradition Shapes the Future • Volume 27 • Number 2 • September 2017

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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# AAO Calendar of Events

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

## 2017–18

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Health care has become big business, and health care systems have expanded by buying private practices, hospitals, laboratories, and imaging centers. These corporations are the only option that some patients have if the coverage area is dense and vast. This has become useful as a large number of physicians utilize the same electronic health record system to capture metric data and apply sweeping public health initiatives; however, this has also led to an increase in administration layering and oversight. This, in turn, has at times placed the needs of the administration above those of the patients and physicians and is removing the empathy and humanism from the medical profession.

After working as a musician, a landscaper, and a construction worker, I went to college at the age of 23. I graduated *cum laude* from Stony Brook University’s Honors College in New York with a bachelor’s degree in physical chemistry. Despite this, when I met with the premedical adviser, he told me I was too old and had no chance of getting into medical school. He refused to write my pre-med application letter. He was the first in a line of small-minded bureaucrats lining up to hold me back.

I succeeded in medical school, served as OMM/Anatomy fellow and went on to get 3 board certifications. Like many of us, I have sacrificed much to get where I am, which is why I take Godzilla-sized offense by being downgraded to a *provider or practitioner* and when middle-management rubes condescendingly explain the realities of medicine as if they ever had to work with patients.

We, physicians, and in particular osteopathic physicians, are a very special group. We are important to our patients, to our hospitals, and to the future of medical policy. We are the fuel that drives the engine of medicine and generates the lion’s share of the funds that pay for the swelling overhead of running a hospital, office, etc. At staff meetings or retirement speeches, we hear about noble sacrifices, and are praised for commitment to our patients, yet at other times we need to “get in line” and get treated like errant children.

I don’t blame the systems, or the administration for this trend; I blame us. We have been complicit in our own diminishment. We have allowed our own importance to decline, and we have passively watched as these behemoth health care systems have swelled. We have stood by and watched as institutional rules have removed many of the choices that used to be the providence of the doctor–patient interaction.

We have done what we were told, been flexible for the sake of the team, and what we got was increased administrative staff-to-physician ratios, less pay, and more administrative burden hoisted upon us.

"Without deviation from the norm, progress is not possible."

—*Frank Zappa*'

But all is not lost. We can still regain our collective *amour propre* and take our place once more as the leaders of health care as a group that still commands high levels of respect from the public. I propose:

1. When we make decisions with our patients as the priority, we will tend to choose the right course.
2. Outside of work, we become our patient and keep focused on what *that* patient needs. We must leave the constant patient insurgency behind so that we can maintain ourselves and reclaim our personal power.
3. We engage in fitness and develop interest areas that allow us to vent all the sadness, misery, frustrations, and intensity that is woven into our daily existence. In short, we become the example our patients will want to follow.

I am proud to be an osteopathic physician, and I feel the power and the distinction of what we do, stretching back to the 19th century and rocketing into the 21st century. I imagine all the osteopaths who fought for rights that we now take for granted are beside me when I treat my patients.

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A Still Technique to Correct Upslipped Innominate Somatic Dysfunctions

José S. Figueroa, DO, FAOCPMR, FAAPMR, and Allison M. H. Juba, DO

Abstract
Various techniques to address an upslipped innominate have been previously described in the literature, though none have illustrated a single Still technique to correct this dysfunction. This article describes the diagnosis of an upslipped innominate and correcting it by applying a Still technique.

The importance of addressing upslipped innominates is included, as well as a discussion on additional somatic dysfunctions that might make upslipped innominates difficult to resolve.

Introduction
Somatic dysfunctions of the innominate include pubic dysfunctions, innominate rotations, innominate flares, and innominate shears. A superior innominate shear, also referred to as an upslipped innominate, involves the superior shearing of one innominate bone along the sacroiliac joint. This somatic dysfunction is an important aspect of pelvic somatic dysfunctions that should be addressed to fully resolve the innominates.

There are multiple causes of upslipped innominates, and patients may or may not be able to pinpoint the exact cause. Traumatic events such as a sudden transfer of weight to an outstretched leg, falling onto one ischial tuberosity, or stepping into a hole can all cause the innominate to shear upward. Less traumatic activities also can contribute, like asymmetric weight bearing on one leg for a prolonged time, upward shear on the side of a shoe lift, a leg length discrepancy causing the long leg to shear superiorly, or a mechanical gait disturbance like a limp or a Trendelenburg gait from a weak gluteus medius or minimus.

Addressing upslipped innominate dysfunctions is an important aspect of providing osteopathic manipulative treatment (OMT). An innominate shear is one of the 6 somatic dysfunctions associated with failed lower back pain syndrome, referred to as the “dirty half dozen.” Philip E. Greenman, DO, determined that treating the dirty half dozen in patients with lower back pain who were disabled had 75% return to full employment and activities of daily living. Additionally, an upslipped innominate can cause associated sacroiliac pain, pelvic pain, and hip pain. It also makes the entire pelvis unlevel, thereby creating a functional scoliosis which could contribute to upper back, neck, and head pain.

Previously described techniques for an upslipped innominate include muscle energy (ME); high-velocity, low-amplitude (HVLA); and a 3-step Still technique. According to Richard L. Van Buskirk, DO, a Still technique treatment for an upslipped innominate requires applying the technique at each of the three restriction poles of the sacroiliac joint. If only one of the poles is addressed, the dysfunction would persist in both motion restriction and patient’s symptoms. According to Van Buskirk, the first step of the treatment addresses the middle pole. The second and third steps are the anterior and posterior innominate rotation treatments, which address the inferior and superior sacroiliac poles respectively. Up to this point, no single treatment using the Still technique had been found to completely resolve an upslipped innominate.

This article describes a treatment approach for an upslipped innominate using the Still technique. The technique was created using the basic principles of a Still technique, which involve taking

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the joint or tissue toward its position of ease, introducing a vector force from another site on the body that couples with the restricted tissue, carrying the tissue through its range of motion towards and through the restriction, and then returning the tissue to neutral and reassessing the tissues for resolution in the dysfunction. In simple terms, the joint is taken into an indirect position toward its position of ease, compression is added, and then the joint is taken through its range of motion into a direct position through its restrictive barrier. The direct position for an upslipped innominate was obtained from TeePorten’s HVLA technique as well as a muscle energy treatment from the Atlas of Osteopathic Techniques, which are direct techniques. The indirect position was then inferred to be the opposite of the direct position. A vast number of upslipped innominate somatic dysfunctions have been thoroughly resolved with this treatment.

