JAOA LETTERS

As the premier scholarly publication of the osteopathic medical profession, *JAOA—The Journal of the American Osteopathic Association* encourages osteopathic physicians, faculty members and students at colleges of osteopathic medicine, and others within the healthcare professions to submit comments related to articles published in the *JAOA* and the mission of the osteopathic medical profession. The *JAOA*'s editors are particularly interested in letters that discuss recently published original research.

Letters to the editor are considered for publication in the *JAOA* with the understanding that they have not been published elsewhere and that they are not simultaneously under consideration by any other publication.

All accepted letters to the editor are subject to editing and abridgement. Letter writers may be asked to provide *JAOA* staff with photocopies of referenced material so that the references themselves and statements cited may be verified.

Readers are encouraged to prepare letters electronically in Microsoft Word (.doc) or in plain (.txt) or rich text (.rtf) format. The *JAOA* prefers that readers e-mail letters to jaoa@osteopathic.org. Mailed letters should be addressed to Gilbert E. D'Alonzo, Jr, DO, Editor in Chief, American Osteopathic Association, 142 E Ontario St, Chicago, IL 60611-2864.

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

Although the *JAOA* cannot acknowledge the receipt of letters, a *JAOA* staff member will notify writers whose letters have been accepted for publication. Mailed submissions and supporting materials will not be returned unless letter writers provide self-addressed, stamped envelopes with their submissions.

All osteopathic physicians who have letters published in the *JAOA* receive continuing medical education (CME) credit for their contributions. Writers of original letters receive 5 hours of AOA Category 1-B CME credit. Authors of published articles who respond to letters about their research receive 3 hours of Category 1-B CME credit for their responses.

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.

New COMLEX-USA-to-USMLE Conversion Formula Needed

To the Editor:

In a July letter to the editor, Sahil P. Parikh, DO, and Carly A. Shiembob, DO,[1] thoughtfully asked the following question:

> How does a director of an ACGME [Accreditation Council for Graduate Medical Education] residency program compare an osteopathic medical student's COMLEX-USA [Comprehensive Osteopathic Medical Licensing Examination-USA] score with an allopathic medical student's USMLE [United States Medical Licensing Examination] score?

After citing a formula for estimating USMLE scores from COMLEX-USA scores—described in the September 2006 *JAOA* by Philip C. Slocum, DO, and Janet S. Louder[2]—they characterize this formula as ineffective. Drs Parikh and Shiembob[1] conclude, rather than making an effort to get ACGME programs to accept COMLEX-USA results, "we believe it is more important for the osteopathic medical profession to develop a formula for examination score conversion that will more accurately reflect the qualifications of osteopathic medical students."

As president and chief executive officer of the National Board of Osteopathic Medical Examiners (NBOME)—the creators and sole administrators of the COMLEX-USA series of examinations—I am happy to respond to the letter by Drs Parikh and Shiembob.[1]

First, I would like to highlight the response to Drs Parikh's and Shiembob's letter[1] written by Dr Slocum,[3] which also appeared in the July issue. In his response, Dr Slocum[3] acknowledges that the statistical analysis conducted 5 years ago[2] is no longer valid because of changes in both examinations. I would add that the 2006 Slocum and Louder study[2] was based on a group of students from a single osteopathic medical school, and the sample size was small. The demographic characteristics of the student sample were, therefore, not representative of the total pool of osteopathic medical students in the United States. In other words, although the statistical relationship between the USMLE and COMLEX-USA examinations may have been true for that particular school in 2006, it would not necessarily have been true for the national group of osteopathic medical students.

From the NBOME's perspective, the more important point is contained in the second part of Dr Slocum's response,[3] in which he notes the osteopathic distinctiveness of the COMLEX-USA examination series. We at the NBOME understand the desire for a "conversion formula," and we are aware of the challenges faced by osteopathic medical students when applying to ACGME-accredited residency programs. However, because of the different natures of the examinations, it is not possible—or even desirable—to make a direct numerical comparison between

the scores of the COMLEX-USA examination series and those of the USMLE.

The osteopathic medical profession honors its contract with the public by ensuring osteopathic physicians are licensed based on results of the COMLEX-USA, which is designed for the practice of osteopathic medicine and validated for that distinct purpose. Only the COMLEX-USA series assesses the skills and philosophy unique to the osteopathic medical profession.

Osteopathic medical students and residents train for the practice of osteopathic medicine. The curriculum of every osteopathic medical school incorporates distinctive osteopathic principles and prepares students for medical practice as osteopathic physicians. The COMLEX-USA incorporates these distinctive osteopathic principles, and it is constructed and validated based on practice patterns that are unique to DOs, including the use of osteopathic manipulative treatment. By contrast, the USMLE does not meet these criteria for assessing osteopathic medical students, and it does not test for osteopathic principles or osteopathic manipulative treatment.

Residency programs consider a wide variety of important factors in determining which applicants to interview and accept. Examination scores are only one of these factors. Although neither the COMLEX-USA nor the USMLE is designed primarily for the purpose of evaluating residency program applicants—they are both designed primarily for initial licensure of physicians—residency program directors do commonly consider test scores in evaluating applicants. When it comes to examinations, the NBOME encourages residency program directors to consider the COMLEX-USA series as the valid and most appropriate assessment tool for osteopathic medical students.

The NBOME has made many efforts over the years to facilitate both osteopathic and allopathic residency program directors' understanding of COMLEX-USA scoring. Specifically, the NBOME reports a 2-digit standard score on all Electronic Residency Application Service requests for COMLEX-USA scores-just as the National Board of Medical Examiners does with USMLE scores. The NBOME's Web site (http://www.nbome.org) features a conversion tool that allows interested parties to obtain percentile scores for the COMLEX-USA.

