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Letter writers must include their full professional titles and affiliations, complete preferred mailing addresses, day and evening telephone numbers, fax numbers, and preferred e-mail addresses. In addition, writers are responsible for disclosing financial associations and other conflicts of interest.

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Although the *JAOA* welcomes letters to the editor, readers should be aware that these contributions have a lower publication priority than other submissions. As a consequence, letters are published only when space allows.

Chiropractic Research Equals Osteopathic Research?

To the Editor:

The March 2006 issue of *JAOA—The Journal of the American Osteopathic Association* courageously addresses many contemporary issues confronting the osteopathic medical community. A new section debuting in that issue of the *JAOA* titled "The Somatic Connection" summarizes important recent research

regarding the musculoskeletal system's role in health and disease (*J Am Osteopath Assoc.* 2006;106:118-119). The introduction to this section states, "'The Somatic Connection' highlights ... research articles [that relate] to the tenets and principles of osteopathic medicine." However, in one of the articles summarized in "The Somatic Connection"—a review by Bronfort et al¹ of manipulation in patients with low back or neck pain—most of the randomized

controlled studies used to support the efficacy of manipulation are chiropractic in nature.

Only four of 31 trials of manipulation for patients with low back pain cited by Bronfort et al¹ examine the efficacy of osteopathic manipulative treatment (OMT). The other trials are chiropractic manipulation studies. All 12 neck pain trials cited by Bronfort et al¹ are chiropractic studies. The Bronfort et al¹ review cites one OMT study on acute low back pain,² two on chronic low back pain,^{3,4} and one on mixed chronic/acute low back pain.⁵ Interestingly, some of the conclusions drawn by Bronfort et al¹ inaccurately reflect the conclusions in these OMT studies as originally published.

Bronfort et al¹ refer to MacDonald and Bell² as their single OMT study on acute low back pain. MacDonald and Bell² concluded that OMT was superior to sham treatment in patients whose back pain lasted between 14 and 28 days. They found that OMT was not statistically superior in those individuals whose back pain lasted less than 14 days or in those whose back pain lasted more than 28 days.² It should also be noted that the research by MacDonald and Bell² was a pilot study that had only 13 patients in the OMT group. MacDonald and Bell² admitted that their study had numerous limitations and was mainly valuable in yielding hypotheses for further testing—not in reaching clinically relevant conclusions. Nevertheless, Bronfort et al¹ included this pilot study in their review.

A study by Burton et al³ was one of the two articles mentioned by Bronfort et al¹ that examined the efficacy of OMT in patients with chronic low back pain. Burton et al³ compared OMT with chemonucleolysis in cases of symptomatic lumbar disc herniation. Although they concluded that there was no statistically significant differ-

ence in outcome between the two treatments after 1 year, they also noted that OMT did result in a small but statistically significant improvement in back pain and disability during the first 6 weeks of treatment.³ This encouraging finding of Burton et al³ differs from the findings of two chronic low back pain studies that included large sample sizes and placebo control groups,⁴⁻⁶ both of which Burton et al³ lacked.

The other OMT research article on chronic low back pain mentioned by Bronfort et al¹ was by Gibson et al,⁴ who compared OMT with short-wave diathermy and placebo (detuned short-wave diathermy). Gibson et al⁴ concluded that neither OMT nor short-wave diathermy was superior to placebo treatment. Their results supported the 2003 Licciardone et al⁶ study that concluded, "There were no significant benefits with osteopathic manipulative treatment, as compared with sham manipulation." Yet, Bronfort et al¹ state that there is moderate evidence that manipulation of the spine produces an effect similar to that of nonsteroidal anti-inflammatory drugs.

The one OMT research article on subacute low back pain cited by Bronfort et al¹ was by Andersson et al,⁵ who concluded that OMT and standard medical care have similar clinical results in patients with subacute low back pain—though the OMT group in this study did use fewer medications than the standard care group. Bronfort et al¹ use this study to support their conclusion that there is "a small but non-significant short-term benefit of SMT [spinal manipulative treatment] over standard medical care for pain."

If the goal of "The Somatic Connection" is to highlight research that relates to the principles of osteopathic medicine, does the *JAOA* endorse chiropractic manipulation as being as efficacious as OMT? If the answer to this

question is "no," then the *JAOA* should consider systematically reviewing *osteopathic* studies in an objective and scientific manner in future editions of "The Somatic Connection." With this change, clinicians and osteopathic medical students will continue trusting the *JAOA* as the evidenced-based standard for *osteopathic* research.

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Response

Osteopathic medical student Greg P. Hansen highlights several important ideas in his letter commenting on "The Somatic Connection," the new section in *JAOA—The Journal of the American Osteopathic Association* that reviews research on the musculoskeletal system recently published in other peer reviewed journals (*J Am Osteopath Assoc*. 2006; 106:118-119). It is also important to point out that although the majority of research studies on manipulation are conducted by "osteopaths" in other countries or by chiropractors or physical

therapists, such studies can still have relevance for osteopathic physicians in the United States.

