

Osteopathic manipulative treatment: Student attitudes before and after intensive clinical exposure

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It is widely known that family practice osteopathic physicians actively use osteopathic manipulative treatment (OMT) as a part of their everyday practices, but many DOs in other specialty areas fail to use OMT at all. Physicians who use this modality often limit its use to musculoskeletal complaints. This pattern likely begins during undergraduate training at the time that OMT is taught.

To warm student attitudes to OMT and provide a more integrated OMT training background, the University of North Texas Health Science Center at Fort Worth/Texas College of Osteopathic Medicine has added to the clinical curriculum a required 1-month rotation in manipulative medicine. With the rotation in place for a full academic year, it was important to determine the efficacy of the rotation curriculum. This assessment has been accomplished using a specialized protocol designed to gauge student attitudes and opinions regarding OMT, osteopathic medicine, and their own OMT skills.

(Key words: Osteopathic manipulative treatment, education, medical students, core rotations, clinical clerkships)

Three quarters of the osteopathic medical graduates pursuing primary care specialties use osteopathic manipulative treatment (OMT).¹ However, osteopathic physicians in other specialties use OMT with less regularity.² Those physicians who do apply OMT generally limit their use to treatment of musculoskeletal complaints. This limited use of OMT occurs, in part, because of lack of integration of osteopathic principles with clinical concepts in the educational process.³ Some responsibility lies in the protracted periods of graduate medical training that separate students from the classroom OMT experience.⁴ For OMT and osteopathic principles to remain a viable part of the profession's

repertoire, some change must be undertaken to better integrate OMT into the educational process.

In fall 1993, the University of North Texas Health Science Center at Fort Worth/Texas College of Osteopathic Medicine (TCOM) Department of Manipulative Medicine launched a required clinical rotation (henceforth referred to as the *core rotation*) on a trial basis to accomplish this goal of expanded osteopathic manipulative medicine (OMM) education. Beginning in October 1994, the core rotation was required of all students to qualify for graduation.

The core rotation is seen as an adjunct to classroom and laboratory OMT as taught during the first 2 years of osteopathic medical school. Therefore, the rotation serves as the opportunity to establish OMT as a modality for regular use by all osteopathic medical students.

The core rotation

The core rotation requires students to spend 4 weeks in the Department of Manipulative Medicine. Rotating students participate in a variety of activities, both clinical and didactic.

The academic portion of the core rotation occurs primarily in the first of the 4 weeks. During this week, the undergraduate teaching fellows facilitate 14 hours of sessions to review the first 2 years of OMT and osteopathic medical philosophy. These sessions are conducted as both traditional lectures and seminars with hands-on laboratories.

The remaining didactic sessions occur throughout the other 3 weeks of the core rotation. These sessions emphasize clinical problem-solving skills and clinical scenarios. Clinical lectures last 1 to 2 hours, depending on the topic, and are conducted by OMT specialists in the Department. Specific clinical issues are addressed, such as pediatric or obstetric OMT concerns, and also more specific areas, such as short leg syndrome and cephalgia (*Table 1*).

Clinical instruction occurs throughout the core rotation. Students engage in 2-week-long assignments with a physician in the OMT specialty clinic or with the hospital service at Osteopathic Medical Center of Texas. During this time, the students observe and assist osteopathic manipulative care as provided by the college's specialists.

True integration of OMT with clinical skills occurs in the core clinic. Here students have the opportunity to hone their osteopathic palpatory and manipulative skills and build confidence in their own abilities. Core clinic time, approximately 16 hours per week, occurs throughout the rotation and supersedes other assignments during clinic hours. The students provide care for patients in the core clinic, making diagnostic and treatment judgments. An OMT specialist supervises all care, but the student functions as the care provider.

This educational scenario was devised to provide as varied an OMT experience as possible to the rotating student while maintaining a solid academic base

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Table 1
Didactic Sessions of Core Rotation

Didactic session	Instructor
<input type="checkbox"/> Osteopathic manipulative treatment theory/ soft tissue treatment	UTF*
<input type="checkbox"/> Clinic encounter/patient evaluation	Faculty/UTF
<input type="checkbox"/> Thoracic and lumbar vertebrae	UTF
<input type="checkbox"/> Pelvis and extremities	UTF
<input type="checkbox"/> Cervical vertebrae and ribs	UTF
<input type="checkbox"/> Autonomic nerves: T-1 through T-4 (cardiovascular and pulmonary systems)	Faculty
<input type="checkbox"/> Autonomic nerves: T-1 through T-4 (ear, nose, and throat)	Faculty
<input type="checkbox"/> Autonomic nerves: T-5 through L-2 (gastrointestinal and genitourinary systems)	Faculty
<input type="checkbox"/> Advanced osteopathic principles and practice	Faculty
<input type="checkbox"/> Cephalgia	Faculty
<input type="checkbox"/> Short-leg syndrome	Faculty
<input type="checkbox"/> Low back pain	Faculty
<input type="checkbox"/> Pediatrics/obstetrics	Faculty
<input type="checkbox"/> Geriatrics	Faculty
<input type="checkbox"/> Hospital care	Faculty

*UTF = undergraduate teaching fellow.

for osteopathic medical education and clinical experiences.