Despite these efforts, we recognize that more information and education are needed, and we are committed to residency program director outreach as a top priority. The NBOME is actively seeking opportunities to convey the information I have outlined in this letter directly to ACGME residency program directors—particularly those with programs to which large numbers of osteopathic medical students are applying. Our goal is to increase program directors' understanding of the COMLEX-USA examination series, including its content, development, validity, and scoring. We anticipate that improved understanding will allow program directors to recognize the COMLEX-USA as an entity unto itself (rather than something requiring comparison to the USMLE) and as the most appropriate tool with which to evaluate osteopathic medical students.

I would like to thank Drs Parikh and Shiembob[1] for their considered efforts in testing the equations reported by Dr Slocum[2] and for the time they spent addressing this important matter. I would also like to thank Dr Slocum[3] for his response to the letter by Drs Parikh and Shiembob.[1] We at the NBOME are taking steps to mitigate the challenges osteopathic medical students sometimes face with respect to COMLEX-USA scores when applying to ACGME-accredited residency programs.

At the same time, I would like to call on all members of the osteopathic medical profession to join me in repeating and reinforcing our fundamental conviction—the COMLEX-USA series of examinations is the valid and most appropriate evaluation tool for osteopathic medical students. I welcome further ideas and suggestions on this matter.

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President and Chief Executive Officer, National Board of Osteopathic Medical Examiners

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New Insights Regarding Possible Association Between Prenatal Ultrasound and Autism

To the Editor:

I recently received a response to my letter to the editor on the possible increased risk of autism from prenatal ultrasonography,[1] published in the February 2009 *JAOA—The Journal of the American Osteopathic Association*. The letter came from Erik L. Ridley, a senior editor with AuntMinnie.com,[2] a community Web site about medical imaging. I believe that Mr Ridley pointed to some important related information. He referred to an article by Grether et al[3] that was published online in September 2009 by the *Journal of Autism and Developmental Disorders*. (The article was published in print form in February 2010.) Following is the abstract from that article[3]:

> We evaluated antenatal ultrasound (U/S) exposure as a risk factor for autism spectrum disorders (ASD), comparing affected singleton children and control children born 1995-1999 and enrolled in the Kaiser Permanente health care system. Among

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children with ASD (n=362) and controls (n=393), 13% had no antenatal exposure to U/S examinations; case-control differences in number of exposures during the entire gestation or by trimester were small and not statistically significant. In analyses adjusted for covariates, cases were generally similar to controls with regard to the number of U/S scans throughout gestation and during each trimester. This study indicates that antenatal U/S is unlikely to increase the risk of ASD, although studies examining ASD subgroups remain to be conducted.

The information reported by Grether et al[3] is very reassuring to me. I am sure that it will also be reassuring to others who have wondered if there might be an association between autism and prenatal ultrasonography. I am happy to convey this information to the readers of the *JAOA*.

Christopher D. Olson, DO
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Effects of Rib Raising on the Autonomic Nervous System: A Pilot Study Using Noninvasive Biomarkers

To the Editor:

It is discouraging to see the traditional osteopathic concept of rib raising diluted in the original contribution by Kristie Grove Bridges, PhD, and coauthors[1] published in the June issue—especially in light of the American Osteopathic Association's march away from traditional concepts of osteopathy.

There is no question that rib raising affects the sympathetic nervous system. However, the well-established rib raising technique has historically been done not to modulate the sympathetic nervous system, but to relieve pulmonary congestion in patients with pneumonia or influenza. The most outstanding example of this use of rib raising—as well as of the thoracic lymphatic pump—occurred during the influenza epidemic of 1917-1918. According to statistics in Georgia W. Walter's *The First School of Osteopathic Medicine: A Chronicle*,[2] the estimated nationwide mortality rate for patients who received conventional medical care during this epidemic was 30% to 40%. By contrast, for 110,120 patients who received osteopathic care during this epidemic, the mortality rate from influenza was 0.25%. The beneficial results from rib raising in cases of respiratory congestion are not mentioned in the article by Dr Bridges and her colleagues.[1]

Furthermore, the photograph on the cover of the June *JAOA* does not show the proper application of rib raising. To properly apply this technique, the operator stands beside the supine patient, takes the patient's arm on that side, holds it in his or her cephalad axilla, and places the fingers of both hands under the rib angles. Then, as the operator raises the ribs, he or she leans toward the patient's head, using the pectoralis major and the serratus anterior to elevate the rib cage, enhancing the action of his or her fingers.

The late Walter Mill, DO, and I interned together at Rocky Mountain Osteopathic Hospital in Denver, Colorado, in 1950-1951. During our internship, we treated each surgical patient with rib raising every day—and we did not have a single case of postoperative pneumonia. With conventional medical care, postoperative pneumonia still occurs.

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Response

We appreciate Dr Magoun's candid feedback regarding our June *JAOA* original contribution,[1] and we believe that his assertion that "[t]here is no question that rib raising affects the sympathetic nervous system" actually supports the rationale behind our study.

The aim of our study[1] was to investigate the effects of rib raising on the autonomic nervous system on a more exact level using measurable biomarkers. The intent of our study was *not* to define the clinical scope of rib raising. Although rib raising is used for a number of indications, we chose to focus on its proposed physiologic effects on the autonomic nervous system because noninvasive methods for studying this system are available. The rib raising technique used in our study[1] is identical to that described in *Foundations for Osteopathic Medicine*[2] and *Pocket Manual of OMT*,[3] and it is also consistent with procedures used in recent clinical efficacy trials, including the Multicenter Osteopathic Pneumonia Study in the Elderly (MOPSE).[4]

Although Dr Magoun feels that our study[1] dilutes traditional concepts of osteopathy, we believe that we are exploring and clarifying these concepts by expanding our understanding of them through scientific investigation of the physiologic response to manipulation. It is our hope that studies such as ours[1] will provide a better understanding of not only the physiologic basis of osteopathic manipulative treatment (OMT), but also of individual differences in response to OMT—thereby

facilitating the standardization and optimization of treatment protocols.

