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Letter writers must include their full professional title(s) and affiliation(s), complete address, day and evening telephone numbers, fax number(s), and e-mail address(es). Letter writers are responsible for disclosing financial associations or other possible conflicts of interest.

Although *JAOA* cannot acknowledge the receipt of your letter, we will notify you if the letter has been accepted for publication. Rejected letters and illustrations will not be returned unless accompanied by a self-addressed stamped envelope.

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**Bridging the Gap Between Medical Education and Application of OPP/OMT**

*To the Editor:*

As always, I appreciate and commend coverage by the *Journal of the American Osteopathic Association* of not only osteopathic clinical research but also of studies that address trends occurring in the osteopathic medical profession. Accordingly, I read the article by Neal R. Chamberlain, PhD, and Herbert A. Yates, DO, “Attitudes Toward Use of Osteopathic Manipulative Treatment in Caring for Patients” (*J Am Osteopath Assoc*, 2003;103:470-478), as well as the article by Howard S. Teitelbaum, DO, PhD, MPH, “Osteopathic Medical Education: Renaissance or Rhetoric?” (*J Am Osteopath Assoc*, 2003;103:899-490) with much interest.

Both articles focus on osteopathic medical students’ belief in, dedication to, and consequent use of osteopathic principles and practice (OPP), of which osteopathic manipulative treatment (OMT) is a major component. What the authors uncover is a seeming disconnect between what osteopathic medical students are taught about OPP/OMT, versus how they use OPP/OMT in their educational training and careers. According to results of many surveys cited by the authors, most osteopathic medical students believe they are well-educated in OPP/OMT and believe in this approach; however, once these same students enter clinical rotations, application of OPP/OMT declines rapidly.

We live in an era of medicine in which osteopathic physicians have achieved parity in most fields. Yet, the articles reference a definitive study that concludes OPP/OMT is the single defining distinction of osteopathic medicine. A great dilemma arises, therefore, when our students—our future osteopathic physicians—do not demonstrate this distinction. Indeed, we may well be the victims of our own success in this regard.

The aforementioned articles mirror similar findings presented in past issues of the *JAOA*. I believe that what we are witnessing in these peer-reviewed articles is a call to action for those of us in the osteopathic medical profession to revitalize our commitment to OPP/OMT. We need to align our osteopathic identity with those fundamental beliefs and practices that make us unique. It is not out of sentimentality for our heritage that we should do this; rather, it is a necessary action to ensure a future for osteopathic medicine.

The American Osteopathic Association (AOA) is pursuing efforts on a variety of fronts to revitalize OPP/OMT as the basis of all osteopathic medical education, training, and practices. In collaboration with the American Association of Colleges of Osteopathic Medicine, the American Osteopathic Association has undertaken a comprehensive Osteopathic Medical Education (OME) Study regarding the state of osteopathic medical education and training to formulate recommendations that enhance the continuum of osteopathic medical education in a changing health care environment. Our support of the Osteopathic Research Center in Fort Worth, Texas, helps advance clinical research to prove the efficacy of OPP/OMT applications in clinical care so these applications will be more widely promoted and used. Through our Clinical Assessment Program, the AOA is seeking to improve patient outcomes by evaluating the effectiveness of clinical practices in osteopathic residency programs.

I found it especially poignant that both articles referenced a lack of clinical role models who use OPP/OMT as one reason for the procedure’s declining relevance among students. We cannot expect osteopathic medical students to carry the identity of osteopathic medicine alone. We must first strengthen their foundation by providing them with mentors and examples.

I hope that the AOA’s declaration of 2004 as the Year of the Mentor, along with other mentoring efforts throughout the profession, will inspire potential role models to show medical students and graduate medical students how OPP/OMT affects an osteopathic physician’s entire approach to care.

Above all, bridging the gap between students’ knowledge and belief in OPP/OMT and their application of OPP/OMT will require a substantial renaissance of osteopathic medicine’s founding principles and practice. This revival must extend profession-wide, touching all osteopathic organizations, medical schools, and training programs, as well as every DO and osteopathic medical student.

I hope that our readers, especially our deans and directors of medical education, reviewed these articles and others in the *JAOA* with similar concern and now find the motivation necessary to reenergize our profession. I encourage all readers to consider ways we may preserve osteopathic medicine as a distinct form of comprehensive health care that is relevant to the needs of...
to today’s patients. Together, we must strive to promote the osteopathic principles and practices on which we were founded and which continue to determine our uniqueness. On this principle alone, if no other, the profession must be united if we want to survive.