Methods

Diagnosing an upslipped innominate
The literature shows various ways of diagnosing an upslipped innominate. Foundations of Osteopathic Medicine suggests that the anterior superior iliac spine (ASIS), posterior superior iliac spine (PSIS), and pubic ramus should all be more superior on the side of the positive standing flexion test and positive ASIS compression test. According to Greenman, the ASIS, PSIS, ischial tuberosity, and medial malleolus should be superior on the side of the positive standing flexion test, as well as finding laxity in the sacrotuberous ligament on the side of the upslipped innominate. Van Buskirk suggests that the PSIS and ASIS are superior on the side of the positive standing flexion test and positive ASIS compression test, but he also suggests that there would be an ASIS tender point, described by Jones, present on the side of the dysfunction.

To determine the side of an innominate somatic dysfunction, either the standing flexion test or ASIS compression test can be used. Because the standing flexion test can occasionally show false-positi-
The clinician stands by the table on the side of the upslipped innominate. An initial, gentle leg tug is performed on the side of the dysfunction to assess for pain during the procedure. If pain is present, a different technique should be considered as this technique should not be painful in any way.

On the side of the dysfunction, the patient’s knee is flexed to approximately 90 degrees while the thigh is adducted and externally rotated by bringing the foot toward the midline. See Figure 2. This adduction and external rotation achieves the indirect position as determined by reversing the direct position noted in other literature.6,7 A slight compression is applied at the knee through the femur, thereby pushing the dysfunctional innominate superiorly. See Figure 3.

Next, in a circumduction motion, the thigh is abducted to approximately 30 degrees and internally rotated by bringing the foot away from midline. See Figure 4. This abduction and internal rotation achieves the direct position. Compression is maintained throughout this circumduction. The knee is then extended while the hands slide down the lower leg closer to the distal tibia. Once the knee is fully extended, a firm but brisk leg tug is performed to bring the upslipped innominate inferior. This leg tug can be done with a low-velocity, moderate-amplitude (LVMA) force or with an HVLA force. See Figure 5.

Re-evaluating the patient
The leg is brought back to the neutral position and the innominate is re-evaluated. The landmarks used to diagnose the upslipped innominate as well as the ASIS compression test should be reassessed to ensure that the dysfunction has resolved.

Discussion
The technique described above is very effective in correcting upslipped innominates thoroughly, particularly after correcting innominate rotations and pubic dysfunctions if present. Even after waiting a period of time after the technique has been performed effectively, the upslipped innominate does not appear to recur. One benefit of using a Still technique is that it does not require effort from the patient like muscle energy or HVLA treatments, thereby making it useful in patients who have difficulty following directions or in patients with low vitality so as not to expend an excessive amount of energy.

Relative contraindications to this treatment are few but important to consider. First, a thorough history must be obtained to determine if the patient has any history of hip or knee replacements

(continued on page 10)
or surgeries. If a hip replacement has occurred on the side of the upslip, additional techniques should be considered that do not require a leg tug. If the knee has been replaced, the tug can be applied by pulling on the distal femur, not the tibia. Additionally, on the test leg tug before performing the treatment, if the patient has any pain or discomfort, a different technique should be performed as this technique should cause no pain.

Side effects of this treatment may include post-treatment soreness, reduction in symptoms, and improved range of motion. Additionally, if the innominate has been upslipped for a long period of time, it is possible that patients may feel as though their gait has been altered, but this will improve over time.

There are a few reasons why an upslipped innominate may not correct fully or may recur with any of the upslipped innominate techniques. Strained or tight ipsilateral quadratus lumborum and ipsilateral tight latissimus dorsi muscles can hold the innominate in an upslipped position because of their attachments to the posterior iliac crest. Additionally, an inhalation somatic dysfunction at rib 12 can hold the innominate superior because the superior shift of rib 12 will hold tension on the quadratus lumborum, thereby keeping the innominate sheared superiorly as well. Sacral dysfunctions also can impact the innominates because of the attachments at the sacroiliac joint. If all of these dysfunctions are addressed and the upslipped innominate technique has been performed successfully but the landmarks remain superior on one side, a small hemipelvis and short leg should be considered.

Conclusions

Upslipped innominates are an important aspect of pelvic dysfunction that can be overlooked as a cause for patients’ symptoms. Applying the Still technique as described above is effective in resolving upslipped innominates, and it has few contraindications.

References


For information on terminology used in The AAO Journal, see the Glossary of Osteopathic Terminology developed by the American Association of Colleges of Osteopathic Medicine’s Educational Council on Osteopathic Principles.
Abstract
Myofascial pain syndrome (MPS) has been well documented to cause or contribute to chronic pain conditions and may go undiagnosed or ineffectively managed for years. Additionally, MPS and trigger points (TrPs) are found commonly in cases of nerve injury such as radiculopathy.

In the present case report, a 48-year-old man with chronic neck pain radiating into left shoulder and arm, upper back, chest pain, and headaches with possible nerve injury was found to have myofascial trigger points related to his condition. An osteopathic manipulative treatment (OMT) approach was utilized to provide relief from the chronic and complex pain condition.

Background
MPS has been well documented in the pioneering research and literature of Travell and Simons as a cause for significant and undertreated pain throughout the body. Treatment approaches for the characteristic TrPs thoroughly detailed in the literature include trigger point injections (or dry needling), ischemic compression, and spray and stretch. Despite the well-established classic approaches for treatment, many patients suffer unnecessarily due to “unrecognized, misdiagnosed, and mistreated” TrPs.

Osteopathic physicians have an enhanced skill set with the training to appreciate, appropriately diagnose, and effectively address TrPs. Appreciating the effects of somatic dysfunction on the body and the reflexive correlation of somatic dysfunction with medical conditions are core components of the osteopathic philosophy. Additionally, core skill sets include the ability to diagnose tissue alterations through palpation (tenderness, tissue texture changes, asymmetry, restrictions)—also known as somatic dysfunction—and effectively resolving these dysfunctions with OMT. Training in osteopathic medicine therefore provides a distinct and useful skill set with which to approach treating patients with TrPs.

The purpose of the present report is to provide an osteopathic manipulative medicine (OMM) approach for managing somatic dysfunctions associated with MPS TrPs. Treating somatic dysfunctions associated with MPS TrPs can provide excellent relief of acute and chronic conditions, and it can be an extremely beneficial treatment approach with or without the need to utilize TrP injections.