In combination with clinical efficacy trials, a continued focus on basic research into the mechanisms behind OMT will further expand the scientific knowledge base for the role of OMT in the spectrum of modern osteopathic medical care.

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To Shan Li, DO
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Soul Sickness: A Frequently Missed Diagnosis

To the Editor:

I enjoyed reading the special communication article in the June issue titled "Soul Sickness: A Frequently Missed Diagnosis," by Charles R. Perakis, DO.[1] Dr Perakis[1] emphasizes the importance of an attentive caring physician. "Doctor" in Latin means *teacher*, derived from *docere*, meaning *to teach*.[2] *Webster's New Twentieth Century Dictionary*[3] defines physician as "any person or thing that heals, relieves, or comforts." Hope is vital for life, and the following statements expressed by Dr Perakis[1] are appropriate:

> Physicians can assist patients in regaining hope by encouraging them to focus on new, adaptive behaviors. As osteopathic physicians, we can use our skills in osteopathic manipulative treatment to manage the demoralization-related physical symptoms of patients.

However, the type of patient discussed by Dr Perakis[1] has signs and symptoms of serious mood disorder, and I believe that the following description by Dr Perakis[1] is misleading:

> "Soul sickness," or *demoralization*, is characterized by feelings of hopelessness and helplessness and a perceived sense of incompetence. This condition typically involves vague, unexplained physical symptoms.

Unipolar depression is one of the two most disabling medical conditions in the world, and it is associated with serious medical comorbidities and potential suicide.[4-6] In addition, organic brain changes associated with mood disorder compromise many bodily functions, such as sleep, appetite, and cognition (eg, concentration, learning, memory).[7,8]

Although Dr Perakis[1] is well-meaning, he seems to downplay the need for a comprehensive diagnosis in such conditions:

> Unfortunately, such [diagnostic] tests and images designed to reduce physician uncertainty often raise additional uncertainties rather than provide answers about patients' conditions.

There is a need to perform a comprehensive differential diagnosis in order to maintain objectivity regarding the patient's disease process. The physician should not take the risk that the patient has an undiagnosed destructive disease.

While a student at Kirksville College of Osteopathic Medicine-A.T. Still University in Missouri, I admired the clinical skill of the chairman of the osteopathic manipulative medicine department, Ira C. Rumney, DO, who humorously but wisely said, "DO means *dig on*."

Edward H. Tobe, DO
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Response

I appreciate the comments made by Dr Tobe about my article in the June *JAOA*.[1] He rightfully points out the need to be aware of those patients who have serious mood disorders. Such patients require appropriate treatment, including both counseling and pharmacologic interventions. However, rather than down-

playing the need for comprehensive diagnosis of patients with unexplained symptoms, as Dr Tobe alleges, I am advocating for appropriate recognition of the problems faced by these patients and for addressing these problems while considering serious mood disorders.

Certainly, unipolar depression and organic brain changes associated with mood disorders can present in a similar manner and may be primarily responsible for, or seen in conjunction with, soul sickness (ie, demoralization). My suggestion is that physicians look for the subjective incompetence that categorizes this condition.

De Figueiredo[2] elaborates on the distinction between demoralization and depression, and he distinguishes between symptoms of endogenomorphic depression and exogenomorphic depression. Symptoms of endogenomorphic depression (eg, distress, disturbances in sleep and appetite) typically appear to people experiencing them as abnormal conditions originating within themselves. By contrast, symptoms of exogenomorphic depression (eg, grief, loss of self-esteem) are often normal, self-limiting emotional states that are triggered by such "outside" sources as chronic disappointment or failure.[2]

Exogenomorphic depression may also be part of demoralization and associated with subjective incompetence (ie, a feeling of being trapped or blocked because of an inability to plan and initiate concerted action toward a goal or goals). In addition to the presence of subjective incompetence, the magnitude and direction of the patient's motivation to act can be used to distinguish demoralization from depression. Individuals who perceive themselves as incompetent with respect to goals are puzzled, indecisive, and uncertain as to the direction of action they should take, making them feel as though they are in a quandary.[2]

Both the depressed person and the demoralized person lack motivation. However, the depressed person may know the appropriate direction of action but lacks motivation to pursue it. The demoralized person, by contrast, is inhibited from acting by uncertainty over the appropriate direction of action.[2]

Much unnecessary testing, with associated problems (such as additional diagnostic uncertainties), can be avoided. Some authors have advocated for the inclusion of demoralization in the *Diagnostic and Statistical Manual of Mental Disorders*.[3] Such inclusion would help draw the attention of psychiatrists to the value of "digging" for the real obstacles to a happier and more meaningful life for patients struggling with this condition.

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Realigning the *JAOA* to Sharpen Our Focus

To the Editor:

I feel compelled to reply to the letter in the June issue by Daniel K. Mangum, DO,[1] which was written in response to the November 2009 editorial titled "Realigning the *JAOA* to Sharpen Our Focus," by Felix J. Rogers, DO.[2]

Dr Mangum[1] shares his opinion that the musculoskeletal system does not play a primary role in health and disease. He suggests that the osteopathic medical profession focus its manipulation skills primarily on back pain and—as I interpret his letter—also on fibromyalgia, headaches, and injuries. Dr Mangum[1] further suggests that we distance ourselves from claims that osteopathic manipulative treatment (OMT) may prevent diseases or modify illnesses. I may have misinterpreted Dr Mangum's letter,[1] but he seems to propose that OMT be reserved mainly for managing musculoskeletal-related problems because it is probably not helpful for other disease prevention or management.