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American Osteopathic Association
Chicago, Illinois

Subtherapeutic Dosing of Methotrexate in Rheumatoid Arthritis Trials

To the Editor:

Genovese et al1 compared etanercept to methotrexate (MTX) in a 2-year trial. In their article, the authors describe the dose of 20 mg/wk of MTX administered orally as “aggressively dosed MTX.” The American College of Rheumatology guidelines revised in 2002 regarding treatment of rheumatoid arthritis describe the usual maintenance dose as between 7.5 mg/wk and 20 mg/wk. We have noticed that in other studies3-5 comparing MTX efficacy to newer disease-modifying antirheumatic drugs (DMARDs) (eg, leflunomide), patients frequently do not reach an MTX dose of even 15 mg/wk. Studies6,7 that initiate a new DMARD (eg, infliximab) when patients are considered MTX failures do so at MTX doses as low as between 10 mg/wk and 12.5 mg/wk. We suspect, however, that some patients may benefit from MTX at doses greater than 20 mg/wk.

To determine whether augmentation of the MTX dose from 20 mg/wk to 25 mg/wk either orally or parenterally has clinical utility, we prospectively evaluated eight patients with active rheumatoid arthritis despite their current DMARD regimen, which included MTX at 20 mg/wk. The criteria for entry into the study were adult patients with rheumatoid arthritis having evidence of active disease with at least three of the following: ≥45 minutes of morning stiffness, 6 or more tender joint count, 3 or more swollen joint count, and an ESR ≥ 28 mm/hr. Eligible patients taking or having taken other commonly prescribed DMARDs received a stable dose (no change for at least 8 weeks) of oral MTX at a dose of 20 mg/wk. All other medications to control disease activity (eg, NSAIDs, corticosteroids) must also be at a stable dose without change for at least 1 month. Patients on corticosteroids were maintained at their stable dose of ≤10 mg/d. Because the bioavailability of MTX at doses >15 mg/wk may be erratic, half of the patients were prescribed MTX 25 mg/wk by subcutaneous injection, while the other half received MTX 25 mg/wk by oral administration.

After 8 weeks of either oral or subcutaneous MTX at 25 mg/wk, patients crossed over to the alternate route of administration for the duration of the 16-week trial. In the alternate route, patients were randomly assigned to groups that either received the oral or subcutaneous route of administration for MTX. Each patient was evaluated monthly using the modified health assessment questionnaire, patient global assessment, joint counts, and erythrocyte sedimentation rate. Physician evaluators were blinded to the route of MTX administration.

The result of this pilot study was significant response in two patients only when MTX was administered subcutaneously (Table). Patient 4 was randomized to receive MTX orally for the first 8 weeks, which did not result in improvement. When patient 4 crossed over to receiving MTX by subcutaneous injection, he achieved an American College of Rheumatology 20% improvement (ACR20). Patient 1 was randomized to receive MTX by subcutaneous injection for the first 8 weeks, resulting in an ACR50. When patient 1 crossed over to receive MTX by the oral route, her clinic status returned to her active baseline. When this patient completed the study, she reinstituted MTX by subcutaneous route, and ACR50 was again achieved. All patients completed the trial, and there were no major adverse effects.

From this pilot study, we concluded that some patients with active rheumatoid arthritis who are taking MTX 20 mg/wk orally may respond to 25 mg/wk if the route of administration is changed to subcutaneous injection. Hence, patients receiving MTX at a dose of <20 mg/wk should not be considered MTX failures. In addition, MTX

<table>
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<th>Pt#</th>
<th>Age, y</th>
<th>Sex</th>
<th>Duration RA, y</th>
<th>Rheumatoid Factor</th>
<th>Prednisone Dose (mg/d)</th>
<th>Concurrent DMARD</th>
<th>DMARDs Failed, No.</th>
<th>Route of Administration and Response</th>
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<td>F</td>
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<td>5</td>
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<td>10</td>
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<tr>
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<td>Pos</td>
<td>5</td>
<td>None</td>
<td>0</td>
<td>ORAL: 0 SC: 0</td>
</tr>
</tbody>
</table>

*ACR50 when taking MTX 25 mg/wk by subcutaneous injection. No improvement on MTX 25 mg/wk taken orally.
†ACR20 when taking MTX 25 mg/wk by subcutaneous injection. No improvement on MTX 20 mg/wk taken orally.
Pt indicates patient; RA, rheumatoid arthritis; DMARDs, disease modifying antirheumatic drugs; SC, subcutaneous; ACR, American College of Rheumatology.
efficacy at doses ≤20 mg/wk should be considered standard rather than “aggressive.” We feel that parentally dosed MTX in this dose and potentially higher doses should be studied further.

