Teaching Osteopathic Principles and Practices: Easy as ABCs

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ORIGINAL CONTRIBUTION

Background

The use of osteopathic manipulative treatment (OMT) among osteopathic physicians in clinical practice has demonstrated decline.¹ Early in their education, osteopathic medical students learned the foundational tenets and the philosophic considerations, and they practiced hands-on techniques. Upon reaching their clinical rotations, however, student application of osteopathic principles and practices (OPP) and osteopathic structural examinations (OSE) are often omitted.² The choice to not use osteopathic principles or to not complete an OSE is likely multifactorial, including lack of preceptor role modeling and confidence in ability. Attending physician time and support also may be significant contributing factors.³ An additional consideration may be a lack of a clinical osteopathic framework for students and faculty to easily consider principles in any patient or disease process and allow preceptors a lens through which to observe student osteopathic rationale.

This article will describe an approach that aims to increase the usage of OMT in clinical practice and the ease of precepting osteopathic students by providing a clear and concise clinical osteopathic framework for students and faculty to quickly integrate osteopathic principles into any patient encounter.

Introducing the ABCs

There are various paradigms used in the evaluation and management of patients with osteopathic principles and OMT, including the 5 classic treatment models described in *Foundations of Osteopathic Medicine*: biomechanical, respiratory-circulatory, metabolic, neurologic, and behavioral.⁴ These classic models represent an excellent framework to consider health and disease and the relationship to somatic dysfunction. While the individual models are helpful for building an osteopathic understanding, a truly holistic osteopathic assessment would include all models in a single patient encounter. To encourage this type of whole-person consideration, students may benefit from having an easily recalled, simple construct around which they can begin to form their osteopathic prescription. From the Department of Osteopathic Manipulative Medicine, Touro University College of Osteopathic Medicine in Vallejo, California.

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Students often use mnemonic devices to help them to recall and organize information.⁵ Mnemonic devices have some evidence of efficacy in medical and nursing education; specifically, they have been shown to connect recent with existing knowledge, facilitate and expedite the construction of meaning by creating multiple links between the information, and distribute functional brain organization to enable superior memory performance.⁶⁻¹³ Utilizing a mnemonic may provide students with a superior ability to recall and apply their osteopathic knowledge to any case, even challenging or unfamiliar ones.¹⁴

To meet the challenges students face utilizing OMT in their clinical training, we present "The ABCs of Osteopathic Medicine." *A* represents autonomics (both parasympathetic and sympathetic); *B* represents biomechanics (noted restriction of any regional joints, muscles, fascia); *C* represents circulation (incorporating considerations of lymphatic, venous and arterial circulation); and *S* represents screening (consideration of global influences, as well as mind, body, spirit factors).

Autonomics

The autonomic nervous system (ANS) plays a vital role in health and disease.¹⁵ A facilitated state of the ANS, often referred to as central sensitization, alters homeostasis and is known to worsen many medical conditions.¹⁶⁻²⁰ Deleterious effects include altered immune function, alterations in vascular and lymphatic flow, and increased perception of pain among others.²¹⁻²⁴ Viscerosomatic reflexes may occur as inflamed organ tissues transmit nociception to the spinal cord, creating facilitation at particular spinal segments or regions. These segments may become further facilitated from dysfunction in somatic structures.

Osteopathic manipulative treatment of the somatic dysfunction appears to modulate this neurologic feedback loop, possibly the result of both an anti-inflammatory and parasympathetic effect.²⁵ Recognizing the importance of balancing the autonomics, both parasympathetic and sympathetic, by focusing on the diagnosis and treatment of clinically relevant regions allows the student to provide a therapeutic physiologic effect for any patient complaint.

Biomechanics

Osteopathic philosophy has long held that the body is a unit and that structure and function are reciprocally interrelated.⁴ When evaluating any patient complaint, consideration should be given to the various aspects of TART (tissue texture abnormality, asymmetry, restriction of motion, and tenderness) in the surrounding bones, joints, muscles, tendons, ligaments, and fascia. Biomechanical restrictions may lead to alteration of normal ranges of motion, or cause compensation in other regions. Students are encouraged to assess key areas related to a patient's chief complaint as well as those directly adjacent to these areas. One example of this concept may include biomechanical respiration where adequate motion of the ribs, diaphragm, and thoracic spine are necessary for appropriate aeration of the lungs.