Methods and materials

Evaluating student attitudes toward OMT is essential to deciding the efficacy of the core rotation, because exam performance does not correlate with desire to use osteopathic principles. Without conveying a clear utility to clinical practice, the core rotation would be ineffective.

To study this aspect, questionnaires were devised (Table 2) to evaluate student attitudes and thinking toward OMT and osteopathic principles. While limited by the retrospective measure of prerotation student attitudes, the questionnaires were adequate for a trial study. The questions were both of a numerically scaled and short-answer format to allow for both gathering of specific data and for expres-

sion of opinions regarding OMT, osteopathic medicine, and the core rotation itself.

The questionnaires were blinded by anonymity by allowing the students to complete and return them in an unsupervised environment. Students were informed not to identify the questionnaires with markers, such as names or student numbers. Anonymity was maintained by undergraduate teaching fellows who processed the forms, as the fellows have no influence over grading of students. Students were made entirely aware of this anonymity throughout the process.

Administering the osteopathic medicine-specific questionnaire was a matter of requiring all students who complete the core rotation to fill out the questionnaire. This ensured a complete sampling of students taking the core rotation.

The gathered data were then assessed by means of basic statistical methods, including the sign test, to ascertain any overall change in student attitudes after the rotation. This information combined with manual evaluation of the short-answer portion of the questionnaires allowed the full range of student responses to be considered in analyzing the effect of the core rotation on student attitudes.

The questionnaires for the trial study were administered to the group of students taking the core rotation between October 1993 and October 1994. These students were placed in the prototype curriculum and received the entire 4-week clerkship experience. The sampling consisted of 34 students, approximately a third of the class of 1995, a small but statistically adequate and representative sampling. Random assignment of the students to the rotation occurred as a result of the institutional rotation lottery process.

Results

Analysis of the numeric portion of the questionnaires revealed a generally positive trend in student attitudes toward OMT and osteopathic medicine over the course of the rotation (Figure 1). Even when the limitations inherent in retrospective measurement of attitudes held before the rotation are recognized, this trend is still significant.

Sign analysis revealed significant improvement in the attitudes of students toward the application of osteopathic principles to the .01 level of significance. Student skills confidence improved with a .01 level of significance as well. Student attitudes toward use of OMT in their own practices improved only marginally. No significant change occurred in general attitudes toward osteopathic palpatory and manipulative skills or to the rotation itself. When considering attitudes toward osteopathic palpatory and manipulative skills, note that a full third of the students rated osteopathic palpatory and manipulative skills with a 10 (vital), so attitude variation may be limited by a ceiling effect.

The variance (Figure 2) of student responses between prerotation attitudes

Table 2
Manipulative Medicine Core Rotation Evaluation

■ **Numerically scaled evaluation***

1. Before the rotation, I used the application of osteopathic principles	All the time 10 9 8 7	Sometimes 6 5 4 3	Never 2 1
2. Before the rotation, I planned on using osteopathic principles in my practice	All the time 10 9 8 7	Sometimes 6 5 4 3	Never 2 1
3. My skills in the application of osteopathic principles before the rotation were	Superior 10 9 8 7	Average 6 5 4 3	Poor 2 1
4. Before this rotation, I considered osteopathic manipulative skills to be	Vital 10 9 8 7	Useful 6 5 4 3	Useless 2 1
5. I expected that the manipulative medicine core rotation would be	Vital 10 9 8 7	Useful 6 5 4 3	Useless 2 1
6. Now, I will use these osteopathic manipulative skills	All the time 10 9 8 7	Sometimes 6 5 4 3	Never 2 1
7. Now, I plan to use osteopathic principles in my practice	All the time 10 9 8 7	Sometimes 6 5 4 3	Never 2 1
8. After this rotation, I consider my osteopathic manipulative skills to be	Superior 10 9 8 7	Average 6 5 4 3	Poor 2 1
9. Now, I consider osteopathic manipulative skills to be	Vital 10 9 8 7	Useful 6 5 4 3	Useless 2 1
10. The manipulative medicine core rotation was	Vital 10 9 8 7	Useful 6 5 4 3	Useless 2 1

■ **Short-answer evaluation**

1. In the space provided, list the three techniques that you learned or practiced on this rotation that you think will be most useful on other rotations.
2. List the three techniques that you learned or practiced on this rotation that you would find most useful in general practice.
3. Now, what is your perception of osteopathic medicine?
4. Briefly describe your feelings about this rotation.