Report of Case

History of Present Illness
A 48-year-old man presented to the OMM clinic at the Des Moines (Iowa) University Tower Medical Clinic with a greater than 10-year history of neck pain radiating into the left shoulder, upper back, across his chest, and down to the left forearm (Figure 1). The patient described the pain as constant, dull, and aching to throbbing. On his initial visit, he reported the pain was a 6 out of 10 but that it varied from 2 to 8 out of 10.

In addition, the patient described weakness and difficulty moving his left arm. No specific injury was identified. He also reported headaches with pins and needles spreading to the entire face that were diagnosed by his neurologist as atypical migraines. Function-
ally, the patient’s pain limited his ability to lift over his head or use the left arm.

Full cardiac evaluations in 2000 and 2008 were non-contributory. The patient previously received chiropractic treatment and found some temporary relief of symptoms. A magnetic resonance image (MRI) of the cervical spine in 2004 demonstrated mild spondylosis. He reported a bad fall on the ice many years ago and a motor vehicle collision in 2002 where he was rear-ended, but he did not feel these incidents were related to his symptoms.

Medical History
The patient’s medical history was remarkable for elevated cholesterol, gastroesophageal reflux disease, and type 2 diabetes with a recent HgA1C 7.2. His medications included rosuvastatin, metformin, glipizide, lisinopril, omeprazole, and aspirin.

Review of Systems
The patient’s review of systems was remarkable for a mild concussion suffered in 1969.

Physical Examination
The patient’s vital signs were stable, and his gait was normal. A neurologic exam revealed deep tendon reflexes (DTR) 2 out of 4 in the bilateral biceps, brachioradialis, patella, and Achilles tendon. Reflex response in the bilateral triceps was symmetric at 1 out of 4.

Sensation was abnormal with decreased light touch in the left C5, right C6, and left C7 dermatomes. Pain-inhibited weakness was noted in the left shoulder abductor muscles (C5). Painless weakness was noted in the left abductor digit minimi (C8, T1) and first dorsal interosseus (T1). Otherwise, full strength was noted in the lower limbs.

Focal osteopathic structural exam revealed a significant head forward posture with exaggeration of the cervical lordosis and upper thoracic kyphosis. Muscle tightness with active myofascial trigger points was found in the left upper trapezius, sternocleidomastoid, serratus posterior superior, and pec minor muscles. Examination findings were otherwise unremarkable.

Medical Decision-Making
After the patient’s presentation and the examination findings were evaluated, the assessment was discussed. Although the neck and left upper extremity symptoms could be entirely related to myofascial pain syndrome, as trigger points can be secondary to nerve injury, the clinicians felt it was warranted to obtain MRI of the cervical spine. In addition, the headaches and face paresthesias diagnosed as atypical migraines could also be related to the myofascial trigger points.

Recommendations
MRI of the cervical spine was recommended to rule-out neurogenic causes such as radiculopathy for the patient’s condition. OMM was discussed, and three appointments were scheduled on a weekly basis for a trial of treatments. In addition, the patient was scheduled separately for myofascial trigger point evaluation and possible trigger point injections.

First Treatment
The first follow-up visit occurred 1 week later, and the MRI of the cervical spine was still pending. The patient received an osteopathic structural exam which revealed reduced range of motion of the cervical spine in right sidebending and bilateral rotation. Evaluation of the patient in the supine position revealed the following somatic dysfunctions: thoracic inlet (SB₁, R); occipitotactlantal joint ([OA], ES₅R₇); posterior left third rib; and muscle tightness with tender points in the bilateral sternocleidomastoid, bilateral upper trapezius, and left levator scapula. The patient’s somatic dysfunctions were addressed with strain-counterstrain, muscle energy, and Still principle techniques (thoracic inlet and posterior third rib).

Treatment resulted in improved range of motion and was without complications. The patient reported he was virtually pain free for almost the entire week leading to the next follow-up visit. He also reported resolution of the numbness, tingling, and weakness.

(continued from page 11)

Figure 1. Pain diagram on initial visit intake form. Legend: ▲ ▲ ▲ = aching; /// = stabbing; ### = weakness.

(continued on page 13)
Second Treatment
Follow-up evaluation occurred 7 days after the first treatment. Some pain returned in the left upper trapezius region, 2 out of 10 (Figure 2). The patient attempted to have the MRI performed but could not tolerate the procedure due to severe claustrophobia.

The osteopathic structural examination revealed new and recurring somatic dysfunctions, including thoracic inlet (SB₁₅, R₁₅), OA (ES₅₇, R₅₇), AA rotated right, C₄ FRS₅₇, and muscle tightness with tender points in the left sternocleidomastoid, bilateral upper trapezius, and left levator scapula. The patient’s somatic dysfunctions were addressed with strain-counterstrain, muscle energy, and Still principles (thoracic inlet).

Self-stretch exercises were explained to the patient with demonstrations and handouts provided. In light of his claustrophobia and significant symptomatic improvement, it was decided to put the MRI on hold.

Additional Treatment
Scheduled trigger point evaluation occurred 7 days after the second OMT treatment. Some pain returned 5 days after OMT in the left upper trapezius region, 1 to 2 out of 10. No facial paresthesias were reported since initiating OMT, but some vertex headache persisted. The myofascial evaluation revealed active trigger points in the left upper trapezius and left sternocleidomastoid.

After consent was obtained, needling technique and post-needling injection of 0.5% lidocaine were applied to the trigger points. Aftercare instructions included heat and gentle, maximum isolation static stretches 3 times each day to the injected muscles.

Follow-up
By a 12-month follow-up, the patient had been treated with OMT on 11 visits. His neck and upper quarter pain had become much more focal, and the patient reported the pain was 2 out of 10. He tolerated exercising 5 days a week in a local fitness program, and he continued to perform his home stretches as needed.

Discussion
Neck pain is one of the most common conditions presenting to primary care as well as musculoskeletal specialists from multiple fields of medicine. This case presented a patient with long-standing neck pain with referral to his upper limb, head, and upper thorax.

In addition, his neurologic examination abnormalities raised the concern for a possible primary neurologic condition causing his symptoms. Despite the inability to obtain an MRI, safe and effective OMT was provided, resulting in significant relief.

Trigger point injections may or may not have been necessary to obtain maximum resolution of his symptoms. The patient was counseled on treatment options, and considering the duration this patient had been suffering with his condition, he was eager to move toward the injections sooner.

Tight muscles which developed into active trigger points appeared to be a significant contributor to his symptoms. OMT can be significantly beneficial for patients with myofascial pain. Indirect techniques (such as counterstrain), through reduction of abnormal afferent impulses to the spinal cord, present a means of reducing the tone in muscles and can be utilized to inactivate trigger points. Following effective techniques to reduce the abnormal muscle tone, manual stretches can be utilized to help restore the muscle fibers to their normal length and transition into a self-stretching regimen.