"The Somatic Connection" is intended to provide readers with information on research related to the tenets and principles of osteopathic medicine, especially manipulative techniques used to influence the musculoskeletal system. A number of future summaries in "The Somatic Connection" will highlight recent discoveries about the biological mechanisms underlying the efficacy of various musculoskeletal interventions, thereby helping to clarify the role of the musculoskeletal system in health and disease. Although many of these studies will be from nonosteopathic researchers and institutions, their findings have relevance for the application of osteopathic tenets and principles in patient care.

Mr Hansen expresses concern about the inclusion in "The Somatic Connection" of a systematic review by Bronfort et al¹ that combined chiropractic and osteopathic manipulation studies. He asks whether this inclusion constitutes an endorsement by the *JAOA* of chiropractic manipulation. A systematic review of the efficacy of spinal manipulative techniques for individuals with low back pain entails assessing the scientific rigor of all studies retrievable by literature searches—regardless of the training of the professionals who performed the manipulation. Of course, the most rigorous studies are given more credence in determining the answer to the question of efficacy. Featuring a review of this type in "The Somatic Connection" should not be misconstrued as an endorsement by the *JAOA* of chiropractic manipulation. Rather, the systematic review by Bronfort et al¹ was featured because of its inclusion of clinical trials in which osteopathic manipulative treatment (OMT) was performed by osteopathic physicians. Thus, the Bronfort et al¹ review provides osteo-

pathic medical researchers with an objective assessment of the level of scientific rigor of their endeavors.

Mr Hansen suggests that future editions of "The Somatic Connection" systematically review *osteopathic* studies in an objective and scientific manner. However, it is not the intent of "The Somatic Connection" to systematically review research. Instead, "The Somatic Connection" presents summaries of studies related to the tenets and principles of osteopathic medicine that were reported in *other*, mostly nonosteopathic, medical and scientific journals. Many of these studies were not conducted by osteopathic medical researchers or osteopathic medical institutions. Nevertheless, they may provide information applicable to osteopathic medical practice.

The field of neuromusculoskeletal medicine is vast. Thus, it is necessary to combine the cumulative knowledge from various perspectives to determine the best possible care for our patients. As the editors of "The Somatic Connection," we welcome comment and dialogue as we continue to introduce the readers of the *JAOA* to this rapidly growing body of literature from around the world.

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Editor's note: The next edition of "The Somatic Connection" will appear in the July 2006 issue of *JAOA—The Journal of the American Osteopathic Association*.

Maintaining Competence and Leadership in Manual Medicine

To the Editor:

Norman Gevitz, PhD, provides a thoughtful critique of the osteopathic medical profession and its educational system in his editorial in the March 2006 issue of *JAOA—The Journal of the American Osteopathic Association* ("Center or periphery? The future of osteopathic principles and practices." 2006;106:121–129).

During the 1940s, when I was a student and teacher at the Chicago College of Osteopathic Medicine (CCOM), which is now part of the Midwestern University/Chicago College of Osteopathic Medicine (MWU/CCOM), COMs that had the strongest administrative leadership and most committed osteopathic clinical faculty also had the strongest osteopathic teaching programs. Such programs were widely recognized by the osteopathic medical profession for the high quality of their graduates. The programs had faculty who were trained in established osteopathic principles and practice (OPP) and who, through their teaching, helped create a continuity of skills in osteopathic manipulative treatment (OMT).

At CCOM in the 1940s, the teaching of these skills was based on the physiologic motion of the spine—principles of thoracic and lumbar spinal motion that were first described by CCOM graduate Harrison H. Fryette, DO.¹ A logical program of skills development was conducted at CCOM based on palpatory and manipulative techniques emphasizing diagnostic and treatment procedures.

The teaching of OMT at COMs has usually been shaped by the predominance of certain colleges for limited periods. The leadership of any given teaching program is usually dominated by one individual with recognized skills who attracts others with similar skills. Invariably, this leader is engaged in research, which attracts both faculty and student interest. Unfortunately,

interest in these programs often declines with the retirement of the leaders. Continuing strong leadership in OMT training requires strong administrative support and direction. Unfortunately, my observation has been that, all too often, new leadership at COMs has reduced support for training in OMT.

A college program led by an osteopathic physician who actually uses OMT in his or her practice produces a stronger educational experience for osteopathic medical students than do programs that lack such teachers. In addition, COMs that have active research programs in musculoskeletal medicine have stronger teaching programs.

It has long been one of my tenets that the proper teaching of OMT skills requires the following: (1) assessing the knowledge, motor skills, and aptitudes of osteopathic medical students; (2) training the students in OMT skills; (3) providing the students with opportunities to practice OMT under supervision; and (4) allowing the students to use their skills in clinical situations to build confidence.

Among the programs that have been most successful in promoting osteopathic skills and principles are the fellowship programs sponsored by COMs. In addition to completing the standard COM curriculum, students in these fellowships spend an additional year in skills training, teaching, or research. The Chicago college was one of the first COMs to institute such a program. I believe that at least two graduates of the CCOM program became OPP faculty at Michigan State University College of Osteopathic Medicine (MSUCOM) in East Lansing. Furthermore, several of the graduates from the MSUCOM fellowship program have been active in teaching and research.