**Discussion and Literature Review of Primary Respiration**

To the Editor:
While reading *Teachings in the Science of Osteopathy,* by William Garner Sutherland, DO, I came to view the concept of osteopathy in the cranial field as an undeniable mark of Sutherland’s genius. I was skeptical at first and wondered what this Midwesterner from 100 years ago could possibly have figured out about treating patients in a manner applicable to modern day health care. My prejudice was further fueled by Dr Sutherland’s periodic references to the Bible. At some point it occurred to me, however, that the biblical references he made were simply the best way to get his point across to the audiences he was addressing. I also realized that the “Tide” Sutherland referred to in his book may have had spiritual connotations, yet he carried this idea out in a respectful, universally inclusive way.

Sutherland used the “Tide” to refer to the primary respiratory mechanism, which he described as consisting of cerebrospinal fluid protein fluctuation, the reciprocal tension membrane, neural tube motility, articular mobility of cranial bones, and involuntary iliosacral mobility. Interestingly, all of these elements are now suspected to arise from the process known as cellular respiration.

Crisera presented ideas on primary respiration that helped bring the concept into the 21st century. “[Primary respiration is the] central rhythm that resonates throughout the cell, which is capable of binding and synchronizing a diversity of physiological processes into a functional biological unity. Collectively, this equivalent vibration for the cell, which is capable of binding and synchronizing a diversity of physiological processes into a functional biological unity. Collectively, this equivalent vibration for the cell, which is capable of binding and synchronizing a diversity of physiological processes into a functional biological unity.

The implications of this understanding are boundless. If one can facilitate more efficient primary respiration in a patient, that patient then derives an improved state of function. What could be more effective in promoting health in a patient? Relieve the cranial strain patterns that limit primary respiration, and the patient’s condition will improve.

Rivera-Martinez et al support the idea of an increased prevalence of cranial strain patterns in disease states. They found a significantly higher frequency of bilateral occipitoatlantal and bilateral occipitomastoid compression in patients with idiopathic Parkinson’s disease, compared with bilateral controls. They also found that using osteopathic manipulative treatment (OMT) for patients with Parkinson’s disease resulted in improvement in strain patterns. Further studies to investigate whether the degree of strain correlates with the degree of advancement of Parkinson’s disease were recommended by the authors.

In another arena, Handoll presents evidence that the devastating effects of Down syndrome are caused primarily by postnatal hypoxemia and that OMT may be effective in increasing perfusion, thereby reducing those effects. Similarly, Plotkin et al found OMT to be beneficial to women with depression, as 100% of a study group receiving OMT tested normal at the 8-week follow-up psychometric evaluation, compared with 33% of the control group.

Numerous studies demonstrate the beneficial effects of OMT—including an easing of cranial strain patterns. However, there are also several studies that criticize the concept of osteopathy in the cranial field for lack of interrater reliability of findings. One such study conducted by Hanten et al found that “a single examiner may be able to palpate the rate of the craniosacral rhythm consistently, if that is what we truly measured. It is possible that the perception of CSR is illusory. The rate of the CSR palpated by two examiners is not consistent. The results of the regression analysis of one examiner offered no validation to those of the other.”

Surely, the harsh language here implies a preconceived motive to convince readers that the “craniosacral rhythm does not even exist.” Yet, should we concede that interrater reliability in these studies is suboptimal, it does not prove that the perception

(continued on page 12)
of primary respiration is an illusion. Rather, the significance may be that examiners have different skill levels and are relating only that which they are able to sense.

Imagine a study in which ten seasoned cardiologists assess fifty patients (numbers intended to represent typical number of examiners and subjects in interrater reliability studies with small sample sizes and large margins of error) with either grade 1 or grade 2 systolic ejection murmurs. Could anyone seriously contend that the consensus on murmur grades could be anywhere near 100%? More to the point, what difference would it make? Just as the cardiologist would consider all factors of the patient’s status before implementing a treatment protocol, so would an osteopathic physician before proceeding to treatment.

That is the essential goal of osteopathic medicine as defined by Andrew Taylor Still, MD, DO: Care of the whole organism, thus allowing health to be restored. Dr Sutherland merely expanded on that philosophy by delineating a mechanism of action by which the body heals. Those who overlook the unparalleled healing potential of Dr Sutherland’s ideas do so at the expense of their patients’ health. ♦

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References