In addition, trigger points can be better treated when correcting related somatic dysfunctions. This includes addressing the “strain” or increased tension in the muscles, the articular regions associated with the involved muscle, and the spinal segmental levels of neurologic innervation to the involved muscle. Education on daily self-stretches to further maintain the effects of OMT (reduced tone and lengthened muscles) helped provide the patient with a tool to manage his condition.

Conclusion
MFP TrPs cause painful conditions for patients which can go undiagnosed or can be ineffectively treated by health care providers.
OMT works especially well with patients who are diagnosed with myofascial trigger points. OMT can be utilized to clear-up contributing somatic dysfunctions and more acute myofascial trigger points, and it can be utilized to complement the injection of more chronic or severe myofascial trigger points.

The present case demonstrates the potential for OMT to safely and effectively provide relief from a chronic and complex pain condition, even in the presence of red-flag findings where the recommended diagnostic imaging was unable to be performed.

References

Thank you for allowing me to serve as editor of The AAO Journal. It has been an honor and a privilege that I will cherish.

Reference
Abstract
Sinding-Larsen–Johansson syndrome (SLJ) is an overuse injury most commonly seen in young male athletes. It is an osteochondrosis of the distal patella, secondary to excessive traction caused by the extensor mechanism. This case details treatment of a 10-year old boy diagnosed with SLJ who showed marked improvement after utilizing a new osteopathic manipulative treatment technique. This technique incorporates the use of myofascial release along acupuncture meridians to improve function and decrease healing time. The authors consider this case worthy of reporting due to the immediate improvement of the patient secondary to manipulation, and the ability for the athlete to continue activity despite the diagnosis. This case suggests potential for increased utilization of the technique as a concomitant treatment to those modalities already being practiced.

Background
Sinding-Larsen–Johansson syndrome (SLJ) is named after Swedish surgeon Sven Christian Johansson (1880-1959) and Norwegian physician Christian Magnus Falsen Sinding-Larsen (1866-1930) who independently described the same disease process in the early 1920s.1 SLJ syndrome is an overuse injury most commonly seen in male athletes between the ages of 10 and 14.2 It is described as an osteochondrosis, or apophysitis, of the distal patella secondary to excessive traction caused by the extensor mechanism. This condition is often grouped under the general classification of “jumper’s knee.”3 The force of the quadriceps—directed through the quadriceps tendon—causes the patellar tendon to distract the distal portion of the incompletely ossified patella (which is still partially cartilaginous at this age). This mechanism, in conjunction with rapid growth spurts in this age group, creates an environment that encourages excessive stress on the patella and patellar tendon. This is the same mechanism responsible for Osgood-Schlatter disease; however, in Osgood-Schlatter disease, there is an osteochondrosis at the tibial tuberosity (Figure 1).4

Injury occurs with repetitive overuse of these structures. In most cases, diagnosis of SLJ syndrome should be made based on history and physical exam. Patients present complaining of knee pain located at the junction of the inferior patellar pole and the proximal patellar tendon. History typically will not involve any significant history of trauma or injury to the affected knee. Activities involving the above-mentioned extensor mechanism, such as running, jumping, and kneeling, will cause pain. Pain also will be reproducible with palpation at the inferior pole of the patella. All other physical exam findings will be negative. Additionally, radiographic imaging may reveal calcification of the patellar tendon at the junction of the inferior pole of the patella. However, the absence of this finding does not necessarily rule out SLJ syndrome. Some sources recommend ultrasonography as the primary modality for visualizing Sinding-Larsen–Johansson syndrome.5 Ultrasound findings would include thickening and heterogeneity of the posterior fibers of the proximal patellar tendon at the patellar attachment location, as well as focal regions of hypoechogenicity due to small tears in the patellar tendon.1 These same sources note that MRI may also be used; however, this recommendation is reserved to diagnostically rule out more severe conditions (ie, avulsion fractures, osteocho-
dral defects, etc.), as opposed to ruling in Sinding-Larsen-Johansson syndrome. MRI findings consistent with SLJ include patellar tendon thickening with high signal (on T2 & Short T1 Inversion Recovery [STIR]) within the patellar tendon and at the inferior pole of the patella.1

Approaches to treat these patients are generally conservative in nature with surgery being the exception in rare cases. In those cases, surgical reattachment of the tendon would be indicated if continued overuse led to complete tendon avulsion from the growth plate. However, this is generally avoided since a vast majority of patients respond well to relative rest, ice, nonsteroidal anti-inflammatories, and neoprene knee sleeves. Symptomatic resolution has been noted to occur in 3 to 12 months5 with return to full activity.

Report of Case

Patient History

A 10-year-old boy presented to the office complaining of diffuse right knee pain. The pain began one month prior, becoming more painful over the previous 2 weeks. It was insinuated that this was due to his increased athletic workload, which now included both soccer and basketball. His primary complaints of knee pain were localized to the distal femur and proximal tibia of the right lower extremity. He described the pain as a dull ache, which escalated up to a sharp pain as his workout became more intense. The pain was only present when exercising, and it was relieved within 5 minutes of activity cessation.

The patient’s pain level at the visit was a reported 7 out of 10. His father noted that the pain seemed worse when running and jumping on the hardwood floor during basketball. He denied any mechanism of injury or trauma to the knee. He denied any swelling, radiation, or pain with ambulation or pain at rest. He also denied the use of ice or any over-the-counter medications. At the time of the visit, he had reduced his basketball activities to walking and shooting, although he was still actively playing soccer twice a week. He reported that he tolerated his new athletic load; however, he was concerned that he was unable to play basketball to his full potential.

Evaluation

Objectively, the patient’s vitals all were within normal limits, with a blood pressure of 108/60, respirations 18, pulse 70, temperature 98.0°F orally, weight 69.4 pounds and a height of 4 feet, 6 inches. He was alert and oriented, and he presented in no acute distress. On auscultation, he had a regular rate and rhythm with no mur-
murs. His lungs were clear bilaterally in all fields with no retractions. His musculoskeletal exam began at the pelvis, which revealed positive right-sided Stork (Gillet), right-sided standing and right-sided seated flexion tests. Concurrently, he had a superior right anterior superior iliac spine (ASIS) and superior right posterior superior iliac spine (PSIS), resulting in a right-sided pelvic up-slip.