It is incumbent on the osteopathic medical profession to provide quality education in OPP if it is to maintain a leadership position in the field of manual medicine. In view of the

widespread interest in manual medicine and manual therapy in the United States and abroad—and the wide variety of professionals who practice manual medicine and therapy—I believe the main role of the osteopathic medical profession should be maintaining standards of competence in this field and providing leadership in research.

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Editor's note: The American Academy of Osteopathy has honored Dr Beal by publishing a collection of his work in *The 2005 American Academy of Osteopathy Yearbook, Contributions to Osteopathic Literature—Myron C. Beal, DO, FAAO*.

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Future of Osteopathic Medicine Depends on Investing in Graduate Medical Education

To the Editor:

I thoroughly enjoyed the frank discussion by Norman Gevitz, PhD, on the future of the osteopathic medical profession in the March 2006 issue of *JAOA—The Journal of the American Osteopathic Association* ("Center or periphery? The future of osteopathic principles and practices." 2006;106:121–129). However, as an osteopathic family physician recently out of residency, I believe that the profession's future might be framed in a more useful manner than by asking, as Dr Gevitz does, whether osteopathic principles and practice (OPP) will be at the "center or periphery" of the profession.

Given the healthcare environment that the majority of osteopathic physi-

cians inevitably encounter today, the more important question is whether osteopathic medicine, in relation to allopathic medicine, will be an adjunctive form of medicine or basically another form of allopathic medicine. The answer to this question depends on how important graduate medical education is to the profession.

I agree with Dr Gevitz's suggestion that osteopathic physicians need to create an evidence-based centrality within osteopathic medicine's unique approach to patient care. However, it is imprudent for Dr Gevitz to suggest that this idea should include assessing applicants' palpatory skills as part of the evaluation of prospective osteopathic medical students.

The type of centrality that Dr Gevitz suggests the osteopathic medical profession strive for exists today only in academic departments of OPP and among those osteopathic physicians who treat patients solely with osteopathic manipulative medicine (OMM).

When considered in the context of "center or periphery," most osteopathic physicians practice OMM in a peripheral sense and, in fact, are even struggling to keep this aspect of their practices alive. In other words, osteopathic physicians live in an allopathic world—from our methods of diagnosis to our treatment modalities. The *International Classification of Diseases, Ninth Revision, Clinical Modification*¹ includes codes for osteopathic diagnoses of somatic dysfunction, but how often does the average osteopathic physician use these codes, compared with the codes for allopathic diagnoses (eg, essential hypertension, gastroesophageal reflux disease, glaucoma)?

Although osteopathic physicians live in an allopathic world, most remain proud of their uniqueness as osteopathic physicians, including their superior knowledge of the musculoskeletal system. Musculoskeletal problems are among the most common complaints of patients. Through their training in OMM, osteopathic physicians have the

ability to offer patients noninvasive approaches to these problems. Allopathic physicians do not have this ability. That fact alone makes us unique.

Thus, framing the future of osteopathic medicine in terms of an adjunctive form of medicine versus an allopathic form of medicine is an important, acute issue for our profession—especially when we are at risk of becoming indistinguishable from allopathic physicians and when increasing numbers of graduates of colleges of osteopathic medicine (COMs) are choosing residencies accredited by the Accreditation Council for Graduate Medical Education.² The number of COMs and class sizes in COMs continue to increase, and many osteopathic medical students are paying more than \$30,000 per year for tuition.³ Yet, there is little investment in quality osteopathic graduate medical education.

I hope that Dr Gevitz's editorial will help to ensure that the OPP faculties at COMs are given the priority and resources they need. However, the more acute problem confronting the profession is how to improve and stimulate greater investment in osteopathic graduate medical education.

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Suggestions and Questions for Osteopathic Medical Education

To the Editor:

I applaud the excellent points made by Norman Gevitz, PhD, about the cur-
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rent state of the osteopathic medical profession in the March 2006 issue of *JAOA—The Journal of the American Osteopathic Association* (“Center or periphery? The future of osteopathic principles and practices.” 2006;106:121–129). Dr Gevitz’s erudite and succinct observations, pronouncements, and suggestions should be required reading for the leaders of colleges of osteopathic medicine (COMs), osteopathic specialty societies, and interested organizations, including the American Osteopathic Association (AOA), the American Academy of Osteopathy, the American Association of Colleges of Osteopathic Medicine, and the Association of Osteopathic Directors and Medical Educators.

Dr Gevitz makes excellent recommendations for moving osteopathic principles and practice (OPP) back to the center from the periphery of the osteopathic medical profession, specifically with regard to student admissions, resources, organization, and curricula.

To these recommendations, I would offer my personal views on COM organization, as well as ideas for the continuum of osteopathic medical education.