As a full-time osteopathic physician who used OMT in most of my cases during my 15 years of practice, I can report that OMT definitely *does* modify existing illnesses and can prevent the development of more serious problems. Based on my experience, I would like to expand the list of conditions for which OMT can be successfully used. I will start with a list of conditions that are directly related to the musculoskeletal system—actually the neuromusculoskeletal system (in which I have board certification). I will then list diseases not usually associated with the neuromusculoskeletal system in which noticeable improvements from OMT can also sometimes be achieved.

I have witnessed improvement with the use of OMT to treat patients with the following neuromusculoskeletal conditions (listed roughly from head to toe):

- cerebral palsy
- Parkinson disease
- Bell's palsy
- trigeminal neuralgia
- migraines
- tinnitus
- dizziness
- temporomandibular joint disorder
- torticollis
- strabismus
- dental alignment issues
- herniated disk and stenosis of the cervical region
- frozen shoulder, shoulder pain, and related conditions (eg, impingement)
- lateral epicondylitis, ulnar neuropathy
- carpal tunnel syndrome
- rheumatoid arthritis, osteoarthritis, psoriatric arthritis
- multiple sclerosis
- polymyalgia rheumatica
- chest pain, rib pain

- postsurgical pain from open heart surgery
- pelvic pain, coccyx pain, pubic region pain
- herniated disk and stenosis of the lumbar region, spondylolisthesis symptoms
- sciatica
- osteoporosis-related pain
- ankylosing spondylitis pain
- scoliosis
- knee pain, knee sprains, Baker's cyst, torn meniscus, Osgood-Schlatter disease
- shin splints
- ankle sprain, foot sprains, torn Achilles tendon pain, heel spur pain
- postradiation pain
- growing pains

I have also witnessed noticeable improvements using OMT to treat patients with the following diseases and other problems seemingly not related to the neuromusculoskeletal system (listed alphabetically):

- abdominal pain
- anxiety
- asthma
- chronic obstructive pulmonary disorder
- common cold
- constipation
- cough
- Crohn's disease
- depression
- diverticular disease
- dysmenorrhea
- fatigue
- Guillain-Barre syndrome
- hemorrhoid pain
- high blood pressure
- hypersensitivity (ie, allergies)
- hypertension
- infant colic and reflux
- influenza
- insomnia
- irritable bowel syndrome
- leg edema
- Lyme disease symptoms
- lymphadenitis
- lymphedema
- mastitis
- otitis media
- pericarditis
- plagiocephaly
- pleural effusion
- pneumonia
- pregnancy problems (ie, postdates, breech)
- sinusitis
- sore throat
- ulcerative colitis
- urinary tract infection
- varicose vein pain

These lists are by no means exhaustive of all conditions for which I have used OMT with patients who reported feelings of benefits. Some of these conditions may not have been totally eradicated with OMT, but at least enough improvement was achieved so that a possibly more invasive or more expensive treatment was avoided, or a patient's quality of life was improved, or the severity of symptoms was reduced.

I realize that these lists represent only a single osteopathic physician's experiences and are anecdotal in nature. Nevertheless, the lists do seem to reflect the kinds of illnesses that osteopathic medical textbooks have taught us for many years and the kinds of conditions that we have long spoken of in the OMT laboratory.

Andrew Taylor Still, MD, DO, stated in his autobiography, "I have never failed on a case of asthma to date, and after eighteen years' practice can say that for asthma Osteopathy is king."[3] I believe that osteopathic medicine may have been much more effective in Dr Still's time because of the following reasons: All food was completely organic. All meat and dairy animals were naturally raised and grass-fed, and the milk was raw. The air, water, and fish were virtually unpolluted (compared with today), without vast amounts of endocrine disruptors, heavy metals, and other harmful chemical contaminants. Most people had adequate amounts of exercise, because they performed physical labor rather than sat in front of televisions or computers all day. Although life expectancy has increased and medical care has advanced since Dr Still's time, I believe that patients of that earlier era may have responded more favorably to OMT because they had more natural nutrition sources and less exposure to chemical pollutants.

In my practice, I have noted that some patients are more difficult to treat with OMT alone when they are in poor immune and nutritional states. I have found that the addition of proper nutrition (including vitamins and minerals), probiotics, bioidentical hormone replacement, detoxification, homeopathy, and certain modern medications, when necessary, will often make a patient's response to OMT more dramatic. For example, patients with various conditions sometimes respond favorably to only nutritional changes—highlighting why a holistic osteopathic physician needs to look at all aspects of a patient, without expecting OMT to be a cure-all.

I have observed particularly magnificent results with the use of OMT for treating patients with back pain. In fact, I concur with Dr Mangum[1] on this point. The success of OMT for this condition was noticed in 1999 by the *New England Journal of Medicine* in one of the most frequently cited published articles on OMT.[4] Despite this success, conducting academic research in OMT is still nearly impossible without obtaining a huge amount of support and financial resources—and these resources are usually not available. Even research involving surveys and chart reviews can be costly and time consuming.

Although OMT research may not be reported on the evening news, osteopathic physicians are quietly getting the job done. Information on the benefits of OMT is spread mostly by word of mouth among patients who have experienced these benefits for themselves. Quite of bit of published research besides the previously mentioned *New England Journal of Medicine* study[4] has supported benefits from OMT. (I've listed just a

few selected examples of this research in the reference list.[5-9]) However, I have found that even if improvements in treatments are proven over and over again in the literature, many years may pass before such treatments become widely implemented, and if the literature results are not advertised, taught, or routinely tested, they may simply be ignored.