The patient’s lower extremities revealed a functionally short right leg, consistent with the right pelvic up-slip. This was diagnosed after finding a cephalad right medial malleolus when compared to the contralateral side. Also present were bilateral tibial torsions with the right side worse than the left, resulting in right in-toeing. This finding was exaggerated when examined with ambulation.

The patient was tender to palpation at the inferior aspect of patella, medial joint space, distal iliotibial band, distal hamstrings (in the muscle belly of the distal one-third of the biceps femoris), and distal quadriceps femoris (in the muscle belly of the distal one-third), with no pain over quadriceps tendon. Additionally, the patient was tender to palpation with tender points located at the medial and lateral calcaneal-plantar fascial aponeurosis. He was found to have equal and full active and passive range of motion of knee and hip.

There was no increase in knee joint laxity when compared with contralateral side. Specialized tests of the knee, including Lachman’s, anterior and posterior drawers, patellar grind, McMurray, and Apley grind were all negative. Lastly, the patient’s gait and station were analyzed, revealing a normal station and natural gait, with no antalgic components and pes normal. His gait revealed positive in-toeing bilaterally, as well as a prolonged heel strike phase, which resulted in a heel drag bilaterally, with the right being worse than the left.

X-rays were obtained (Figure 2), and the radiologist’s report read: “No radiographic evidence for acute abnormality. Minimal irregularity associated with the inferior margin of the patella on the lateral view likely simply relates to incomplete ossification center. The remote possibility of Sinding-Larsen–Johansson syndrome is not entirely excluded.”

Diagnosis
The following diagnoses were applied to this patient: right knee pain secondary to Sinding-Larsen–Johansson syndrome, acute strains of the quadriceps and hamstring muscle bellies, and somatic dysfunction located at the pelvis and lower extremity. The plan was to use osteopathic manipulative treatment to improve his pain and function. He was evaluated in the supine and seated positions for

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somatic dysfunctions. He was then treated in the supine position using pelvic muscle energy and lower extremity myofascial release, with attention directed towards unwinding the fascial restriction located at the knee joint. To initiate this treatment, leg length discrepancies were first treated with muscle energy directed at the pelvis, resulting in resolution on recheck. At this time, observation of the patient as he was lying in the supine position revealed the bilateral in-toeing seen during the gait evaluation, which was presumed to be secondary to the myofascial restriction.

**Treatment**

**OMT Technique**

The manipulative technique used the spleen and bladder as a guide to treat the restrictive rotational patterns found on exam. Treatment was directed toward the medial side first, due to the direction of forefoot secondary to in-toeing. It was inferred from the forefoot rotation that this was also the direction of the more significant somatic dysfunction in the patient. Monitoring the medial point of restriction (spleen 4) with the caudal hand and the fascia of the right knee (spleen 9) with the cephalad hand, the meridian-based myofascial technique was applied (Figure 3A). As the clinician continued monitoring the 2 regions, the patient’s foot was sequentially inverted, knee flexed to 90 degrees, and hip externally rotated to 90 degrees. The arc of motion was completed by sequentially internally rotating the hip, evert. The foot, and extending the knee, thus returning the patient to a neutral position and completing the treatment. At this point, the point of restriction was re-evaluated and pain-free.

Following this initial treatment, a change was observed in the patient’s in-toeing when compared to its pre-treatment presentation. The patient became externally rotated on the treated (right) side, while remaining significantly internally rotated on the untreated (left) side. Treatment was then directed to the left side in the same manner. After treating both sides, it became obvious that the patient was now visibly out-toeing bilaterally, while still in the supine position.

Treatment was then repeated for the lateral fascial restriction using the same technique on both legs, except in reverse order (Figure 3B). This time, while the bladder points 63 and 39 were monitored, the foot was everted, knee flexed, hip internally rotated, and arc completed with external rotation, foot inversion, and knee extension to return the patient to a neutral position. Following this second treatment, the patient was able to lay supine with both feet pointing upwards with no rotation.

The treatment left the patient pain-free and able to walk without the in-toeing previously seen on physical exam. He also noted feeling decreased tightness in his gait. The patient was seen at the office for 2 more visits to reevaluate his knee pain. During these visits, he underwent additional treatments, noting increased improvement at both visits. He was then instructed to follow up as required, and he

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did not require any further visits. When this was discussed with the referring pediatrician, that physician relayed that the patient’s pain had completely resolved and that the patient had returned to his previous athletic participation level.

**Acupuncture Points**

As described above, the acupuncture meridians used were the bladder and spleen meridians (Figure 4). The bladder meridian is located on the lateral side of the lower extremity, and the spleen is located on the medial side of the lower extremity. This enabled the treatment to be directed to both sides of the knee for a more complete treatment. As previously mentioned, the distal and proximal points between the foot and the knee along the meridian were utilized to provide a myofascial release.

On the lateral side, treatment was directed at the acupuncture meridian between the distal point, bladder 63 (Jinmen), and the proximal point, bladder 39 (Weiyang). Jinmen, also known as Golden or Metal Gate, is located “on the lateral side of the foot, directly below the anterior border of the external malleolus, on the lower border of the cuboid bone.” Weiyang, or Supporting Yang, is located at “the lateral end of the popliteal transverse crease, on the medial side of the [biceps femoris] tendon.” Abnormalities along this meridian are responsible for stiff femoral and knee joints, due to tight musculature.

On the medial side, the spleen acupuncture meridian was used for the treatment. The distal point used was spleen 4, Gongsun (Grandfather Grandson), which is located “on the medial aspect of the foot, in the depression distal and inferior to the base of the first metatarsal bone.” Proximally, spleen 9, or Yinlingquan (Yin Mound Spring), is located “on the lower border of the medial condyle of the tibia [either] in the depression posterior and inferior to the medial condyle of the tibia [or] level with the tuberosity of the tibia [or] between the posterior border of the tibia and gastrocnemius muscle.” Abnormalities found along this meridian include an edematous knee with temperature changes to the area.

**Treatment Model**

The treatment described in this case study is directed towards the fascial restriction of the lower extremity. Acupuncture meridians helped guide the treatment location. This treatment was adopted from a technique described by John P. Tortu, DO, in which he uses acupuncture meridians to treat somatic manifestations of visceral dysfunctions. In one of his lectures, Tortu describes a case where a child was treated for jaundice. Using acupuncture meridians as a guide, Tortu monitored the liver as he directed his treatment to the right great toe. During this treatment, he describes a somatovisceral response along the liver meridian that presumably caused a release of the fascia surrounding the liver. According to Tortu, there was an immediate response involving the patient’s liver function (resolution of jaundice), quality of breathing and improvement of in-toeing. Simplified, this technique monitors a proximally restricted area (liver) while treating a distally restricted fascial point (great toe).