Regarding organization, it is true that COMs need more faculty to serve as table trainers, as Dr Gevitz notes in his editorial. However, it is not sufficient for OPP to be taught primarily by osteopathic physicians who are family physicians and general practitioners. Such individuals typically make up the majority of the OPP faculty at COMs.

Colleges of osteopathic medicine should be encouraged to use osteopathic specialists from all fields (eg, internal medicine, general surgery, physical medicine and rehabilitation) as table trainers—assuming these specialists are skilled in osteopathic manipulative treatment (OMT), willing and able to serve as trainers, and properly compensated. Incorporating a greater variety of spe-

cialists into OPP education would help demonstrate to osteopathic medical students that OPP can be applied across a wide spectrum of medical conditions and by a wide range of medical practitioners. This, in turn, would lend greater credibility to the teaching of OPP, which previously has primarily been the privy of one discipline.

At the New York College of Osteopathic Medicine of New York Institute of Technology (NYCOM/NYIT) in Old Westbury, NY, we have always had a separate department dedicated to OPP. In 2000, it was renamed the Stanley Schiowitz, DO, FAAO, Department of Osteopathic Manipulative Medicine after Dr Schiowitz, a NYCOM/NYIT dean emeritus who is well known for developing the set of osteopathic manual techniques known as facilitated positional release.¹ In recent years, NYCOM/NYIT has added OMT table trainers from clinical disciplines other than family medicine and general practice. Three of these trainers are from the Department of Internal Medicine. I’m a general internist and one of the trainers. Another trainer is a general surgeon who is working full time in the Schiowitz OMM department. The third trainer is the department’s chairman, Wolfgang G. Gilliar, DO, who is a physiatrist. We believe that such “cross-fertilization” helps our students appreciate the fact that OMT can be used no matter what specialty they ultimately pursue.

I should note that the current standards of the AOA Commission on Osteopathic College Accreditation require that a COM must have on its faculty only one full-time osteopathic physician who is either certified through the American Osteopathic Board of Neuromusculoskeletal Medicine or is in possession of AOA certification in the specialty of neuromusculoskeletal medicine and osteopathic manipulative medicine.²

Regarding the continuum of osteopathic medical education, it is incumbent on those who wish to maintain the identity of the osteopathic medical pro-

fession as unique and distinct from allopathic medicine to examine the entire continuum of osteopathic medical education—not just the 4 years of undergraduate study. How *osteopathic* are our internships and residencies, for example? In other words, what makes them osteopathic aside from having program directors and faculty who are osteopathic physicians?

Looking beyond the continuum of formal education, how do osteopathic physicians maintain their skills in OMT after they have completed their residencies? Is attending enough lectures and conferences to meet the continuing medical education requirements of the AOA sufficient to maintain these skills and stay abreast of the steadily growing number of advances and research findings in OMT? The members of the osteopathic medical profession need to decide individually and collectively the answers to such questions.

Dr Gevitz is challenging us to face complex realities about the future character and identity of the osteopathic medical profession. Let us do so at every level—from junior faculty members to experienced practitioners—and across every discipline to arrive at a consensus of who we are, whom we want to be, where we want to go, and how we intend to get there. The status quo (and its consequences) is a viable option only if we agree to settle for it.

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Editor's note: See the "Executive Director's Desk" column in the May 2006 issue of *The DO* magazine for comments regarding Dr Gevitz's editorial by John B. Crosby, JD, the executive director of the American Osteopathic Association ("What do we stand for? Basic principles and the test of time." *The DO*. May 2006;47:14).

Memantine: The Next Trend in Academic Performance Enhancement?

To the Editor:

Although memantine hydrochloride is currently known as the latest treatment for moderate-to-severe Alzheimer disease (AD),¹ we entertain the idea that it might also come to be known as a memory enhancer among healthy high achievers.

The drug acts by noncompetitively binding to the *N*-methyl *D*-aspartate (NMDA) receptors of neurons in brain tissue to prevent overstimulation by glutamate.² When this excitatory neurotransmitter overactivates NMDA receptors in a tonic manner, an excessive influx of neurotoxic calcium ions follows.² The resultant excitotoxicity may play a role in the impairment of memory and cognition in AD.³ Because memantine has a low-to-moderate affinity for NMDA receptors, it does not seem to block normal glutamate transmission; rather, it reduces abnormal neurotransmitter-mediated activation of the receptors,⁴ thereby potentially reducing excitotoxic neuronal damage. This form of neuroprotection may explain the improved cognition in patients with AD reported in the literature.⁵⁻⁷

Can transient low-level, nonpathologic, glutamate-mediated neuronal damage occur in the brains of normal individuals? And, if so, could memantine's neuroprotective effect antagonize the damaging effects and enhance memory potential in these individuals? Future research should address these issues.

