Miller Fisher Variant of Guillain-Barré Syndrome: A Report of Case

To the Editor:

Guillain-Barré syndrome (GBS), also known as acute idiopathic polyneuritis, is a type of neuromuscular paralysis that has several variants. These variants all share similar patterns of symptoms and patient recovery. Miller Fisher syndrome (MFS) is a rare variant of GBS, observed in only about 1% to 5% of all cases of GBS in Western countries. Miller Fisher syndrome occurs in more men than women by a ratio of approximately 2:1. The mean age of onset of MFS is 43.6 years, though onset has been documented in individuals between the ages of 13 and 78 years.

The main difference between MFS and more common variants of GBS is that the first nerve groups to be affected by paralysis in patients with MFS are those in the head, resulting in difficulty controlling eye muscles and balance. Paralysis in other forms of GBS typically begins in the legs. Moreover, MFS is characterized by a trial of conditions: areflexia, ataxia, and ophthalmoplegia.

The present report describes the case of a man with risk factors for stroke. He presented chiefly with complaints of diplopia and gait abnormality. Further evaluation revealed the triad of conditions characteristic of MFS.

A 70-year-old man with several risk factors for stroke—including a history of myocardial infarction, coronary artery bypass graft surgery, essential hypertension, and hyperlipidemia—visited the emergency department at a military medical facility (Madigan Army Medical Center in Tacoma, Wash). His chief complaints at presentation were persistent diplopia of approximately 7 days’ duration and a “wobbly” gait.

The patient’s medical history revealed that he had initially sought emergency care for his symptoms at a different facility 6 days before presentation at the Madigan Center. The other facility discharged the patient to home without admission upon determining that a computed tomographic (CT) scan of his head revealed no intracranial abnormalities. A follow-up outpatient Doppler ultrasonographic examination arranged by the patient’s primary care physician showed minimal plaque in the carotid arteries.

During the emergency department encounter at the Madigan Center, the patient expressed concern that his symptoms had been persistent for 7 days without any improvement. He requested a re-evaluation and second opinion by physicians whom he had not previously seen.

Examination findings by neurology clinic staff included slight exophoria of the right eye upon leftward gaze during cover-uncover (ie, unilateral) testing, as well as subtle signs of ophthalmoplegia (bilateral hypometric saccades, bilateral saccadic pursuits). The examination found no signs of pupillary defects, eyelid ptosis, or nystagmus. Bilateral hyporeflexia was detected throughout the patient’s body. Some terminal dys-
Diagnosis by tests for its characteristic uncommon variant of GBS that can be believed to be consistent the patient's blink response—both of which were normal.

Further examination of the patient was performed by a staff neuro-ophthalmologist using Maddox rods, a set of parallel glass rods used in testing for heterophoria. This test revealed signs of horizontal and vertical gaze paresis.

After admission to the hospital, additional tests were performed. These were most notable for an analysis of cerebrospinal fluid (CSF) consistent with albuminocytologic dissociation and GQ1b ganglioside immunoglobulin G (IgG) antibody titers of 1:128,000. An inpatient electromyographic/nerve conduction velocity study performed by a staff neurophysiologist elicited motor abnormalities in the facial nerve (cranial nerve VII) and abnormalities in the patient’s blink response—both of which were believed to be consistent with a diagnosis of MFS.

Miller Fisher syndrome is an uncommon variant of GBS that can be diagnosed by tests for its characteristic triad of conditions: areflexia, ataxia, and ophthalmoplegia.

In cases of MFS, ataxia is primarily noted during the patient’s gait, typically in the trunk and with lesser involvement of the limbs. A patient’s motor strength characteristically is spared in MFS. Anti-GQ1b antibodies, activated by certain strains of Campylobacter jejuni, have a relatively high specificity and sensitivity for MFS. Dense concentrations of GQ1b ganglioside are found in the oculomotor nerve (cranial nerve III), trochlear nerve (cranial nerve IV), and abducent nerves (cranial nerve VI) of patients with MFS, which may explain the relationship between anti-GQ1b antibodies and ophthalmoplegia. Titers of anti-GQ1b antibodies in CSF that are greater than 1:40 are specific for MFS.

Onset of recovery from ataxia and ophthalmoplegia in patients ranges from approximately 2 weeks to 2 months, with a mean recovery onset at 10 weeks. Most patients will fully recover from ataxia and ophthalmoplegia, as well as areflexia, within 6 months. In some cases of MFS, post-gadolinium magnetic resonance imaging might show enhancement of cranial nerves.

The present case demonstrates that physicians need to be aware of symptoms and examination findings consistent with MFS so as to not confuse them with those of such ischemic events as stroke and transient ischemic attack, particularly in patients older than 40 years.

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Time to Respond to In-Store Clinics

To the Editor:
In-store kiosks staffed by nonphysicians who provide primary healthcare services to ambulatory patients are experiencing explosive growth. CVS/pharmacy, Jewel-Osco, Target, Walgreens, and Wal-Mart are just some of the many companies racing to add these “docs in a box” to their customer services. Retail store walk-in clinics certainly provide convenience to their customers, but the underlying motives to this trend beg comment.