Following this model, it was hypothesized that this treatment could be adapted to treat musculoskeletal dysfunctions in the athletic population. Instead of using a proximal visceral point to direct the treatment, a proximal musculoskeletal area was chosen based on fascial restriction. Because the acupuncture meridians run through these regions, it stands to reason that treatment could be geared toward any site found proximally along the meridian.

In this manner, the restricted point on the foot was treated while the fascial restriction at the patient’s knee was monitored for palpation of a fascial release. In both cases, the resolution of in-toeing occurred at the same time as the resolution of the symptoms, giving evidence of the fascial restriction and its involvement in the symptoms experienced at the proximal restrictive location.

**Discussion**

The main goal of this manipulative technique was to myofascially treat a distal point along the acupuncture meridian to release a more proximal point—in this case, the points causing restriction at the knee. In using the technique, restrictions were utilized at point SP 4 and BL 63 to release SP 9 and BL 39 respectively. The concept implies that this could potentially be utilized at any acupuncture point along the same meridian. Tortu has had success with this when treating viscera from a distal location. There’s no reason to believe that there wouldn’t be continued success when treating myofascial restrictions in the same manner.

**Conclusion**

This technique may be safely used in all populations and for many conditions, but it works particularly well for treating fascial restrictions, including tissue rotations.

For the scope of this article and the age of the patient, discussions included the benefit in utilizing this technique in a pediatric athlete.

Firstly, in this age group, rotational dysfunctions are seen more frequently, including diagnoses such as tibial torsion, genu valgum, femoral anteversion and hip dysplasia. Secondly, in this particular age group, unnecessary irradiation is a concern.
This technique could be used diagnostically, as well as therapeutically, by removing an overlying and possibly obscuring myofascial component before ordering imaging. Retrospectively, x-rays in this patient likely could have been avoided if this approach were more generally used in screening and preliminary treatment for lower extremity athletic injuries.

Lastly, this technique is gentle enough to be used for all pediatric age ranges. It is an indirect technique which requires no force or increased pressure to the area of injury.

This is the only reported case utilizing this technique. Further evaluation and consideration for use of this modality would be beneficial moving forward. As mentioned above, this technique has only been reported in the pediatric population, although the techniques it is based on have been used extensively with all age ranges.

Acknowledgements
Special thanks to David Leslie, DO, and Mark Garcia, DO, for their assistance demonstrating and photographing this technique.

References
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This is to certify that I, ____________________________, (type or print name)
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Authors: Kevin David Valvano, DO, and Reddog Eitig Sina, DO, PhD


AOA Category 2-B credit may be granted for this article.

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

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1. Sinding-Larsen–Johansson (SLJ) syndrome is considered an apophysitis of the ___________.
   a. tibial tuberosity
   b. lateral patella
   c. distal femur
d. distal patella
e. superior patella

2. What treatment mechanism did the authors utilize via acupuncture meridians?
   a. HVLA
   b. myofascial release
c. trigger points
d. muscle energy
e. balanced ligamentous tension

3. In this case, treating SLJ via acupuncture meridians is appropriately utilized in pediatric athletes because _________.
   a. rotational restrictions are common.
b. they have shorter extremities.
c. no other osteopathic techniques work.
d. Their growth plates are closed.e. follow-up visits aren’t necessary.

4. What is the alternative name (classification) for SLJ?
   a. runner’s knee
   b. patellar avulsion
c. jumper’s knee
d. pediatric patella
e. patellar tendinosis

Below are the answers to The AAO Journal’s Spring/Summer 2017 quiz on the article titled “Imaging Evidence Demonstrating Effectiveness of Osteopathic Visceral Manipulation Techniques in Treating Pseudo-Obstruction” by Alicja Ignatowicz, DO, and Murray R. Berkowitz, DO, MA, MS, MPH.

1. c. According to papers cited by the authors, the epidemiology of constipation in North American adults is 12% to 19%.

2. b. Difficulties with defecation do not decrease with age.

3. c. Plain x-rays can usually rule out obstruction.

4. a. Acute pseudo-obstruction of the intestines has been associated with amyloidosis.
Course Description
This is a basic course in visceral manipulation. Attendees will explore traditional osteopathic concepts of ventral technique, modern concepts of visceral motion, “normalization” of visceral motion through fascial planes, and treating visceral mobility and motility. Emphasis will be placed on physical examination, functional anatomy, and the anatomical relationships between the diaphragms, viscera, autonomic nervous system, vascular flow and lymphatic drainage. Attendees will come away with improved confidence in physical examination, direct and indirect approaches to visceral manipulation, and an ability to integrate visceral (ventral) techniques with spinal (dorsal) and cranial approaches.

This is an intermediate level course.

Course Times
Friday and Saturday from 8 a.m. to 5 p.m.
Sunday from 8 a.m. to noon.

Continuing Medical Education
20 credits of AOA Category 1-A CME anticipated.

Meal Information
Morning coffee, tea and juice will be provided. Lunch will be provided Friday and Saturday. If you have any special dietary needs, contact AAO Event Planner Gennie Watts before Nov. 3.

Course Location
Rowan University School of Osteopathic Medicine
42 E. Lauren Rd., Stratford, NJ 08084

Travel Arrangements
Contact Tina Callahan of Globally Yours Travel at (800) 274-5975 or globallyyourstravel@cox.net.

Registration Fees

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View the AAO’s cancellation and refund policy.

View the AAO’s photo release statement.
During this course, attendees of all experience levels will learn techniques for palpating, diagnosing and treating patients with a variety of visceral dysfunctions.

Radiological research conducted in England, France and Germany during the last 20 years provides a basis for knowing what is normal, what is common, and what is pathological in the viscera. Studies using magnetic resonance imaging, computed tomography, ultrasound, x-ray and fluoroscopy have shown that dysfunctional viscera move less than healthy viscera. Studies are just beginning to cross-correlate osteopathic diagnosis, medical diagnosis, ultrasound diagnosis pre- and post-treatment.

Attendees will learn how to diagnose and treat dysfunctions in the thorax, abdomen and pelvis using motion testing, motility, arterial and venous systems, neurological systems, the lymphatic system and emotional connections.

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

**Course Times**
Friday and Saturday from 8:30 a.m. to 5:30 p.m.
Sunday from 8:30 a.m. to 3:30 p.m.

**Meal Information**
Morning coffee, tea and juice will be provided each day as will lunch. Notify AAO Event Planner Gennie Watts of any special dietary needs no fewer than seven days in advance.