Based on my interactions with colleagues who also have family practices dedicated to OMT, I believe that their experiences with OMT have probably been similar to mine. I am not a faith healer, though I do have faith and I pray for my patients. I give God credit for any help that I have provided over the years to alleviate patients' suffering. I also give credit to Dr Still, who gave us this brave profession. I believe that all osteopathic physicians are "osteopathic" in some way and have learned something unique that stays with them from the early days of schooling—even if they do not often use OMT. That is why I would never change the initials of our DO degree.

I wrote this letter in an attempt to help prevent "the death of osteopathy"[10] from occurring anytime soon. Whenever OMT becomes more limited in use, it comes that much closer to extinction. We must continue to teach osteopathic medical students that the truth about OMT can be found in individual patient experiences. Such patient experiences—rather than research that is difficult to fund and carry out—form the basis of most medical progress.

I believe that if modern osteopathic medical practice and residency training placed more of an emphasis on being holistic and on including OMT, improved nutrition, and other integrative practices in patient encounters, the general public would gain a better understanding of the benefits of OMT and osteopathic medicine. I also believe that a more widespread use of OMT would greatly decrease healthcare costs.

I welcome hearing of the experiences of other osteopathic physicians who regularly use OMT in their family practices. Furthermore, I suggest that an OMT survey of osteopathic physicians—specifically specialists in osteopathic manipulative medicine—be conducted. This survey, which I would be willing to lead with assistance from the American Osteopathic Association, would list numerous diseases, each of which the respondent would rate in terms of successful outcome from OMT. This kind of study could be conducted in the form of an e-mail survey that would take perhaps 10 minutes to complete. The survey results could help us quantify the effects of OMT on diseases that are not usually associated with osteopathic manipulation.

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Response

The primary purpose of my letter[1] in the June issue was to question the tenet proposed for our profession in an editorial by Felix J. Rogers, DO[2] (ie, "the musculoskeletal system plays a primary role in health and disease"). Does the musculoskeletal system truly play a primary role in health and disease? I believe this proposed tenet is inaccurate, and that several other organ systems have better qualifications for association with the maintenance of health.

Dr Capobianco enthusiastically supports, indirectly, the proposed tenet and the importance of the musculoskeletal (or neuromusculoskeletal) system in health maintenance. He claims to be certain that osteopathic manipulative treatment (OMT) is beneficial to patients with neuromuscular disorders, including cerebral palsy, multiple sclerosis, and numerous other medical problems. In addition, he notes that he uses prayer and nutrition advice in treatment, and he supports, at times, alternative therapies, such as detoxification and homeopathy. Certain "modern medications," he adds, can help when necessary.

I suggested a focused use of OMT for back pain.[1] Dr Capobianco, by contrast, advocates an expansion of OMT use for numerous conditions listed in his letter, as well as for many other unlisted conditions. He is willing to

survey OMT specialists to collect additional anecdotal reports. Although I welcome his response to my letter[1] and this opportunity for dialogue, I am disturbed by the majority of opinions expressed by Dr Capobianco.

I support the use of OMT as a valid treatment option for patients with musculoskeletal pain—though even for these conditions, there is no evidence that OMT is superior to other forms of care. The article cited by Dr Capobianco from the *New England Journal of Medicine*[3] touting success of OMT is misleading, because the primary outcomes in that study were not any better for the OMT group than for the standard therapy group.

I fear that the use of OMT for musculoskeletal pain is the only area of agreement that Dr Capobianco and I share. Our opinions diverge because Dr Capobianco supports anecdotal reports on the virtues of OMT, while I require evidence-based medicine—a term coined by Gordon Guyatt, MD, in 1990[4] and expanded upon in 1992.[5] Evidence-based medicine should be the standard that the osteopathic medical profession and any other medical profession uses for support of treatments or development of guidelines for best care. There should be no debate on this point.

Some evidence suggests benefits for the use of OMT for various illnesses, but the best evidence suggests that OMT fails. A.T. Still, MD, DO, claimed 100% success in the use of OMT to treat patients with asthma, for which he believed, as noted by Dr Capobianco, that "Osteopathy is king."[6] Asthma is listed by Dr Capobianco as one of the many conditions for which he has confidence in the effectiveness of OMT. Nevertheless, the best evidence to date suggests that the status of manipulation for asthma is less than regal. This evidence comes from The Cochrane Collaboration,[7] an international, independent organization that provides excellent systematic reviews of evidence-based medicine. A Cochrane database review (consisting of 473 original citations and 3 randomized controlled trials) on the use of manual therapies for treating patients with asthma concluded that there is insufficient evidence to either support or refute such treatment.[8]

Dr Capobianco outlines several other respiratory conditions—including chronic obstructive pulmonary disorder, coughs, colds, influenza, pleural effusions, and pneumonia—for which he expresses confidence in the use of OMT. He at least cites one published study in support of the use of OMT for pneumonia.[9] Unfortunately, a Cochrane database review on physiotherapy for pneumonia—a review that included the cited OMT study[9]—does not support the use of manipulation for this condition.[10] The review's summary concluded that manual therapies should not be recommended as routine adjunctive treatment for patients with pneumonia.[10]

In fact, no firm evidence from randomized, reproducible studies can be cited as support for any claim made by Dr Capobianco. Moreover, various proposed mechanisms regarding how OMT might work in such medical problems as ulcerative colitis or various infections seem implausible and contrary to our modern understanding of human anatomy and physiology.

Furthermore, I am frankly appalled that Dr Capobianco expands his support for alternative therapies where good evidence is completely nonexistent. For example, although Dr Capobianco lists homeopathy as an effective treatment, evidence definitively shows that this type of therapy does not work.[11] A review group in the United Kingdom recently concluded that homeopathy does not produce results beyond the placebo effect and that explanations for why homeopathy would work are scientifically implausible.[12]

Likewise, no evidence-based medicine exists to support claims for the use of detoxification or bioidentical hormone replacement—despite Dr Capobianco's claim that combining either of these therapies with OMT can make patient responses "more dramatic."