In-store clinics essentially take the prescription pad from the physician and move it to the pharmacy to create point-of-care dispensing. The store receives the benefit of having the patient in a retail environment in which the entire process is focused primarily on generating retail sales—not on healthcare. It is time for physicians to respond competitively to this market challenge by moving the dispensing of prescription medications back into physicians’ offices, where it originated.

The current retail pharmacy system of dispensing prescription medications to patients is inefficient. In 2006, pharmacists in the United States dispensed more than 3 billion prescriptions to patients and placed more than 900 million prescription-related telephone calls to physician offices, costing the healthcare industry $280 billion (much of this being unreimbursed costs borne by physicians for office staff, time, and telephone and fax charges). Each pharmacy call-back costs physicians’ practices approximately $5 to $7. With the average primary care physician writing about 30 prescriptions per day and handling another 30 requests per day for prescription refills, these costs escalate rapidly. The estimated 20 pharmacy-related phone calls made by a typical physician’s office every day costs that office $20,000 to $28,000 annually—while unreimbursed physician time doubles these costs. By returning medication dispensing to the physician’s office, this overhead can be cost-shifted to serve patients better and create an additional source of income for the physician.

Office dispensing of prescription medications respects patients’ time and is likely to increase patient compliance with medication regimens. Only physicians possess the expertise and authority to substitute therapeutically.
LETTERS

Letters

Debt Control for Young DOs

To the Editor:

An article published in the December 2007 issue of Money Magazine titled “Young Doctors in Debt,”1 told the troubling story of a young married couple, both of whom are resident osteopathic physicians. In the article, the two DOs discuss their difficulties in dealing with the severe financial pressures of their medical school debt and mortgage debt—$483,115 in student loans and $198,148 in mortgage loans. That is nearly $700,000 of debt!

The Money Magazine article points out that the husband chose to attend Midwestern University/Chicago College of Osteopathic Medicine (MWU/CCOM) in Downers Grove, Ill, over a program at a well-known allopathic university in the same state—even though going to the allopathic institution would have lowered his financial burden tremendously. At MWU/CCOM he took on $29,000 of tuition medical school debt annually. While there, he did not receive counseling regarding how best to handle his debt and other financial burdens. As a result, he and his wife became overwhelmed by their postgraduate financial responsibilities.

I believe the Money Magazine article provides a revealing example of how the colleges of osteopathic medicine (COMs) and the American Osteopathic Association (AOA) are directly responsible for the financial woes endured by many young osteopathic medical students and residents. The COMs and the AOA have done a disservice to us all by not exercising adequate control over the high costs of osteopathic medical education and by not appropriately advising osteopathic medical students about the heavy debt burdens they will face on graduation. The Money Magazine article notes that the husband was aware that he would worry about it. You’re going to be able to pay it off someday. It’ll all be taken care of. ‘”

That type of nonchalant attitude—from educational institutions and students—regarding debt and other financial obligations needs to change! Such a complacent attitude not only adversely affects the careers of young physicians,
but the entire United States economy is hampered by the problem of excessive national (ie, public) debt, which is increasing at a rate of about $1.4 billion per day.2

I believe it is the duty of the AOA to publish the salaries of the presidents and chief executive officers of all the COMs. Every osteopathic medical student has a right to know this information. Every COM—at least those that are publicly funded—should be required to adopt an open-book policy and share their salary data with the public. I would love to see an article in JAOA—The Journal of the American Osteopathic Association featuring this information, including a graph showing how increases in COM tuition coincide, presumably, with increases in COM administrative salaries. That would be an interesting article indeed.

The osteopathic medical profession needs to rein in the serious problem of osteopathic medical student debt and, in the process, create an educational and professional environment that is more amenable to student success. Controlling our debt will also help generate a more favorable impression of our profession among the public and attract the finest students in medicine to our COMs.

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Electronic Medical Records: What Are You Waiting For?

To the Editor:

As a child, I spent many days watching my parents’ computer technician solder chips onto a motherboard to repair various computer problems. I eventually realized that if I could learn how to fix computers for the small business my parents owned, they would no longer need to pay someone else for the repairs.

Through the years, after experimenting with an assortment of computerized devices and software programs, I have learned that technology is generally beneficial—but not all new developments are worthwhile. In fact, some developments can make one’s life more difficult.

During my years in medical school and, now, in my residency program, I have made a number of other observations about technology, including the following:

- There are countless opportunists who would like to cash in on physicians’ perceived wealth, charging exorbitant fees for electronic products that may not be exactly what a physician needs.
- Many physicians want to embrace technologic innovations, but they hesitate to make decisions about which products to use. Physicians, for the most part, do not want to be technology pioneers.
- Many physicians are unable to communicate well with computer programmers because they do not understand the technical language used by programmers. As a result, physicians often do not use their computer systems to their fullest potential.

Physicians in family practice make complex decisions every day. Yet, we seem unable to decide which system of electronic medical records (EMRs) to use. One probable reason that physicians in family practice hesitate to select an EMR system is because they expect their parent hospitals will make that decision for them. However, it may not be in a physician’s best interest to use the same system preferred by his or her parent hospital. In such institutions, the decision about which EMR systems to purchase are typically made by administrators who select the best program for general hospital purposes—not for the individual needs of any particular physician.