Memantine's suggested neuroprotective effect^{2,8} may also increase brain

levels of the neuronal marker, *N*-acetyl aspartate (NAA). Because NAA is found primarily on neuronal axons in the brain,⁹ perhaps the neuroprotective effect of memantine can be measured by quantifying the change in NAA concentrations in brain tissue via magnetic resonance spectroscopy. Magnetic resonance spectroscopy has demonstrated that patients with AD show a decline in NAA relative to normal controls.¹⁰ The reduction in excitotoxicity via memantine's mechanism of action may allow affected neurons to regain some level of physiologic functioning, such as growth of neuronal processes and synaptogenesis, which is fundamental to learning and memory formation¹¹—a process that is damaged in AD.²

Moreover, a direct relationship has been observed between NAA levels in the brain and intelligence. Healthy individuals with high levels of NAA appear to have higher scores on intelligence tests than healthy individuals with lower levels of this marker in brain tissue.¹² It may be possible that the higher levels of NAA indicate an increased presence of neuronal processes and their synapses.

The effects of drugs that have cognitive-enhancing potential have been studied in healthy individuals. Acetylcholinesterase inhibitors (some of which are used to treat AD), such as donepezil, huperzine α , and physostigmine, have been shown to improve memory and cognitive tasks in normal subjects.¹³⁻¹⁵ Another medication that enhances cognitive performance is methylphenidate, a drug commonly prescribed for attention deficit hyperactivity disorder (ADHD) but increasingly used by healthy university students nationwide as an academic performance-enhancing agent.¹⁶ A recent national survey¹⁷ reported that ADHD medications have much higher rates of abuse in colleges with higher admission standards.

In light of all of the mentioned factors and the recent reports regarding the misuse of anabolic-androgenic steroids for the enhancement of athletic

performance,^{18,19} the misuse of memory-enhancing drugs to improve academic performance by some ambitious students may not be a far-fetched conjecture. The purpose of this letter is to raise a medically and ethically relevant question: If transient low-level, nonpathologic, glutamate-mediated neuronal damage can occur in normal brain tissue, and neuroprotection against this occurrence could promote neuroplastic processes such as synaptogenesis, could memantine be misused by students for academic performance-enhancement in the near future?

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Bifid Fifth Rib in a 9-Year-Old Girl With Chest Pain

To the Editor:

A nine-year-old girl was brought to our outpatient pediatric clinic complaining of chest pain on the right side. Her parents said that the discomfort began after a minor fall. The girl had been engaged in normal recreational activity when she was pushed down, and she landed on her right side.

On arrival at the clinic, the patient reported moderate pain of 2 hours' duration. The pain was localized to the right lateral thorax, did not radiate, and was not associated with any respiratory distress. Deep inspiration did not exacerbate the pain. The patient denied loss of consciousness, seizures, nausea, vomiting, or dyspnea. She was alert, appropriately oriented, and appeared comfortable. She had no medical or surgical history, and her family history was unremarkable for heart disease or seizures. Her immunizations were up to date, and she had progressed appropriately through school.

A physical examination revealed a well-developed, well-nourished Hispanic girl, with no external signs of trauma. Her blood pressure, heart rate, and respiratory rate were all within normal limits, and oxygen saturation while breathing room air was 99%. A baseline electrocardiogram revealed a sinus arrhythmia without ectopy. The QRS axis was normal, and there were no ST segment abnormalities. A chest examination found minimal discomfort to light and deep palpation of the right lateral thorax. The discomfort was localized to the midaxillary line and was not accompanied by any surrounding ecchymosis or bony crepitation. Her lung sounds were clearly audible in all fields bilaterally. Heart sounds were also normal, with no appreciable murmurs, rubs, or gallops. The patient's abdomen was soft and nontender to palpation, and the extremities were all intact with good distal pulses and brisk capillary refill. Skin examination findings were negative for any obvious deformity, discoloration, edema, or other lesion.

A chest radiograph was performed as part of the initial work-up (*Figure*). The radiograph film did not show any fracture or obvious soft tissue injury, and there were no cardiovascular or pulmonary pathologic findings, such as pneumothorax. However, the film did show a bifid fifth rib on the right side. The radiographic findings correlated with those of the physical examination finding of palpable tenderness to the right lateral thorax. A recommendation was made to follow up with the patient clinically. The patient's parents were advised that the radiographic findings likely represented a normal anatomic variant. The patient was discharged to home with instructions to take ibuprofen every 6 hours as needed for pain.

The girl returned for a follow-up examination several days later and reported no complaints. Her pain had resolved completely and could not be reproduced on palpation or with move-

ment. The patient was discharged to home without further incident or investigation.