*On the numerically scaled evaluation, students were instructed to circle one ranking and to be as honest as possible.

and postrotation attitudes tightened. This tightened variance shows either a degree of uniformly positive student attitudes after the rotation or a limiting effect of the near-maximal postrotation results.

Student comments

The open-ended questions included on

the questionnaire generated a great deal of positive and enthusiastic student responses. What follows is a representative sampling of students' comments regarding the core rotation and their learning experience. The only negative comments received criticized low patient volume in the student clinic, a condition symptomatic of the upstart nature of the

core rotation and one that improved as the rotation became established.

[It is] excellent and refreshing to relearn the techniques and see the results that can be achieved instead of using drugs or surgical procedures.

I have always thought OMM was an excellent tool when used in adjunct with conventional therapies. I can see

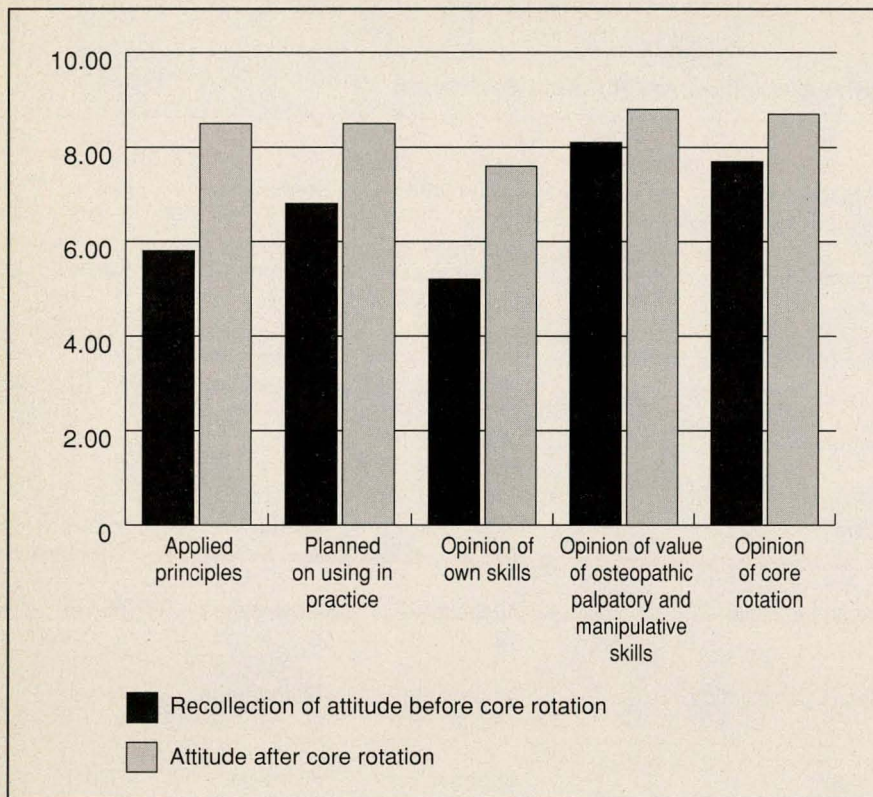


Figure 1. Means of students' responses to questionnaire.

now that a great many things can be treated by OMM [OMT] alone and I look forward to using my hands more.

The rotation helped me to grasp the Osteopathic approach in the communication between doctor and

patient—the patient must be empowered to help him/herself....

I have begun to enjoy more of a holistic approach to our bodies and how Osteopathy relates to the maintenance of health and detection of disease.

Conclusions

It is imperative, if OMT is to remain a viable modality, that teaching becomes such that future DOs will find it to be a useful and vital part of their treatment repertoire. This means that osteopathic education must be carried beyond the classroom and into the clinical setting so that students can apply this distinct modality to real-world patient care.

This study displays an initial effectiveness of the TCOM manipulative medicine rotation in improving student attitudes toward OMT as a methodology and improving the likelihood that the student will use OMT once in practice. Ultimately, this improvement in attitudes decides the total effectiveness of the rotation.