Furthermore, it is not essential for a physician to have the same EMR system used by his or her hospital. Most hospital computer record systems allow for remote access of patients’ records by physicians. All EMR systems use a digital code language called HL7 (Health Level Seven Inc, Ann Arbor, Mich).1 Thus, as long as a physician’s files are compatible with HL7, patients’ data can be imported from electronic hospital databases by using the physician’s own EMR system.

Of course, any new technological device or system is initially going to be a challenge to work with, and this is true for EMR systems. Nevertheless, I believe that there are many advantages for physicians in learning to use their own EMR systems. As requirements of Medicare and private insurance companies continue to generate increasing amounts of documentation for physicians—and as physician reimbursement continues to decline—physicians need to use patient-record systems that are as efficient as possible, that minimize errors, and that improve preventive care. By using the right EMR system, tailored for the specific needs of a physician’s practice, these goals can be achieved. Thus, the selection of an EMR system must be based on sound judgment, considering the needs of a particular practice. In addition, physicians should maintain close relationships with computer programmers to help them keep abreast of future updates to software.

Genesys Regional Medical Center in Grand Blanc, Mich, where I am a third-year resident, has an excellent collection of electronic aides, records, and databases. However, not all of these electronic media are linked with one another to facilitate easy and complete access to all available data.

Since I began my residency at Genesys in 2005, I had heard about the center’s plans to transition to paper-
less medical records and wanted to learn how to use an EMR system.

In October 2007, I attended an American Academy of Family Physicians conference in Chicago, Ill. This conference gave me the opportunity to visit with representatives from several software companies and ask them questions about their products.

I have since experimented with three EMR systems—Misys (Misys Healthcare Systems, London, England), AltaPoint (AltaPoint Data Systems, Midvale, Utah), and Amazing Charts (AmazingCharts.com Inc, Hope Valley, RI). My work with these EMR systems has led me to conclude that, though there are some differences among the systems, they all allow the user to accomplish many of the same tasks.

I decided to download Amazing Charts, which is free for the first 90 days of use. It has now been 3 months since I started using this system in my clinic. Each day, I learn something new. Because I am experimenting with this software on my own, the use of the program requires more work on my part than would normally be necessary, including typing up patient records, inputting vital data, and printing out copies of the data for the patients’ records.

Using the EMR program was difficult and time-consuming at first, but after the fourth day of working with the new system, I became much more adept at using the electronic templates, and I began completing my charts before the other residents had completed their dictating. Although I need to type data in that would normally be typed in by a medical assistant, I have found that, by the second time I see a patient, the patient’s record is almost complete—requiring less time than dictation. With the use of voice-recognition software, I have cut my record-compiling time in half.

Because, as a resident, I see only about 16 patients a day, I have had time to master the Amazing Charts software and to determine which software features are most useful and important to me. I have also submitted my ideas on improving this software program to the manufacturer. It is my hope that they can adapt the program to better meet the needs of physicians such as myself. Even if I later decide not to use Amazing Charts, I have developed the skills to work with an electronic medical chart on a computer—skills that are readily transferable to other EMR systems.

I strongly recommend that other residents take this matter into their own hands and learn how to use the EMR systems of their choice. While in residency programs, we learn from our preceptors how to practice medicine, but I believe that it is also essential for us to share our knowledge about computer technology during residencies. That two-way interaction is the only way to bridge the gap that exists between the practice of medicine and the use of computers. Understanding and using EMR programs is important if we want to move forward in the medical profession, which is increasingly dependent on technological developments.

Establishing electronic records for patients can be a huge task initially, and the first year of inputting data can be tiresome. Yet, once that information is placed into computer files, a physician’s practice will likely operate much more efficiently. Physicians need to move from procrastination to action with EMRs.

What are you waiting for?

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Editor’s Note: Dr Zaid discloses that he has no conflicts of interest related to the topic of this letter to the editor.

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Thirteen Guidelines for Better Public Healthcare

To the Editor:

As a resident of the New York City–metropolitan area, I occasionally find myself in situations in which I inadvertently meet power brokers.

At a friend’s retirement party last year, I happened to have a conversation with an author and filmmaker who was working with some Democratic Party politicians on “getting their word out.” At that particular time, the word to get out was that the newly elected governor of New York State, Eliot Spitzer, wanted to make major cuts in state funding to hospitals.

As I listened to the comments of my new acquaintance, I realized that he had a rather superficial grasp of the complex intricacies of public healthcare. At one point, he turned to me and asked, “So what would you do to fix our broken healthcare system?” I replied that this was a rather deep question, which required more reflection on my part than could be accommodated at a cocktail party.

The following ideas are based on a letter that I sent him a week after our conversation. That letter contained my personal reflections on how government might address the current healthcare morass. Although I wrote these ideas with New York State in mind, they could also be applicable to the United States as a whole.

Before instituting revisions to our healthcare system, it is important that the government have a firm foundation of appropriate underlying assumptions about public healthcare. These assumptions should include the following four points:

- All people deserve access to primary preventive care in a medical home
model (ie, direct access to one physician who is responsible for a patient’s care and who practices in a system organized to support better healthcare). All people also deserve access to catastrophic healthcare, including mental health parity.

Public money spent on disease and injury prevention provides a better return on investment than does money spent on disease and injury management or “high-tech” interventions used at the end of a patient’s life.