Little information exists in the medical literature about the clinical significance of bifid ribs. An abstract by Osawa et al¹ discusses bifid ribs as anatomic variants found on routine cadaveric dissection. One syndrome, however, does appear in association with bifid ribs. Basal cell nevus syndrome, also called Gorlin-Goltz syndrome, is a multisystem disorder that predominately affects the white population. Cutaneous manifestations of this disease include epidermal cysts, palmoplantar pits, facial milia, and subcutaneous calcifications.² Skeletal defects are also found, including "costal anomalies such as bifid, splayed, or synostotic ribs, and ribs associated with the cervical spine."³ The disorder, though rare, is well described in the medical literature. The incidence is estimated at 1 per 600,000 live births, and it is most commonly inherited as an autosomal dominant trait. Although our patient demonstrated none of the obvious stigmata of this syndrome, 60% to 70% of patients with diagnosed Gorlin-Goltz syndrome demonstrate rib anomalies.^{3,4} The American Academy of Family Physicians recommends that screening for this disorder include oral and skin examinations, radiographic imaging of the chest and skull, and magnetic resonance imaging of the brain.⁴

Wattanasirichaigoon and colleagues⁵ described patterns of rib defects occurring in a retrospective review of 47 cases. The authors suggested that rib anomalies can occur in isolation or as part of vertebral malformations. Rib fusion was the most commonly described defect, reported in 72% of the 47 patients, and bifid ribs occurred in 28% of the patients.⁵ The small patient population makes it difficult to extrapolate about relevant clinical manifestations.

In a small study⁶ conducted at the Children's Hospital Medical Center in Cincinnati, Ohio, 27 children under-

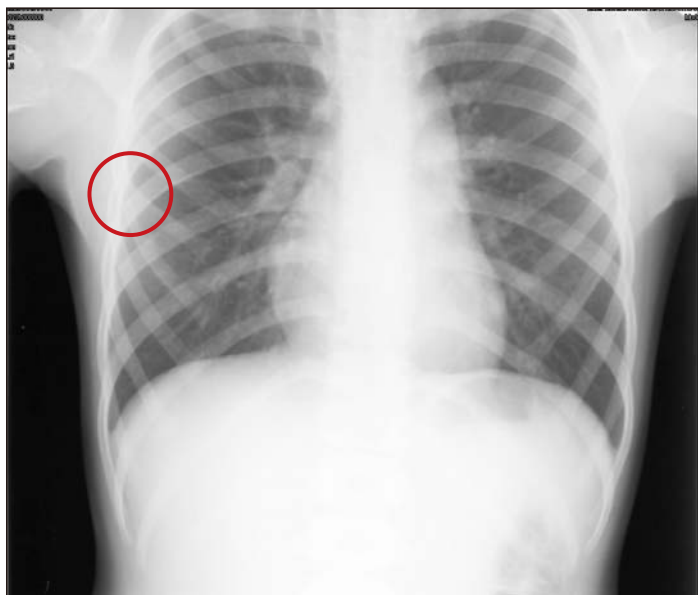


Figure. Radiographic film showing a bifid fifth rib on the patient's right side.

went computed tomography or magnetic resonance imaging to investigate the origin of palpable, asymptomatic anterior chest wall lesions. Radiologists were able to discern the source of the lesion in 26 of the children studied. In addition to one bifid rib, other normal variants included "prominent anterior convex ribs in 10 patients; 'tilted' sternum in six; prominent asymmetric costal cartilage in four ... and well-defined, small (<1 cm) subcutaneous nodule adjacent to costal cartilage in five." No patients in that study required further intervention or treatment. The authors report that further radiologic imaging for asymptomatic palpable chest wall lesions is of low yield.

Based on a review of the current medical literature on bifid ribs, it is advisable to perform a thorough physical examination on any patient found to have a bifid rib. Careful oral and cutaneous screenings can rule out lesser-known genetic syndromes. Physical findings such as odontogenic cysts, palmar pits, or irregular subcutaneous calcifications, warrant more intensive radiologic and genetic investigation. If the remainder of the physical exami-

nation findings is unremarkable and the patient is asymptomatic, additional clinical or radiologic investigation is of low yield.

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Front-Line Osteopathic Medicine

To the Editor:

As the active duty naval flight surgeon of a jet squadron (VAQ-133) recently deployed to Afghanistan, I arrived confident that my demanding internship in advanced trauma life support certification had provided me with the skills I needed for the task at hand. I was surprised to discover the important role that osteopathic manipulative treatment (OMT) would have in medically supporting my squadron.

The pilots and aircrew of our deployed forces often have musculoskeletal complaints. During flight operations, aviators experience significant gravitational forces while forcibly maintaining the body positions required for situational awareness. Furthermore, combat missions require that aviators wear restrictive safety gear and use night vision goggles, which can bring about cervical and thoracic somatic dysfunction.

The Naval Aerospace Medical Institutes' medical guidelines restrict the available treatment options for these individuals. The use of muscle relaxants and other more conventional pharmacologic therapies places aviators in a "down" aeromedical status, which prohibits them from flying. Osteopathic manipulative treatment, however, provides immediate and often prolonged relief while maintaining a fully functional squadron that is capable of completing frequent missions.

Many of the aircraft maintenance staff have somatic dysfunctions as well, resulting from labor-intensive jobs. The use of OMT in these individuals helps reduce the time taken off work and can also help increase morale, all of which contribute to keeping our jets airborne and missions successful.

My use of OMT has not only helped to keep VAQ-133 fully functional, it has strengthened my professional relationship with the members of my squadron. Developing a trusting relationship with my patients is both personally rewarding



Figure 1. LT David Hayes, DO, providing osteopathic manipulative treatment to a VAQ-133 pilot (LT Stiefer) after a combat mission in Afghanistan.