Circulation

Optimal health relies on fluid movement to bring nourishment, remove waste products, and stimulate immune function. As students consider a patient's complaint, they should screen the musculoskeletal system for areas that may impede arterial, venous, or lymphatic flow. For all patients, this would include assessment of both the thoracic inlet and the thoracoabdominal diaphragm, representing the terminal endpoint of lymphatic drainage and the major pump of venous and lymphatic fluids in our bodies. Additional assessment might include any of the other transverse diaphragms, or anatomic regions where the circulatory or lymphatic flow may be impeded by TART changes in the musculoskeletal system as it relates to the patient's complaint.

Screening

The screening exam encourages global consideration of the patient, beyond the more obvious chief complaint or the specific region of dysfunction. The astute practitioner is one who is able to think not only of the most obvious causes for a patient's issue but is also able to capture the subtler variations in patient presentations. Students may use any screening tool such as postural analysis, gait, passive range of motion, fascial pull, or a Zink screen. Students should consider a patient's trauma history and old somatic dysfunction that may be contributing to the current complaint. Additionally, students should assess for any environmental, psychological, or spiritual issues contributing to the person's overall health.

Questions a student may consider include: Is my patient getting enough rest and proper nutrition? What is their vitality like? Do they have the personal, mental, and spiritual components necessary to feel supported in overcoming or adapting to their illness?

The screen is a reminder to assess the whole patient, globally, from top to bottom, including the mind, body, and spirit while recognizing that each person is an individual.

Goals of the ABCs

This framework is not intended to provide an algorithm or stepwise protocol, but it is a tool for students to recall osteopathic considerations relevant to the evaluation and treatment of patients and to promote the patient's health in every interaction. Our goal is to simplify concepts and emphasize the thought process one may use during an OSE and selection of relevant body areas to diagnose any somatic dysfunctions to treat. We acknowledge that the diagnosis and treatment of patients utilizing osteopathic philosophy goes far beyond what we have listed in the ABCs, but giving the student a clear framework on top of which they can build their clinical experience may allow more students to incorporate OSE and OMT into their daily patient care.

Use of this framework for understanding and integrating OPP into medical training may benefit many, from students and patients to residents and preceptors. First- and second-year students will use the ABCs as a roadmap when addressing the osteopathic diagnosis and treatment of disease processes, body areas, or novel clinical situations they have yet to learn about. Third- and fourth-year students will use the ABCs to develop an appropriate diagnosis and treatment plan, providing them with a physiologic framework to

(continued from page 35)

discuss with their attendings (both DOs and MDs) in the clinical setting.

At all levels of training, the ABCs provide a framework, based in anatomy and physiology, to engage in scholarly discussion with attending physicians, including those unfamiliar with osteopathic principles. The ABCs may be an easy place for our MD colleagues to enter into the discussion of osteopathic principles as they precept and evaluate our students. By utilizing these concepts, one should have the ability to provide rational justifications for assessing and treating a given area of the body, particularly when a body region may seem unrelated or distant to the patient's chief complaint. Ultimately, this approach will benefit the patient by resulting in the students' ability to develop a truly holistic and integrated osteopathic treatment plan focused on the body's innate ability to heal and the inner health of each patient.

ABCs in Practice

We have begun to implement the ABCs of osteopathic medicine in our curriculum here at Touro University California - College of Osteopathic Medicine (TUCCOM). During their first semester, the students get a handout overview that introduces them to the concept. After this introduction, we refer to the concept during their formative lectures on autonomics (Facilitation and Autonomic Function), biomechanics (Structural Exam 1-5, Kinesiology, Facet Diagnosis), circulation (Osteopathic Approach to Lymphatics and Upper Respiratory Infections), and screening (Structural Exam 1-5, Mitchell Model, Zink). These foundational labs build to applied clinical labs in which students are presented with clinical cases and must practice integrated osteopathic exams. These labs span the first 2 years of OPP curriculum. During these clinical labs, the approach to the patient is discussed through the lens of the ABCs as students integrate osteopathic diagnosis and treatment skills in a clinical scenario. Students also are required to discuss the ABCs related to the patient's care in their written SOAP notes.