The difficult decisions regarding distribution of limited healthcare dollars must be confronted. Resources expended on end-of-life care must be thoughtfully balanced with resources needed for preventive and public health measures.

Medical interventions are only a small part of the total health experience for an individual or population. The influence of the combination of an individual’s genetic makeup, environmental factors, and health-related behaviors far surpasses that of medical care in determining one’s health experience.

With these underlying assumptions in mind, I offer the following 13 guidelines for improving our healthcare system:

1. Simplify and decrease the bureaucracy that is associated with providing medical care, thereby enabling physicians to spend more time serving patients. Physician time currently spent filling out insurance forms and making referrals would be better spent caring for patients.

2. Recognize that highly structured, impersonal industrial and corporate models of organization (ie, the “medical-industrial complex”) do not work well in the human-service activities of healthcare.

3. Develop healthcare policies that value and strengthen physician-patient relationships—rather than undermine them.

4. Develop creative methods for measuring the quality of healthcare delivery. When these measures are shown to be meaningful, implement incentive structures for physicians, such as pay based on proven performance.

5. Differentiate and pay physicians based on their levels of professional training—not according to their acumen in the use of Current Procedural Terminology codes.

6. Develop mechanisms to create incentives for physicians to practice in underserved areas. Consider implementing compulsory postgraduate service in such areas.

7. Limit market-based reimbursement to insurance company administrators and shareholders. Moreover, explore ways to completely remove for-profit companies from the healthcare business.

8. Create incentives for patients to learn to adopt good health practices regarding the leading health indicators (eg, physical activity, overweight and obesity, tobacco use, substance abuse, immunization).

9. Outlaw direct-to-consumer advertising of prescription pharmaceutical products. In addition, consider regulating advertising by insurance companies.

10. After a vaccine is approved by the US Food and Drug Administration and endorsed by the Centers for Disease Control and Prevention and the American Academy of Pediatrics, ensure that physicians are reimbursed for the entire cost of the product—plus 20% overhead.

11. Ensure that all healthcare providers who work diligently, ethically, and faithfully are reimbursed in a manner consistent with their educational investment and role in society—at least compared with the reimbursement of teachers and union plumbers.

12. After closely examining workforce issues and public needs, create mechanisms to direct physician training into the areas of greatest need.

13. Absolutely include physicians who have current clinical experience, especially in pediatrics and geriatrics, into the ongoing conversation regarding improvements in the healthcare system.

I hope that these thoughts are of use to my acquaintance from the cocktail party, as well as to the readers of JAOA—The Journal of the American Osteopathic Association, and the leaders of our nation’s political establishment as they ponder our healthcare conundrum.

I invite readers’ reactions.

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Editor’s Note: Dr Marino serves as a member of the Editorial Advisory Board for JAOA—The Journal of the American Osteopathic Association.

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of society in terms of adverse public health and economic consequences. As we continue the battle against obesity, public health authorities should heed the lessons learned in the successful campaign against smoking and the tobacco industry and apply those same principles (eg, shifts in public behavior prompted by tax and regulatory policies) in efforts against obesity.\(^2\) Simply issuing warnings to the public about the ravages of obesity and throwing more money at the problem has not been working.\(^3,4\)

The preponderance of scientific evidence suggests that obesity, once established in an individual or a population, is extremely difficult to control by conventional methods of intervention, such as diet and exercise.\(^1\) Although physicians must continue intervention efforts for those patients who are overweight, there needs to be a stronger public policy directed toward primary prevention of obesity.\(^2,4\)

A thorough international public health strategy to prevent obesity would address prevailing attitudes and norms and disparities in health and economics within society. Policymakers should encourage radical changes in the health-related behaviors of the public in order to produce substantial shifts in food production, marketing, and consumption.\(^2,4\)

Although lifestyle changes by individuals are an important part of efforts to reduce obesity, stronger and more effective public health policies should be enacted to support beneficial changes in the health-related behaviors of adults.\(^2,4\) Among the public policies and actions that could be taken to address the obesity pandemic are the following:

- Increased taxation on “junk” food (eg, candy, snacks, fast food)
- Bans on advertisements for fast foods
- Financial incentives to food manufacturers that market smaller-sized portions
- Overall policy framework to encourage a healthier environment for food consumption and to discourage the insidious daily food excesses that lead to overweight and obesity

It is no longer acceptable for physicians to remain silent on the obesity pandemic. I urge you to contact your local, state, and federal representatives and demand that they enacting strong legislation to fight obesity—similar to the legislation that is currently leading to smoke-free environments across the United States.\(^5\) The quality and longevity of our lives and those of our children depend on having the will to act against obesity as we have already acted against smoking.

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Editor’s Note: For more information on this topic, readers are encouraged to read the February 2008 Supplement to the JAOA, Getting a Grip on Girth and Cardiometabolic Risk, which is available at: http://www.jaoa.org/content/vol108/suppl_1/. The document is a consensus report of the American Osteopathic Association, the American College of Osteopathic Internists, the American College of Osteopathic Family Physicians, the American Academy of Physician Assistants, and the Diabetes Consortium, Inc.