Figure 2. LT David Hayes, DO (center), with fellow aircrew (LCDR Moore [left] and LCDR Rao) after a combat mission over Afghanistan.

and vital to my role as a flight surgeon, because it allows me to assess many personal factors that affect the performance of my squadron members. This, in turn, has a direct influence on aviation safety through mishap prevention.

Of the many clinical skills front-line osteopathic physicians have at their disposal, OMT is invaluable. It allows medical care to be easily transferred from the osteopathic treatment table into the cockpits of jets. I can proudly

say that osteopathic medicine is currently playing an important role in protecting the lives of the many men and women who serve in our nation's Armed Forces.

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The views expressed in this letter are those of the author and do not necessarily reflect the official policy or position of the Department of the Navy, Department of Defense, nor the US Government.

In a Vacuum or In a S(I)de Show: OPP in Osteopathic CME Programming

To the Editor:

Although I second the observations of Robert A. Cain, DO, in his May 2005 letter to the editor ("Promoting active engagement with osteopathic principles and practice in interns and residents. 2005;105:236-237), I'd like to take his position several steps farther. I would argue that not only is there almost no integration of osteopathic principles and practice (OPP) through most of our hospitals' postgraduate medical education training, there has been almost no integration of OPP in our profession's continuing medical education (CME) programming—and there hasn't been for years.

I studied at Philadelphia College of Osteopathic Medicine (PCOM), Pa, under the legendary Angus G. Cathie, DO, and I can't recall our other osteopathic educators making more than a few minor attempts at incorporating OPP into their courses, either clinical or in the basic sciences. It was almost as if osteopathic manipulative treatment (OMT) existed in a vacuum.

At PCOM, we were constantly told that our training was "different" because we were taught to "think differently" from allopathic physicians, but I don't believe this is really true. Any medical school worth its salt will emphasize the importance of treating the whole patient.

Ultimately, osteopathic distinctiveness is supposed to involve—in at least some way—the importance of the musculoskeletal system in the maintenance and restoration of health.

From what I've seen in our hospitals, though, OMT is usually reserved for courtesies to fellow staff members.

Throughout my clinical rotations and during my internship, I saw OMT provided to only three patients. One of these three patients was an osteopathic surgeon who was hospitalized for pneumonia. The internist had previously shown about as much interest in OMT as Morris K. Fishbein, MD, the former editor of the now-defunct *Medical World News*, but the surgeon was a “ten-finger man.” I think the internist felt obligated.

I believe the osteopathic medical profession’s CME programs provide a more recent and more vivid illustration of the problem, however.

In 35 years of attending CME programs, I have heard exactly one osteopathic CME lecture that emphasized the use of OMT to treat patients with headaches. The speaker, a neurologist, stated that he had always been skeptical about the use and efficacy of OMT, viewing it, more or less, like sex. “You do it because it feels good,” he said. He later added anecdotally that, in his clinical experience, he found OMT to be extremely helpful to his patients. At the end of the lecture, he summarized his presentation and said, “And don’t forget about your OMT!”

Interestingly, I also attended a Pri-Med Institute program (accredited by the Accreditation Council for Continuing Education) about 4 years ago, and lecturers cited manipulation as a valid headache treatment.

Otherwise, the profession’s CME programs seem to consist of endless slide shows by clinicians who present the results of multitudes of studies, but never mention where in patients’ musculoskeletal systems a clinician might expect to see a manifestation of the disease process under discussion.

The lecturers shouldn’t feel too bad though, because it was never done at PCOM either. As with my medical school and internship experiences, when osteopathic tables are available for CME events, they are most often placed off stage somewhere, used as a side show, or kept mainly to treat other

osteopathic physicians and their family members.

I’ve always had a strong belief in the validity of the osteopathic concept and the efficacy of OMT, but I’ve had to figure out for myself how to apply it. Whether a musculoskeletal problem is the primary problem or a secondary manifestation of a disease process, it offers a portal for treatment that we ignore at our—or, actually, at our patient’s—peril. Throughout my entire career, I never heard it put quite that way. That is what’s missing in our entire educational process.

Although I use OMT to treat patients with a host of complaints, I most commonly use OMT to treat patients with asthma, emphysema, upper respiratory infections, hypertension, dysmenorrhea, and influenza or other viral infections. I go out of my way to incorporate OMT in my treatment regimens. I even use crude cranials for patients with colds and sinusitis, but most of these methods are derived.

Although I haven’t tried to provide OMT to my patients with gastrointestinal problems, I’m not ruling out the possibility that it could be effective. Where are our osteopathic gastroenterologists to tell us about how OMT works for them? Unfortunately, I don’t think they are providing lectures for our CME programs.

As our osteopathic hospital system collapses, if we are to preserve any remnants of osteopathic distinctiveness, we’d better start addressing such deficits in our knowledge and training.