I remain convinced that we, as a profession, should distance ourselves from claims that OMT may prevent disease or modify illness when no reasonable physiologic explanation or proof can be offered. I would add that we withhold support of any alternative therapies and completely avoid anecdotal claims. Finally, the osteopathic medical profession should concentrate strictly on evidence-based medicine and proudly support the use of OMT for the treatment of patients with musculoskeletal pain.

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The Perfect Electronic Medical Record System

To the Editor:

During the past couple decades, the use of the word *perfect* with *electronic medical record (EMR)* has been almost oxymoronic. Some physicians and hospital staff love their EMR systems, others hate their EMR systems to the point where they ignore them and use paper instead, and still others will not even consider trying such systems. To design the "perfect" EMR system, one must take into account the interests of a number of key stakeholders—hospitals and emergency departments, physicians in private practice, insurance companies, pharmacies, and, most importantly, patients.[1]

The basic outline for a "perfect" EMR system would include interconnections among all these parties. All hospitals, physicians, insurance companies, and pharmacies would have access to the same patient information. For an EMR system to be all-inclusive, it needs to combine several kinds of information into a single integrated system. Based on our experience, such information would include a full patient history, a list of medications used by the patient, and a list of the patient's hypersensitivities on the front page of the EMR—followed by specially tailored sections for each medical specialty. For example, gastrointestinal medicine, orthopedics, and primary care would each have their own pages in an ideal EMR system, including fields for the kind of work flow that a physician needs to properly manage the health of each patient within the parameters of his or her specialty.

This type of EMR system would allow for very little miscommunication between healthcare providers and serve as an all-inclusive medical record that would improve efficiency. Such improvement is especially important nowadays, when many patients see a dozen or more specialists. Through broad acceptance and adoption of well-designed EMRs, there will be large savings in healthcare costs, greater efficiency, fewer errors, and overall improvement in healthcare.[2]

For patients, there are some notable barriers to receiving the full benefits of EMRs. From a patient's perspective, several nonintegrated parts of healthcare—such as different providers, clinics, and practices—dispersed over a large geographic area all need to have access to the patient's up-to-date medical history. Any incompatibilities between the electronic systems used by these different parts need to be overcome. Furthermore, some patients might not feel secure with their information being available on a Web-based server, and they may not want every healthcare provider to have full access to their entire medical records. Patient concerns over online access to their medical data need to be addressed, though such access is a necessity for continuity of care.

In regard to technological capabilities, an advanced EMR system should have the ability to send patients electronic reminders on their phones and computers to take medications, to visit physicians, and to take other preventative measures—should the patient so choose. Medical reminders can be a lifesaver. For cervical cancer screening alone, medical reminders to patients have the potential to help save 13,000 life-years at a cost of $152 million to $456 million per year.[3]

Evaluating EMRs from a purely economic point of view, the main downside for practitioners occurs during the learning curve, when physicians and other healthcare providers need to spend extra time writing reports and learning how to use the EMR system. Each provider will need to spend time not only learning how to use an EMR system and how to implement the system to his or her specifications (because systems are not generally usable out of the box), but the provider will also need to schedule fewer patients for the first week or two of system implementation. This learning and implementation process and the reduction in patient volume, along with the cost of purchasing an EMR system, will temporarily affect a physician's bottom line. Many healthcare networks reduce costs by purchasing EMR licenses in bulk or sharing costs of EMR implementation to ensure consistency of EMR systems within their networks.

There is an added complexity for providers who practice at multiple hospitals in which different EMR systems are used. The provider would not only need to ensure that the different EMR systems are cross-compatible, but he or she would also need to take the time to learn two or more distinct systems.

Insurance companies prefer that their policyholders stay healthy so that the companies spend less money on covering adverse conditions. A comprehensive EMR system could warn physicians if a contraindication exists with a prescription medication that a patient is using—and it may even prevent a contraindicated medication from being ordered. This ability to avoid prescribing harmful medications could result in a decrease in adverse effects—thereby reducing insurance costs for healthier patients.

A comprehensive EMR system will also reduce the length of hospital stays and administrative time and the use of drug and radiologic examinations both in and out of the hospital.[2] However, one must remember that these savings will not occur immediately. Rather, the savings will accrue as more and more facilities and physicians adopt EMRs.

It will be difficult to sell EMRs to some hospitals and clinics. Many healthcare facilities have been evaluating EMRs for years, though these facilities have not

yet finalized guidelines or parameters for EMR use. For hospitals, there remain three main barriers to EMR use—a high initial cost with uncertain return; a varying learning curve with lack of initial efficiency for all providers; and the time and expense in converting paper records to EMRs.[4,5] During a 10-year deployment of an EMR system, the overall estimated annual cost for an average hospital will be $28 billion—and $16 billion per year thereafter.[4,5] Another cost associated with EMR implementation is an estimated $2.5 billion to obtain widespread connectivity of the EMR system.[2] These costs are negated by estimated net savings of $21.6 billion to $77.4 billion per year for the average hospital.[4,5] Over a 15-year period, the estimated net savings from implementing an EMR system is more than $370 billion.

We urge insurance companies and the government to cover some costs of deploying EMRs and of training healthcare providers in their use, because the use of EMRs will likely result in improved public health and cost savings. Even without the incentive of shared costs, implementation of an EMR system should be worth the expense. Bigelow et al[6] estimated that for asthma, chronic obstructive pulmonary disease, congestive heart failure, and diabetes mellitus combined, EMR use would result in annual decreases of 4 million inpatient stays, 5 million outpatient visits, and $30.1 billion spent by hospitals, as well as annual prevention of 28 million days of lost work, 13 million days of lost school, and 245 million days spent by ill patients in bed.