Ignorance in High Places

To the Editor:

Three years ago, I submitted a request to the Mayo Foundation for Medical Education and Research for a complimentary subscription to Mayo Clinic Proceedings. A complimentary subscription to this journal is available for all general internists, as is publicized within the journal. To my surprise and frustration, however, my request was rejected on the premise that, because I am an osteopathic physician, I am considered a “family practitioner” and, therefore, qualified to receive only The Journal of Family Practice.

The point that is most disturbing to me about this misclassification is that I am certified in internal medicine by the American Board of Internal Medicine—though I also completed an internal medicine internship that was certified by the American Osteopathic Association. A letter that I wrote to Mayo Clinic Proceedings to explain these facts went unacknowledged.

Several weeks ago, my chief resident, who is also an osteopathic physician, received similar subscription-request rejections from the Mayo Clinic and the Cleveland Clinic, each based on the same justification. The irony of this situation is that our institution (Summa Health Systems, Akron, Ohio) pays for our internal medicine residents, both DOs and MDs, to attend the Cleveland Clinic’s Internal Medicine Board Review and Recertification course. Furthermore, there are numerous osteopathic physicians who are completing fellowships or residencies, or who are active clinicians, at both institutions.\(^1\)

This ignorance regarding the qualifications of osteopathic physicians is one of many misrepresentations that the osteopathic medical profession must work vigorously to address. I am deeply concerned that if highly reputable institutions such as the Mayo Clinic and Cleveland Clinic harbor misunderstandings regarding osteopathic
physicians (as indicated by the actions of these institutions’ publishing venues), how can the osteopathic medical profession hope to make any advancement within the greater medical community? Let’s not waste our time voicing our disappointment to MSNBC because Keith Olbermann, one of the hosts on that cable news network, made an ignorant comment about osteopathic physicians not being “real” physicians. Let’s instead go to the source and educate the medical community about the similarities and differences between the osteopathic and allopathic medical professions and work to achieve equality for our profession.

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Transdermal Selegiline: New Opportunity for Managing Depression

To the Editor:

The efficacy of monoamine oxidase inhibitors (MAOIs) in treating patients with mental disorders has long been known. These agents inhibit monoamine oxidase (MAO) enzymes from breaking down the monoamines dopamine, norepinephrine, and serotonin—neurotransmitters in the central nervous system believed to be associated with the genesis and management of mood and anxiety disorders. Despite this association, physicians have been reluctant to prescribe MAOIs in oral form because of risks of various adverse events, interactions with other medications, and complications with diet.

Monoamine oxidase type A (MAO-A) is an enzyme that predominantly metabolizes norepinephrine and serotonin. The MAOIs can inhibit MAO-A in the gastrointestinal tract, interfering with the body’s ability to regulate the absorption of tyramine and other vasoressors. This inhibition raises the potential risk of cardiovascular crises (eg, stroke) associated with diet. Consequently, patients taking oral MAOIs must avoid foods rich in vasoressors, including aged cheeses, beef and chicken liver, chocolate, dried sausages, fava beans, Italian green beans, and smoked fish, as well as beer and red and sparkling wines.

Monoamine oxidase type B (MAO-B) predominantly metabolizes dopamine and phenylethylamine. Medications that inhibit only MAO-B do not affect gastrointestinal absorption of vasoressors.

A promising new treatment for patients with serious mental disorders delivers the benefits of MAOIs while minimizing the risks. The selegiline transdermal patch system (EMSAM®; Bristol-Myers Squibb Co, Princeton, NJ; Somerset Pharmaceuticals Inc, Tampa, Fla), approved by the US Food and Drug Administration (FDA) in February 2006, delivers the MAOI selegiline through the skin into the bloodstream. At its lowest strength (6 mg/d), transdermal selegiline offers safe and effective treatment for patients with major depressive disorder (MDD) without requiring the dietary restrictions associated with oral MAOIs.

Selegiline is both an MAOI and a dopamine reuptake inhibitor. Active metabolites of selegiline include L-amphetamine, L-desmethylselegiline (ie, N-propargylamphetamine), and L-methamphetamine. The extent of the clinical effects of these metabolites is controversial. A daily oral dose (eg, 5-10 mg) of selegiline requires no dietary restrictions and selectively and irreversibly inhibits MAO-B. Higher daily oral doses of selegiline have been used to treat patients with depression, but such doses inhibit MAO-A in the gastrointestinal tract.

The main advantage of using transdermal selegiline is that it bypasses metabolism in the gastrointestinal tract and liver, thereby permitting higher plasma levels without inhibiting gastrointestinal MAO-A. The higher selegiline patch dosages (9 mg/d, 12 mg/d) are FDA-approved for managing MDD, though these dosages carry dietary restrictions. Clinically, however, dietary concerns with the 9-mg and 12-mg selegiline patches may lack relevance unless the patient has a highly abnormal diet, such as consuming large quantities of aged cheeses or fermented wines.

In my practice as a clinical psychiatrist, I have successfully treated patients by using the selegiline transdermal patch system. One of my cases involved a middle-aged man who was formerly highly energetic and successful, but whose severe, long-term MDD left him bedridden, obese, unemployable, and pondering suicide. Extensive psychotherapy had failed to help this patient, as had intermittent psychopharmacologic management. After 6 months of treatment with transdermal selegiline (6 mg/d initially; 12 mg/d after 4 mo), the patient showed substantial increases in energy level and daily function. Although he is still obese, the patient is no longer bedridden or contemplating suicide, and he is now seeking to reestablish himself in the workplace.