The American Osteopathic Association has strict requirements for the qualifications of presenters at osteopathic CME events, insisting on a minimum number of osteopathic speakers at such conferences (ie, the “50% requirement”),¹ but it might help if they also tried to include some osteopathic tie-ins within the lectures themselves.

At least the public knows what the chiropractors are. It would be nice if they also knew what DOs are. Unfor-

tunately, for that lack of knowledge, we have only ourselves to blame.

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1. Rodgers DJ. Osteopathic continuing medical education. *J Am Osteopath Assoc.* 2006;106:85–95. Available at: <http://www.jaoa.org/cgi/content/full/106/2/85>. Accessed April 13, 2006.

Editor’s note: Morton Morris, DO, JD, Chairman of the American Osteopathic Association’s Council on Continuing Medical Education, will be presenting the Andrew Taylor Still Memorial Address on Saturday, July 15, 2006, at the association’s annual meeting of the Board of Trustees. In his speech, Dr Morris will address the issues noted by Dr Beaman among others with regard to osteopathic principles and practice in AOA-accredited CME programming.

Cardiologic Milestone: The Automatic External Defibrillator

The greatest thing in the world is not so much where we are, but in what direction we are moving.

—Oliver Wendell Holmes, 1809–1894

To the Editor:

One-rescuer cardiopulmonary resuscitation (CPR) evolved out of centuries of experimenting with chest compression methods.¹ Over time, closed chest compression became an integral part of the practice of resuscitation.² In the 1940s, Claude Beck, MD, documented successful electrical ventricular defibrillation.³ While CPR can be life saving and life sustaining, an electrical shock is the only effective treatment in certain cases.⁴ A defibrillatory shock must be administered within just a few minutes of collapse⁵; each lost minute decreases survival by 10%.⁴

Today, defibrillation is not limited to use by physicians in hospitals.⁴ The development of the modern automatic external defibrillator (AED), which can potentially save lives outside the hospital emergency setting, is a major contribution to cardiac medicine. Approval and requirements for AED use in specific settings is varied, and ongoing

research is needed to make these determinations.

New York State has passed legislation requiring universal placement of AEDs in schools.⁶ In Michigan, an attorney whose teenaged daughter died during a school exercise activity established a fundraising program (The Kimberly Anne Gillary Foundation) to place AEDs in all public schools in his area, resulting in more than 200 high schools being equipped with AEDs.⁷ Another argument for equipping schools with AEDs is commotio cordis (ie, cardiac concussion),^{5,8} a condition whereby cardiac arrest results from blunt, nonpenetrating precordial chest trauma, which can occur during athletic activities.⁹ Other locations where AED placement would be beneficial include athletic centers, churches, commercial airlines, convention centers, and police cars. In Ireland, all ambulances are required to carry AEDs.¹⁰ I remember the time when very few fire extinguishers were kept in offices because it was thought that they were more expensive than a call for help.

The American Red Cross (Washington, DC), the American Heart Association (Dallas, Tex), and the National Center for Early Defibrillation (Pittsburgh, Pa) are among the leaders and suppliers of up-to-date information on AEDs. Ongoing education through videos, discussions, and lecture programs are other ways of obtaining maintenance tips and updates. The book, *Challenging Sudden Death*,¹¹ is helpful in addressing maintenance issues for AEDs. Ideally, equipment should be checked daily and documented. In addition, AEDs should be easily seen; storage in a clear-fronted cabinet on a wall is ideal for most public locations.

Recently, in Norway, an AED training session was taking place for

the facility's personnel, when an individual offstage lost consciousness. The speaker had just removed a brand new AED from its packing case and, after confirming ventricular fibrillation, used the AED to resuscitate the victim, who survived.¹² Research is needed to answer questions about the appropriateness of base locations and individual home use.

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Corrections

The JAOA regrets that the following typographic errors appeared in the April 2006 issue and the May 2006 issue, respectively.

- McCoy SJ, Beal JM, Shipman SB, Payton ME, Watson GH. Risk factors for postpartum depression: a retrospective investigation at 4-weeks postnatal and a review of the literature. *J Am Osteopath Assoc*. April 2006;106(4):193-198. Available at: <http://www.jaoa.org/cgi/content/full/106/4/193>. Accessed May 23, 2006.

In Table on page 195, the No and Yes column headings under "EPDS Score, ≥ 13 " were accidentally reversed. The Yes column heading should have appeared first, at the top of the second column of data.

- Baker HH, Cope MK, Adelman MD, Schuler S, Foster RW, Gimpel JR. Relationships between scores on the COMLEX-USA Level 2-Performance Evaluation and selected school-based performance measures. *J Am Osteopath Assoc*. May 2006;106(5):290-295. Available at: <http://www.jaoa.org/cgi/content/full/106/5/290>. Accessed May 23, 2006.

The quoted paragraph in column two on page 291 should end after "...prior to graduation.¹⁷" and the following paragraph should begin, "The validity of this examination will have an impact on graduation and licensure of all future osteopathic physicians."

The April and May 2006 issues of the JAOA have been corrected online to reflect both changes.