**Course Location**
University of North Texas Health Science Center
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 (800) 274-5975 or globallyyourstravel@cox.net.

**Registration Fees**

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<td>Nonmember practicing DO or other health care professional</td>
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<td>Nonmember student</td>
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<td>$724</td>
<td>$874</td>
</tr>
</tbody>
</table>

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

**Registration Form**

Evidence-Based Visceral Manipulation
Dec. 8-10, 2017

Name: ____________________________ AOA No.: __________

Nickname for badge: ____________________________

Street address: ____________________________

__________________________________________

City: ____________________________ State: _____ ZIP: ______

Phone: ____________________________ Fax: ____________________________

Email: ____________________________

Click here to view the AAO’s cancellation and refund policy.

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

Signatures: ____________________________

Click here to view the AAO’s photo release statement.

Register online at www.academyofosteopathy.org, or submit this registration form and your payment by email to GWatts@academyofosteopathy.org; by mail to the American Academy of Osteopathy, 3500 DePauw Blvd., Suite 1100, Indianapolis, IN 46268-1136; or by fax at (317) 879-0563.
This is the first in a series of courses that the American Academy of Osteopathy (AAO) will be conducting to help MD students and graduates obtain the prerequisites for entering osteopathic-recognized residencies accredited by the Accreditation Council for Graduate Medical Education (ACGME). This course will also be valuable for DO and MD faculty in these residency programs.

In addition, osteopathic physicians who do not use osteopathic manipulative treatment (OMT) daily will find this course useful, as will other health care professionals with limited or no experience with manipulative techniques.

Through a combination of lectures and hands-on workshops, attendees will learn the basics of osteopathic manipulative medicine, which encompasses osteopathic tenets, palpatory diagnosis and OMT.

The curriculum includes lessons on muscle energy technique; thoracic spine technique; articulatory techniques; functional techniques; myofascial release; and high-velocity, low-amplitude thrust.

Course registration includes one copy of Greenman’s Principles of Manual Medicine, 5th edition.

**Course Times**

Thursday from 1 to 6 p.m.
Friday and Saturday from 8 a.m. to 6 p.m.
Sunday from 8 a.m. to 4 p.m.

**Continuing Medical Education**

28 credits of AOA Category 1-A CME anticipated.

**Meal Information**

Morning coffee, tea and juice will be provided Friday through Sunday, as will lunch. Notify AAO Event Planner Gennie Watts of any special dietary needs no fewer than seven days in advance.

**Course Location**

University of North Texas Health Science Center
Texas College of Osteopathic Medicine
3500 Camp Bowie Blvd., MET – 470 Lab
Fort Worth, TX 76107

**Registration Fees**

<table>
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<tr>
<th>Registration</th>
<th>On or before Nov. 9, 2017</th>
<th>Nov. 10, 2017 through Jan. 9, 2018</th>
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<td>$784</td>
</tr>
</tbody>
</table>

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

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

Signature: ____________________________

**Travel Arrangements**

Contact Tina Callahan of Globally Yours Travel at (800) 274-5975 or globallyyourstravel@cox.net.

**Registration Form**

Introduction to Osteopathic Manipulative Medicine
Jan. 25-28, 2018

Name: ____________________________ AOA No.: ____________

Nickname for badge: ____________________________

Street address: __________________________________________

_____________________________________________________________________________

City: __________________________________ State: ______ ZIP: ____________

Phone: ____________________________ Fax: ____________________________

Email: ____________________________

Click here to view the AAO’s cancellation and refund policy.

Register online at www.academyofosteopathy.org, or submit this registration form and your payment by email to GWatts@academyofosteopathy.org; by mail to the American Academy of Osteopathy, 3500 DePauw Blvd., Suite 1100, Indianapolis, IN 46268-1136; or by fax at (317) 879-0563.
Muscle energy technique consists of at least six different subtypes of technique all connected by patient cooperation contracting and relaxing muscles when instructed to do so. It is extremely gentle and versatile and can be used for acute, subacute and chronic musculoskeletal conditions. It can be used by physicians of all sizes, shapes, and strengths, utilizing balance and leverage to control the techniques.

Physicians attending this course will learn how to perform muscle energy technique and learn how to apply these technique to the management of headache, neck pain, acute torticollis, shortness of breath, respiratory pain, low back pain, osteoarthritis of the spine, and a number of other conditions.

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

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

Meal Information
Morning coffee, tea and juice will be provided each day. 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
The Pyramids, Building Three
3500 DePauw Blvd., Conference Rooms A and B (lower level)
Indianapolis, IN 46268

Travel Arrangements
Contact Tina Callahan of Globally Yours Travel at (800) 274-5975 or globallyyourstravel@cox.net.

Registration Fees

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<td>Student member</td>
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<td>Nonmember practicing DO or other health care professional</td>
<td>$1,050</td>
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<td>$1,300</td>
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<tr>
<td>Nonmember resident or intern</td>
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</tr>
<tr>
<td>Nonmember student</td>
<td>$650</td>
<td>$700</td>
<td>$900</td>
</tr>
</tbody>
</table>

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

Registration Form

Muscle Energy for the Total Body
April 20-22, 2018

Name: ____________________________ AOA No.: ____________

Nickname for badge: ____________________________

Street address: ____________________________

________________________________________________________________________

City: ____________________________ State: _______ ZIP: ____________

Phone: ____________________________ Fax: ____________________________

Email: ____________________________

Click here to view the AAO’s cancellation and refund policy.

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

Signature: ____________________________

☐ 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): ____________________________

Click here to view the AAO’s photo release statement.

Register online at www.academyofosteopathy.org, or submit this registration form and your payment by email to GWatts@academyofosteopathy.org; by mail to the American Academy of Osteopathy, 3500 DePauw Blvd., Suite 1100, Indianapolis, IN 46268-1136; or by fax at (317) 879-0563.
Melicien A. Tettambel, DO, FAAO, a leader in osteopathic obstetrics and gynecology, passed away on September 11, 2013, at far too young an age. She has, however, left a grand legacy for the osteopathic profession, and in particular, for the American Academy of Osteopathy (AAO). This selection of her published writings, carefully curated by Raymond J. Hruby, DO, MS, FAAODist., represents some of her best work.

Raymond J. Hruby, DO, MS, FAAODist, editor
88 pages

E-book at Amazon.com
Paperback at www.academyofosteopathy.org

AAO members save 10 percent at www.academyofosteopathy.org.