I urge physicians who have been reluctant in the past to prescribe MAOIs to consider my encouraging experiences with transdermal selegiline. The MAOIs can be effective in treating patients with MDD. They are relatively safe (particularly in transdermal form), and they can be a valuable tool for relieving the suffering of patients with serious mental disorders.

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Editor’s Note: Dr Tobe discloses that he has no conflicts of interest related to the topic of this letter to the editor.
Unknown Risks of Pharmacy-Compounded Drugs

To the Editor: In August 2006, the United States Food and Drug Administration (FDA) announced that warning letters had been issued to three pharmacies that were producing and distributing thousands of doses of compounded inhalation medications not approved by the FDA. These inhalation medications were used to treat patients with such respiratory diseases as asthma, bronchitis, cystic fibrosis, and emphysema.

Pharmacy compounding traditionally involves such practices as manipulating an FDA-approved dosage form, such as a tablet or capsule, to prepare a solution or suspension for individual patients who have difficulties in swallowing.2 Traditional pharmacy compounding may also involve preparing an FDA-approved medication excluding a specific ingredient to which an individual patient may have a hypersensitivity.2 The FDA permits such nontraditional practices by pharmacies.

By contrast, nontraditional practices of pharmacy compounding—such as those that prompted the FDA warnings—include the mass production of drug combinations from bulk substances that are sometimes of unknown origin.1 These drug combinations may be exact copies or slightly modified versions of FDA-approved pharmaceutical products.2 The FDA has expressed concern that such nontraditional practices of pharmacy compounding may expose patients to unnecessary health risks.1,2

The true extent of nontraditional pharmacy compounding in the United States is unknown. However, the FDA and many state public health authorities have expressed serious concerns about quality and safety issues regarding compounded inhalation drugs.2,3 For example, minutes from the May 2007 meeting of the Ohio State Board of Pharmacy reveal disciplinary action against one pharmacy-compounding facility.3 According to our calculations based on numbers provided in these minutes, between July 2005 and November 2005, the pharmacy in question compounded and dispensed 119 prescriptions for an estimated 7530 doses of inhalation medications, including five different drug-combination products.3 Two of the five compounded products were identical to FDA-approved medications, while three were unapproved combinations.3 Of the seven drug substances that were used to produce the combinations, five were available as FDA-approved inhalation medications, while two (betamethasone and dexamethasone) were not.3

The Ohio State Board of Pharmacy minutes reveal that when quality tests were performed on some of the compounded products, the potency of the tested drugs ranged from approximately 27% to 85% of the amounts of active ingredients listed on the products’ labels.3 The board’s minutes also indicated that 4530 doses of these compounded combination products had not undergone terminal sterilization or testing for sterility, fungi, or endotoxins before they were dispensed to consumers.3 Test results showed fungal contamination in 1380 doses that had been prescribed to 23 patients.3 After these test results became known, the pharmacies advised these patients to discard the medications.

Many physicians and patients may not be aware that pharmacy-compounded inhalation medications are not approved by the FDA. Physicians may be surprised to learn that their patients are receiving these unapproved drugs from pharmacies. Similarly, patients may be surprised to learn that their pharmacies are dispensing unapproved drugs to them.

In light of the potential health risks to patients of pharmacy-compounded inhalation medications—and considering the availability of comparable FDA-approved products—we strongly suggest that physicians and patients avoid using pharmacy-compounded medications, except in those rare instances when an FDA-approved product may not be an acceptable therapeutic option. Under those circumstances, the physician and patient need to be provided with reliable quality-control testing data to confirm the safety and effectiveness of the compounded product.

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OMM Education vs “Real World” Medicine

To the Editor:

I was compelled to write this letter after reading the many articles on the state of osteopathic medical education in the February (2007;107:47-92) and March (2007;107:93-136) issues of JAOA—The Journal of the American Osteopathic Association. I am well aware of the current state of training of our osteopathic medical students, and I am saddened and confused by one aspect of that training in particular. Why is it that education at colleges of osteopathic medicine (COMs) in all specialty areas except osteopathic manipulative medicine (OMM) prepares undergraduate students to analyze clinical problems as they would in the “real world”—that is, the way successful specialists in those areas approach the problems of patients?

I have observed that, in OMM training, students are typically taught a “regional” approach (ie, focusing on specific body regions) to diagnosis and treatment, along with a few techniques of osteopathic manipulative treatment (OMT)—but not how to analyze the total body’s musculoskeletal fascial strain pattern, as any skilled OMM specialist would do when working with a structural problem presented by a patient. What is the rationale for teaching OMM using a regional musculoskeletal approach?

Because a subset of patients will have musculoskeletal findings amenable to a regional analysis, COM students applying their OMM training in the clinical setting will doubtless experience a limited degree of success. With no other analytic skills at their disposal, many osteopathic medical students and osteopathic physicians simply give up believing that OMT works—or they come to believe that it works only in certain select cases. Other osteopathic physicians may spend the next 10 or 15 years using their limited manual skills to “wander around” their patients’ myofascial planes until stumbling upon a structural analytical model that is clinically effective for them.