Students participate in COAR (clinical skills, OPP, anatomy, radiology) case-based sessions which integrate basic sciences, osteopathic doctoring, and osteopathic principles and practices. In each session, all facilitators for each section weave in ABCs concepts and learning points as they are based in anatomic and physiologic concepts.

Faculty preceptors use the ABCs in student clinics to assist students with their osteopathic prescription: when to apply OMT, where to assess and apply OMT, why these treatments should be used. The ABCs can be used as a guidepost for DO and MD faculty alike to begin to assess the students' rationale behind their motives to use OMT. Additionally, it assists students in new clinical settings to move beyond using techniques to true use of osteopathic principles.

During the third year, students continue to have reinforcement of the ABCs during osteopathic e-conferences, COAR sessions, a SOAP note assignment, and one callback session. E-conferences and COAR allow for further student growth and understanding osteopathic principles through a deeper dive into the clinical relevant anatomy and physiology in the context of the ABCs. The SOAP note and callback session allow for formative assessment of their thought processes and formative development in the application of the ABCs. We plan to include the ABCs in our curriculum development for our fourth-year students, and we hope to include a summative assessment as a demonstration of their competency and entrustability in the application of osteopathic principles.

Evaluating the ABCs' Utility

Beginning Spring 2018, we have begun to assess the usefulness of the ABCs model to identify if it assists students in organizing their osteopathic rationale and applying principles to novel clinical scenarios. To that end, we plan to add 2 unique components to do this: a survey and a basic skills assessment. Students are surveyed during their third-year callback where the included questions assess student comfort with utilizing OMT in the clinical setting and identifying how much OMT has been utilized on core rotations. We will add these 2 questions to the survey:

- 1. Did the ABCs of osteopathic medicine provide you with a useful framework to discuss OMT with your preceptor?
- 2. Do you feel that the ABCs of osteopathic medicine enabled you to utilize OMT in novel clinical situations in which you might not have otherwise been comfortable utilizing OMT?

Additionally, we will be adding a basic skills assessment (BSA) to measure the utility of the ABCs. The BSAs are low stakes assessments where students have a list of specified criteria to accomplish in a one-to-one faculty-to-student ratio. They must either pass or re-take until they pass. This format gives the students one-on-one feedback that is personalized to the unique struggles they may be having with the material, and it allows them to remediate any identified deficiencies before the formal exam.

BSAs typically focus on proficiency in techniques. This new BSA would assess the students' ability to perform a clinically relevant and efficient OSE for a clinical condition in a body system they have not yet covered. The rubric will assess how well their OSE satisfies components from each of the 4 aspects of the ABCs. In this way, we will be able to move from providing formative feedback in

(continued on page 37)

techniques only to assessment of students' rationale and application of principles in patient care.

Finally, the ABCs concept has been included in faculty development. Utilization of the ABCs has allowed us to engage our basic science colleagues to inform them of the language and importance of anatomic and physiologic principles in the practice of osteopathic medicine as we work toward better integration. We have included the ABCs in faculty development programs for our clinical faculty that allow them to precept and assess our students in the domains of osteopathic principles and practices, student rationale, and osteopathic critical thinking.

We plan to track outcomes including student use and comfort with using OMT via the third-year callback survey that all thirdyear students complete and the AACOM survey that all graduating students must take. Via these instruments, we hope to see more clinical students reporting the ability to use OMT while on clinical rotations. This could be due to either aspect of the ABCs implementation, faculty that have an improved ability to understand concepts and allow students to use OMT, or students who have improved understanding and communication skills rendering them better able to discuss their osteopathic rationale in terms of anatomy, physiology, and holistic patient care.

Conclusion

Using the ABCs mnemonic to recall assessment of the autonomics, biomechanics, circulation, and screening exam for each patient may aid in the usage of OMT in clinical practice. The ABCs do not seek to replace or minimize any aspect of osteopathic medical education, but rather serve as a framework for both the organization of information to be presented to students as well as to enable recall of material from students when faced with novel clinical scenarios. Our goal in providing students and preceptors with this framework is to increase the overall usage of OMT in clinical practice, facilitate ease of integration of osteopathic concepts, and improve understanding and communication skills related to an osteopathic approach based in anatomy and physiology.

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(continued from page 37)

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