The positive trend of student attitudes based on the scaled portion of the questionnaires suggests that students find utility of OMT and osteopathic principles after the rotation. Also, the short-answer portion of the questionnaire revealed a general attitude of student satisfaction with the rotation and positivity toward OMT.

The distinctiveness that makes a DO, of course, does not hinge solely on osteopathic manipulation, but OMT is such a part of the osteopathic medical profession's identity that it is imperative that

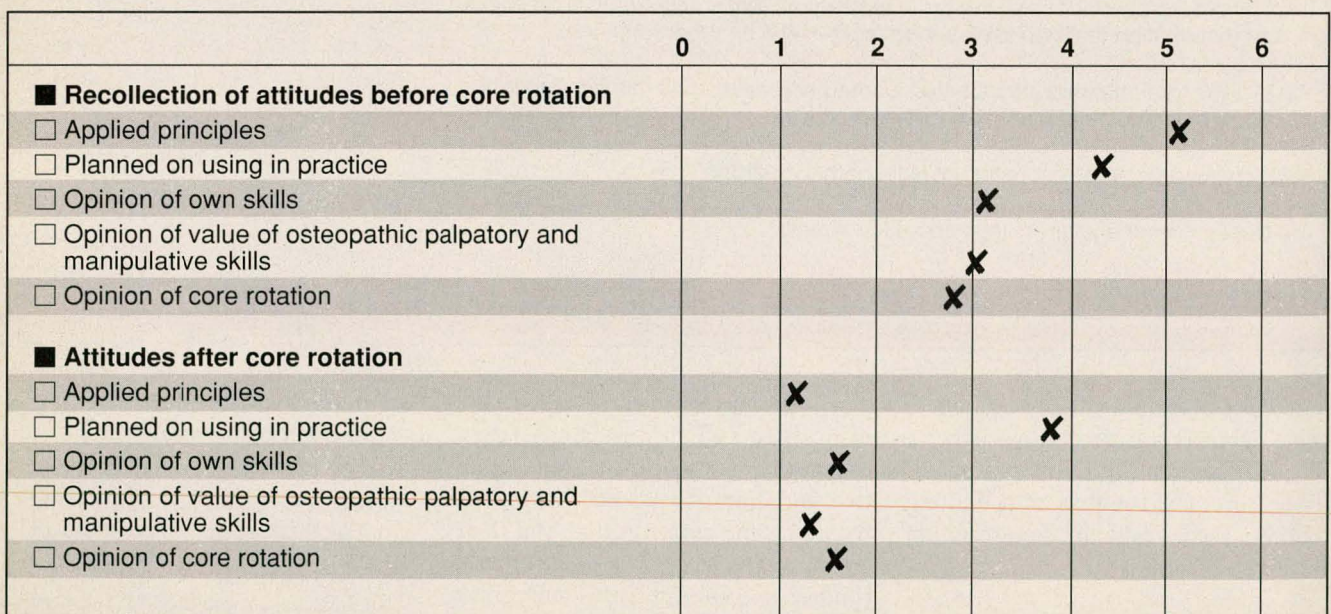


Figure 2. Variance of students' responses to questionnaire.

this unique modality remain a viable part of the osteopathic medical educational process. For this viability to endure, students need to receive the same caliber of clinical instruction that each of the other treating specialties provides. The findings of this study strongly suggest that this vital level of effectiveness can be achieved.

Further research possibilities

Many unanswered questions remain, the greatest of which asks how much of the material taught to students in the core rotation will carry over into other clinical experiences. Such research could be accomplished with expansion of existing evaluation tools. Students are already required to fill out evaluations of all rotations; OMT-oriented questions could be added to this existing tool. Such a regular measurement of student attitudes would generate a baseline measurement

of student attitudes before the OMT core rotation and allow student attitudes toward OMT to be tracked to learn long-range effects of the rotation. Additionally, other rotations could be tracked for their effect on student attitudes toward OMT and osteopathic principles.

The potential for evaluating clinical experiences for their impact on OMT is significant as the osteopathic medical profession pushes to refine its identity and emphasize distinctiveness. With effective evaluation tools, the ability of any clinical rotation to instill osteopathic medical concepts can be evaluated and curricula modified to maximize osteopathic medicine's potential.

Acknowledgments

The authors would like to thank the staff of the Manipulative Medicine Clinic and the academic staff without whose help this study would have been impossible.

Special thanks to Ms Judy Staser for her invaluable assistance in accumulating the questionnaires and processing the core rotation paperwork.

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