How far ahead might our students be if we trained them from the beginning of their medical education to approach patients’ problems osteopathically—with a total-body approach—as long used by the profession’s most successful OMM specialists?

I would like to use this letter to analyze an example of an osteopathic medical student’s encounter with a patient that illustrates the failure of the regional method of OMM training to adequately prepare the student for real-life clinical challenges.

During my almost 30 years of training and clinical experience in the osteopathic medical profession, I have had the privilege of studying with many highly accomplished osteopathic physicians who are known for their clinical acumen and successful results with patients. I observed these DOs treating patients during a hands-on preceptorship, and I have also personally experienced their application of osteopathic manipulative techniques. I have had numerous lengthy discussions with many of these masters aimed at elucidating their analytic methods.

The osteopathic physicians who trained me during my undergraduate years at Kirksville (Mo) College of Osteopathic Medicine of A.T. Still University of Health Sciences (KCOM; now A.T. Still University-Kirksville College of Osteopathic Medicine) shared their knowledge regarding a variety of osteopathic manipulative (OM) techniques (ie, their osteopathic paradigms), including articularatory treatment system, counterstrain, high velocity/low amplitude technique, low velocity/low amplitude technique, lymphatic pump, muscle energy, myofascial release, Osteopathy in the Cranial Field, and the percussion vibrator technique.

Although the dominant osteopathic paradigms and treatment approaches used by each of my mentors in undergraduate school varied widely, each of them first analyzed the patient’s entire musculoskeletal system before determining the most important body area in which to begin treatment. They each would sequence the patient’s treatment until they were satisfied that the body had received all the manipulation it could handle or until the job was done for whatever technique was being used.

Many of my friends and colleagues in the osteopathic medical profession have served as faculty in, and chairs of, departments of OMM or osteopathic principles and practice (OPP) at COMs. Many of them have told me that they are instructed by the administration at their COMs to “teach to the test” (ie, the Comprehensive Osteopathic Medical Licensing Examination [COMLEX-USA]). They tell me that they are required to teach a regional musculoskeletal approach to analysis, including four or five basic OM techniques that could be used to correct somatic dysfunction discovered in any particular region. During their own practice careers, however, none of these faculty members analyzed or treated patients using a regional approach.

When I have asked them why they don’t teach students the type of total-body analysis and treatment sequencing that they used in their own practices, they all have given me similar responses—a shrug of the shoulders, a knowing sad smile, and the statement that OMM faculty must follow the dictates of the COM administration.

The only radiant exception to this regional approach I have found at the COMs in recent years was the OMM program developed by Edward G. Stiles, DO, who served as chairman of the Department of OPP at the Pikeville (Ky) College School of Osteopathic Medicine (PC SOM) from 1997 to 2005. Dr Stiles trained his students to analyze patients osteopathically—exactly as he did when he was in private practice. His OMM program was also integrated with other specialty disciplines of osteopathic medicine. At the American Academy of Osteopathy (AAO) annual convocations during those years,
I always thought that the PCSOM students seemed to be light-years ahead of the students from other COMs in their ability to analyze, manage, and solve musculoskeletal problems. As I recall, the PCSOM students often had jobs waiting for them in the offices of local MDs, who were likely hungry for the kind of whole-body contribution to neuromusculoskeletal medicine that these new graduates could provide to their patients’ care. Unfortunately, with a changing of the guard at PCSOM, the OMM program there is now back to training students with the regional approach (E.G. Stiles, DO, written communication, December 2007).

Through my extensive and varied experiences with osteopathic medical students, I have been able to evaluate the effectiveness of their learned methods at solving the clinical problems of patients. In the past 10 years or so, I have visited at least six COMs to perform weekend training sessions in the neurofascial release paradigm for hundreds of osteopathic medical students as part of the AAO’s Visiting Clinician Program funded by the American Osteopathic Foundation. In addition, I have personally trained more than 200 students from many different COMs in my office. I have also spent many hours with students at the COMs in my office. I have always thought that the PCSOM students seemed to be light-years ahead of the students from other COMs in their ability to analyze, manage, and solve musculoskeletal problems.

Now, I’d like to present a typical real-world example of how “the body is a unit.”

A patient has suboccipital pain and a headache. The student examines the patient’s head, neck, and upper thoracic area. He finds that the relationship between the atlas and occiput is amiss, according to whatever paradigm he uses. He corrects the somatic dysfunction locally using one of the four or five OM techniques he was taught. If the somatic dysfunction involving the atlas and occiput is a local phenomenon, this regional approach will be effective, and the somatic dysfunction may be removed along with the patient’s complaint.

However, when the somatic dysfunction involving the atlas and occiput is part of a more widespread myofascial strain pattern, the regional approach will fail. Then, when the patient’s condition does not improve, the student does not have the training to figure out what to do next, and the underlying cause of the patient’s problem will remain a mystery.

Recently, a student and I were treating a patient with this kind of atlas and occiput problem. The student performed a regional evaluation, correcting the atlas and occiput somatic dysfunction. Upon re-evaluation, the patient’s somatic dysfunction was just as it was before the correction. It was as though nothing at all had been done with the patient. The student was left not knowing what to do next or why to take any particular action, because his training had not provided him with a method for finding the answer to this patient’s functional problem.