Most pharmacies already use some form of EMR system. Thus, adaptation of these current systems to a more advanced EMR system should not be problematic. The inclusion of pharmacies is a necessity in a comprehensive EMR system, so that healthcare providers can know if their patients have been properly filling their prescriptions. The main incentive for pharmacies to upgrade their EMR systems is increased efficiency and decreased mistakes as a result of prescriptions being sent electronically from physicians' offices or hospitals directly to pharmacies. To help pharmacies transition to a comprehensive EMR system, the government, as well as insurance companies, should offer financial incentives to them.

In summary, an all-inclusive, interconnected EMR system has the potential to change healthcare as it is known today. Comprehensive EMRs will help lower the cost of healthcare and assist healthcare providers in offering the best treatment available. The use of comprehensive EMRs may also result in decreased lawsuits because of fewer mistakes by physicians. With an EMR system such as the "perfect" system described in this letter, there should be no reason for any healthcare provider or facility to continue to use paper for record keeping.

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Atypical Presentation of Herpes Simplex Encephalitis in an Infant

To the Editor:

Most childhood cases of herpes simplex virus type 1 (HSV-1) infection are caused by oral transmission. In children, neurologic infections induced by HSV-1 represent either primary or reactivated viral states. A more serious sequela of HSV-1 infection is herpes simplex encephalitis (HSE). The most common symptoms in clinical presentations of HSE in children are altered mental status, dysphasia, fever, headache, irritability, seizure, and visual field defects.[1]

Examination of cerebral spinal fluid (CSF) is the gold-standard laboratory test for diagnosing HSE. This serum analysis typically yields lymphocytic pleocytosis, normal to slightly elevated total protein concentration, normal glucose concentration, and normal to mildly elevated CSF opening pressure.[2] Arguably even more important in diagnosis is magnetic resonance imaging (MRI) of the brain. In patients with HSE, MRI will often demonstrate an abnormal appearance in the temporal lobes resulting from edema, in addition to the so-called *transsylvian sign*, which represents edema across the sylvian fissure.[3]

In the present letter, we discuss the case of an infant with HSE who had unremarkable CSF test and neuroimaging results. To our knowledge, this case report is the first to describe clinical HSE in an individual with a normal CSF profile and no diagnostic imaging support.

Report of Case

An infant girl aged 17 months presented

to the emergency department with an acute body rash. According to her mother, the patient had been in her usual state of health until 1 week before hospital admission, when a 2-day fever of 103.1°F (39.5°C) developed. The mother reported signs of weakness in the infant, including difficulty walking and sitting independently. The mother also reported that the infant wanted to be held constantly. The patient's fever had resolved 5 days before admission. However, her neurologic symptoms had worsened.

On physical examination, the patient was afebrile, and all her vital signs were stable. She was found to be a well-nourished, well-developed infant. She was awake, alert, and oriented to person, place, and circumstances. Before the onset of illness, the patient was appropriately following her normal developmental milestones and was able to sit, stand, and walk independently.

Neurologic examination was notable for lack of ability to stand or sit. Fundoscopic examination revealed no papilledema. Cranial nerves II through XII were intact. The patient's strength was full in all muscle groups, and motor testing showed normal muscle bulk and tone. Sensation was grossly intact in all dermatomes, and deep tendon reflexes were bilaterally symmetrical at 2/4. She had a papular rash around her mouth, with a small ulcer on her right palatine tonsil. No lesions were seen on the patient's tongue or buccal mucosa.

Laboratory test values immediately after admission included the following:

- white blood cell count, 8400 cells/µL
- hemoglobin level, 9.1 mg/dL
- hematocrit concentration, 27.5%
- platelet count, 338,000 cells/µL
- erythrocyte sedimentation rate, 124 mm/h

The CSF test results were also unremarkable, with a white blood cell count of 200 cells/µL (lymphocytes, 50%; monocytes 50%), a red blood cell count of 0, a total protein level of 22 mg/dL, and a glucose level of 53 mg/dL. Results of brain MRI and electroencephalography (EEG) were unremarkable.

Because of a high index of suspicion for HSV-1 infection, the patient was immediately started on acyclovir (20 mg/kg intravenously every 8 hours for 21 days). One week after acyclovir initiation, a polymerase chain reaction (PCR) test for HSV-1 yielded positive results. At discharge, 21 days later, the patient's altered mental status and generalized weakness had resolved, and much improvement was observed in her gait.

Comment

Based on the clinical presentation of the patient in the present case, viral encephalitis was deemed to be the most likely etiologic condition. Viral encephalitis is a medical emergency. The prognosis for patients with this condition depends on correct, immediate diagnosis, with introduction of appropriate treatment to decrease the extent of permanent brain damage. The 6-month mortality rate following treatment with acyclovir is 0% if the medication is initiated within 4 days of symptom appearance. This rate climbs to 35% if treatment is initiated after 4 days.[4]

Herpes simplex encephalitis is at the top of the differential diagnosis, because it is the most common etiologic factor for sporadic nonepidemic encephalitis in immunocompetent hosts, with an incidence of 0.1 to 0.4 per 100,000 individuals.[5] Level A recommendations for diagnosing HSE, by the Scientific Committee of the European Federation of Neurological Societies, call for performing a thorough medical history and physical examination and an analysis of CSF.[5] As previously stated, CSF test results in patients with HSE typically reveal lymphocytic pleocytosis, normal to slightly elevated total protein concentration, normal glucose concentration, and normal to mildly elevated CSF opening pressure. In the present case, results from the patient's lumbar puncture were within normal limits.