The Feminine Touch: Women in Osteopathic Medicine

Now a PBS documentary!

In 1892, Andrew Taylor Still did the unimaginable when he accepted women and men equally in his newly opened American School of Osteopathy. Thomas A. Quinn, DO, showcases some of the valiant women who rose above adversity to become osteopathic doctors in those early years, and includes prominent women osteopathic physicians up to the present time. The stories of their fight against the inequality of the sexes in medicine are intertwined with the struggles of Osteopathy to be accepted as a valid scientific practice, illuminating the innovative and determined individuals who helped osteopathic medicine develop into the flourishing profession it is today.

Thomas A. Quinn, DO
194 pages, paperback

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AAOJ Submission Checklist

Manuscript Submission
☐ Submission emailed to editoraaoj@gmail.com or mailed on a flash drive or CD to the AAOJ managing editor, American Academy of Osteopathy, 3500 DePauw Blvd, Suite 1100, Indianapolis, IN 46268-1136
☐ Manuscript formatted in Microsoft Word for Windows (.doc, .docx), text document format (.txt), or rich text format (.rtf)

Manuscript Components
☐ Cover letter addressed to the AAOJ’s editor-in-chief with any special requests (eg, rapid review) noted and justified
☐ Title page, including the authors’ full names, financial and other affiliations, and disclosure of financial support related to the original research or other scholarly endeavor described in the manuscript
☐ “Abstract” (see “Abstract” section in “AAOJ Instructions for Contributors” for additional information)
☐ “Methods” section
  • the name of the public registry in which the trial is listed, if applicable
  • ethical standards, therapeutic agents or devices, and statistical methods defined
☐ Four multiple-choice questions for the continuing medical education quiz and brief discussions of the correct answers
☐ Editorial conventions adhered to
  • terms related to osteopathic medicine used in accordance with the Glossary of Osteopathic Terminology
  • units of measure given with all laboratory values
  • on first mention, all abbreviations other than measurements placed in parentheses after the full names of the terms, as in “American Academy of Osteopathy (AAO)”
☐ Numbered references, tables, and figures cited sequentially in the text
  • journal articles and other material cited in the “References” section follow the guidelines described in the most current edition of the AMA Manual of Style: A Guide for Authors and Editors
  • references include direct, open-access URLs to posted, full-text versions of the documents, preferably to digital object identifiers (DOIs) or to the original sources
  • photocopies provided for referenced documents not accessible through URLs
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☐ For manuscripts based on survey data, a copy of the original validated survey and cover letter

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Financial Disclosure and Conflict of Interest
Authors are required to disclose all financial and nonfinancial relationships related to the submission’s subject matter. All disclosures should be included in the manuscript’s title page. See the “Title Page” section of “AAOJ Instructions to Contributors” for examples of relationships and affiliations that must be disclosed. Those authors who have no financial or other relationships to disclose must indicate that on the manuscript’s title page (eg, “Dr Jones has no conflict of interest or financial disclosure relevant to the topic of the submitted manuscript”).

Publication in the JAOA
Please include permission to forward the manuscript to The Journal of the American Osteopathic Association if the AAOJ’s editor-in-chief determines that the manuscript would likely benefit osteopathic medicine more if the JAOA agreed to publish it.

Questions? Contact editoraaoj@gmail.com.
Sept. 8-10, 2017
Indiana Academy of Osteopathy
The Bow and the Bowstring: From Postural Imbalance to Chronic Pain
Course director: Charles A. Beck, DO, FAAO
Course faculty: William Scott Nall, DO, and Thurman V. Alvey III, DO, FAAOASM
Village Osteopath in Noblesville, Indiana
24 credits of AOA Category 1-A CME anticipated
Learn more and register at www.indianaacademyofosteopathy.com.

Sept. 8-10, 2017
Michigan State University College of Osteopathic Medicine
Indirect, Functional Approach to Manual Medicine
Course directors: Harriet H. Shaw, DO, and Marcy Schlinger, DO
East Lansing, Michigan
22.5 credits of AOA Category 1-A CME anticipated
Learn more and register at www.com.msu.edu.

Sept. 9, 2017
Osteopathy’s Promise to Children
OMT for Systemic Disorders and Physiologic 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/.

Sept. 15-16, 2017
Philadelphia College of Osteopathic Medicine
Still Techniques for the Spine, Ribs and Pelvis: Addressing Key Dysfunctions and Diagnosing and Treating With Still Technique
Course director: David B. Fuller, DO, FAAO
Course faculty: Richard L. Van Buskirk, DO, PhD, FAAO
Philadelphia
12 credits of AOA Category 1-A CME anticipated
Learn more and register at www.pcom.edu.

Sept. 15-17, 2017
Northwest Academy of Osteopathy
Basic Percussion Vibrator Course
Course director: Richard W. Koss, DO
Downtown Portland Embassy Suites in Oregon
22.5 credits of AOA Category 1-A CME anticipated
Learn more and register at www.opso.org/events.

Sept. 22-26, 2017
Michigan State University College of Osteopathic Medicine
Craniosacral Techniques, Part II
Course director: Barbara J. Briner, DO
East Lansing, Michigan
35 credits of AOA Category 1-A CME anticipated
Learn more and register at www.com.msu.edu.

Sept. 23-24, 2017
New York Institute of Technology College of Osteopathic Medicine
Treating Traumatic Brain Injury (TBI)
Course directors: Maud H. Nerman, DO, and Sheldon C. Yao, DO
Old Westbury, New York
14.5 credits of AOA Category 1-A CME anticipated
Learn more and register at www.nyit.edu/events.

Sept. 28–Oct. 1, 2017
Osteopathy’s Promise to Children
Advanced Explorations in Pediatric Osteopathy: Innovative Healing Approaches to Support Rapid Change in the Child
Course director: Shawn K. Centers, DO, MH, FACOP
Osteopathic Center San Diego
24 credits of AOA Category 1-A CME anticipated
Learn more and register at the-promise.org/cme/.

Oct. 7, 2017
Ohio University Heritage College of Osteopathic Medicine
5th Annual OMM Skills Enhancement Course: Clinical Update for Primary Care
Course director: Jean S. Rettos, DO
Ohio University Heritage College of Osteopathic Medicine in Athens
6 credits of AOA Category 1-A CME anticipated
Learn more and register at www.ohio.edu/medicine.

Oct. 7, 2017
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
40 credits of AOA Category 1-A CME anticipated
Learn more and register at the-promise.org/cme/.

Visit www.academyofosteopathy.org/affiliate-cme for additional listings.