After this student and I together performed a total-body myofascial strain evaluation of the patient, we came upon the left flexed talus—an old ankle strain—which was the cause of the myofascial strain pattern leading to the cervical somatic dysfunction. When we corrected the talus (the cause), the atlas and occiput somatic dysfunction (the effect) immediately and spontaneously resolved. No further action to the atlas was needed on our part.

This case clearly demonstrates a real-world example of how “the body is..."
a unit” and supports this tenet of osteopathic medicine.2 Specialists in OMM analyze the entire body’s musculoskeletal strain pattern. Their analyses tell them why to begin a certain course of action in patient treatment, which is essential knowledge before deciding what osteopathic paradigm to apply in the treatment. Our current crop of osteopathic medical students knows “five ways to fix a lesion” (ie, somatic dysfunction) based on only a regional analysis that does not allow them to properly determine why or where to begin treatment.

I return to my previous question: Why is it that education at COMs in all specialty areas except OMM prepares osteopathic medical students to analyze clinical problems the way the most successful specialists do?

For example, in the study of neurology, an undergraduate osteopathic medical student is taught to perform a neurologic examination of a patient that is similar to the way a practicing neurologist would. If a patient has a numb first big toe, the osteopathic medical student, following standard neurologic guidelines, would be taught to carefully examine the patient’s nervous system, including areas (eg, lumbar spine) that are some distance from the toe. The student would not be trained to examine only the big toe, foot, ankle, and calf.

The osteopathic medical tenet that the body operates as a unit holds just as well for OMM as it does for neurology. Thus, the osteopathic medical student learning about OMM needs the same kind of real-world training as the student learning about neurology.

In conclusion, the current training received by osteopathic medical students at does not accurately reflect how osteopathic physicians specializing in OMM actually practice. Therefore, the student’s application of OMM is not—and cannot be—as clinically effective as treatment methods used by osteopathic physicians specializing in OMM. This lack of clinical effectiveness leads osteopathic medical students and new osteopathic physicians to become discouraged with OMT. Later, they abandon it altogether because, in their hands, it just doesn’t work.

I call on administrators at COMs to allow our OMM and OPP professors, seasoned by years of clinical experience and successful musculoskeletal analyses, to teach what they know about OMM and treatment sequencing to their students. It is time we give our students the real stuff—both for their professional satisfaction and for their patients’ well-being.

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References

Colleges of Osteopathic McMedicine?

To the Editor:

I never thought that I would live long enough to see the admirable tolerance and transparency shown recently by the American Osteopathic Association in its publications, including JAOA—The Journal of the American Osteopathic Association. This is a very healthy trend, and I applaud it.

The letter by George Mychaskiw II, DO,4 that appeared last year—drawing comparisons between problems in medical education noted by Abraham Flexner in 1910 and problems existing in osteopathic medical education today—was enlightening as well as frightening. Dr Mychaskiw certainly has done his homework, and he hit the nail on the head by pointing out the dilemmas confronting the osteopathic medical profession regarding the growth of colleges of osteopathic medicine (COMs). I have always wondered about the quality versus the quantity of educators available in the mushrooming business of opening new COMs.3

Back in the old days—or in my time, the class of 1969 at Des Moines University—College of Osteopathic Medicine in Iowa (DMU-COM)—we had only four instructors with PhD degrees teaching basic sciences. In addition, there were only six osteopathic physicians working full-time at DMU-COM. I certainly would hate to see those old days return!

Fortunately for the progress of our profession, but unfortunately for our nostalgia, the old spots once occupied by DMU-COM and its hospital are now parking lots, and DMU-COM is now situated in a world-class medical facility. We have several bright basic scientists educating the students now, and we have several bright osteopathic physicians working full-time for the university, along with a number of adjunct clinicians who teach regularly. The students at DMU-COM are getting a high-quality education by any standard. There is also a healthy trend toward more research at DMU-COM, as I have noticed through personal observations and communications with colleagues.

However, one wonders if all the new COMs will be able to attract adequate numbers of bright, qualified, young osteopathic physicians and basic scientists for their faculties.

A critical letter like that written by Dr Mychaskiw, as well as the published responses to Dr Mychaskiw’s communication,4,5 would have never appeared in AOA publications in “the good old days.” Instead, Dr Mychaskiw would have been banished forever for offering valid, constructive criticism to improve the osteopathic medical profession. I admire the tolerance and transparency demonstrated by the editors of the JAOA, and I applaud their efforts to let everyone know that there can be serious problems with opening “franchised McMedical schools” without regard to the quality of education pro-

Letters
vided to our younger generation.

I am thankful to my profession and to my teachers, who under the worst of circumstances provided me with adequate education and training. Nevertheless, there is no denying that it was difficult for us, the students. Most of us obtained the incentive for learning by looking at the deficiencies of the osteopathic medical profession and preparing ourselves to succeed by overcoming these deficiencies.

It is time for the osteopathic medical profession to make another leap forward by focusing on producing the best-trained osteopathic physicians who will be fully equipped to meet the challenges of the 21st century. Our profession will be the loser if we do not tie up the existing loose ends of the COM infrastructure prior to opening new schools.

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