Level B recommendations for diagnosing HSE call for performing MRI of the patient's brain.[5] Electroencephalography and computed tomography (CT) of the head are also acceptable, though CT is less sensitive than MRI. Typical neuropathologic findings found with MRI for patients with HSE are unilateral or bilateral T_2 prolongation in the medial temporal or frontal lobes. By contrast, typical CT findings for such patients consist of widespread patchy areas of decreased attenuation of the cerebral cortex.[6,7] Eighty percent of patients with HSE show abnormalities in the temporal lobe, and 10% have extratemporal abnormalities.[7] Results of EEG are abnormal in 80% of patients with HSE, usually showing periodic lateralizing epileptiform discharges from the temporal lobe.[8] For the patient in the present case, results of the CT, MRI, and EEG were all unremarkable.

Other viral etiologic agents besides HSV-1, including human herpesvirus type 6 (HHV-6), were considered in this case, because the CSF and neuroimaging results did not point to HSE. In a retrospective study, Noguchi et al[9] concluded that neuroimaging serves as the main discriminator between patients with HHV-6 infection and those with HSE. Neuroimaging, specifically MRI, in patients with HSE shows persistent abnormal intensity in the mesangial temporal lobes and extratemporal regions, whereas neuroimaging in cases of HHV-6 infection shows transient abnormal activity in the temporal lobes.[9] Computed tomography in patients with HSE shows such abnormal findings as parenchymal swelling, decreased attenuation of affected regions, and gyral enhancement. In patients with HHV-6 infection, CT shows no abnormal activity.[9]

Thus, neuroimaging is a useful measure to distinguish between the viral etiologic factors of encephalitis.[10] However, imaging results for the patient in our case did not fit the standard picture of either HHV-6 infection or HSE.

One week before the PCR results of the CSF analysis were available in the present case, the etiologic origin of the infant's encephalitis was thought to be

idiopathic. Pleumpanupat et al[10] demonstrated that no single history or lab result can differentiate HSE from other forms of viral encephalitis—except for temporal involvement detected via MRI. However, we found no such abnormalities with MRI.

With the negative results from imaging and CSF tests during the first week after admission (before PCR yielded positive results for HSV-1), our suspicion for HSE had declined. Nevertheless, acyclovir treatment had been started soon after admission in consideration of the fact that HSE is the most common cause of nonsporadic encephalitis. Had we not initially had a high index of suspicion for HSE and administered acyclovir soon after the onset of symptoms, the patient would have suffered serious neurologic sequelae.[8,11] Typically, the best treatment outcomes are observed when acyclovir is administered to patients before development of stupor or coma, within 24 hours of the onset of symptoms. Good treatment outcomes are also observed when acyclovir is administered to patients who have a Glascow Coma Scale score of 9 to 15.

Conclusion

We believe that several important clinical lessons can be elicited from the present case—most notably two main points. First, empirical acyclovir treatment should be initiated immediately in patients who have any symptoms of HSE, regardless of whether the neurodiagnostic imaging and CSF findings are either positive or negative. Second, a high degree of suspicion for HSE encephalitis is required in *all age groups* for patients with altered mental status, ataxia, focal neurologic deficits, headaches, rashes, rapid-onset fever, and/or seizures.

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Parosmia After Laparoscopic Gastric Bypass and Gastric Banding

To the Editor:

We have treated several patients who had undergone laparoscopic gastric bypass or gastric banding surgery and later presented to our emergency department with intolerance to food intake because of nausea and vomiting. After radiologic examinations showed no obstructions, we interviewed these patients and discovered that their food intolerance was related to parosmia or nausea after smelling foods that had given them no problems before surgery. The onset of symptoms in these patients varied from a few months to several years after the bariatric operations.

Postbariatric-surgery parosmia is a problem that occurs when patients are trying to maintain their nutritional intake but are having trouble doing so because of nausea brought on by the smell of liquids, foods, and oral dietary supplements. Discussions with surgical attending physicians at the hospital revealed that this problem has a low overall rate of occurrence, with most cases happening after gastric bypass rather than gastric banding. Time of onset of symptoms varies from a few months to several years after surgery. In general, the duration of the adverse effects is about 3 months for patients treated at our institution.

We conducted an extensive search of the literature for studies of changes in eating habits and olfactory function in patients after gastric bypass or gastric banding surgery. We used the MEDLINE and PubMed databases, as well as Google, in our literature search.

Adami et al[1] discussed food aversion resulting from distension of the gastric pouch above the Roux-en-Y limb or above the gastric band. Scruggs et al,[2] Benson-Davies and Quigley,[3] and Tichansky et al[4] described changes in taste acuity after gastric bypass and adjustable gastric banding, but they noted no definite etiologic factor or mechanism for these changes. Richardson et al[5] reported increased olfactory dysfunction in patients with a body mass index greater than 45, relative to patients with a body mass index less than 45. However, they did not address postoperative changes in olfactory acuity. Leopold[6]

noted that causes of olfactory distortion may include upper respiratory infections, head trauma, allergic rhinitis, and chronic rhinosinusitis. Teruhiro et al[7] added zinc deficiency and medication adverse effects to that list. We found no articles specifically addressing the occurrence of parosmia or the etiologic factors or mechanisms of parosmia after gastric bypass or gastric banding.

The purpose of this letter is to bring to light the occurrence of postbariatric-surgery parosmia and the need for studies to find an etiologic factor and mechanism for this condition. At our institution, antiemetic agents are used along with a consultation with the dietary services department to treat patients with postbariatric-surgery parosmia. The typical dietary services recommendation in such cases has been for the patient to mix and match liquid and food intake until an appropriate combination is found that will not cause nausea.

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