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Inadequacies in Musculoskeletal Medicine in Medical School Education

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There is a problem with musculoskeletal medicine in the United States. Currently, musculoskeletal conditions cost our society an estimated \$300 billion annually (\$254 billion in 2000; \$215 billion in 1999).¹ One in three Americans reports a musculoskeletal impairment, and more than 28 million Americans incur a musculoskeletal injury every year. More than half of all injuries involve the musculoskeletal system. Almost 70 million Americans have some form of arthritis. Each year, musculoskeletal conditions/injuries account for more than 100 million visits to physicians' offices, over 10 million hospital outpatient visits, 25 million emergency department visits, 3 million hospitalizations and 7.5 million hospital procedures.² These statistics do not include visits to chiropractors, massage therapists and nontraditional health care practitioners.

Many patients are disenchanted with their care by traditional physicians and feel that practitioners who offer alternative treatments, such as chiropractors, can more effectively deal with their musculoskeletal disabilities.^{1,3}

Musculoskeletal medicine is not taught adequately in American medical schools, and the predictable consequences are seen. There is a lack of mastery of musculoskeletal medicine and a lack of confidence by field practitioners in this area.¹⁻⁶

As far back as 1967, allopathic medicine recognized a shortfall in education relative to musculoskeletal care. John Wilson Jr., MD, in the chairman's address before the American Medical Association (AMA), stated: "The teaching in our medical schools of the etiology, natural history, and treatment of low back pain is inconsistent and less than minimal. The student may or may not have heard a lecture on this subject. ..." Dr. Wilson further stated: "A survey of orthopedic residents graduating from an approved program in a large urban area disclosed several alarming deficiencies in their training. They know very little about the natural history of degenerative disk disease. ..." In the past five years, there have been more studies to substantiate this dilemma. In an investigation performed at the University of Pennsylvania School of

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Medicine, "... 82 percent of medical school graduates failed a valid musculoskeletal competency examination. We therefore believe that medical school preparation in musculoskeletal medicine is inadequate." In this study, orthopedic chairpersons set the criteria. The medical school graduates came from 37 different medical schools. It was found that the duration of the residents' preparation in musculoskeletal education was inadequate. For the study population, the duration of instruction in orthopedics was only 2.1 weeks, and 33 percent of the medical school graduates had no rotations in orthopedic surgery. Some of the residents tested had graduated from some of the country's best medical schools, yet still did poorly on a basic competency examination in musculoskeletal medicine. Orthopedic surgeons believe they are the custodians of musculoskeletal knowledge, but they render only a small proportion of musculoskeletal health care - probably as a result of managed care.⁵

In another study, three medical doctors found some alarming answers to questions posed to physicians entering their residencies. The object was to learn what the physicians thought of their preparation for diagnosing and treating musculoskeletal problems and to assess how adequate they felt in handling musculoskeletal problems, compared with handling conditions of other body systems. Many allopathic physicians felt "poorly" or "very poorly" prepared in their training to conduct a musculoskeletal examination. It was determined that "... medical students entering their residencies are ill prepared to deal with the more common musculoskeletal conditions."¹

In 2002, it became commonplace in medicine to say that musculoskeletal competence in general medical practitioners is a common deficiency. A study conducted at the School of Medicine in Adelaide, Australia, noted: "Musculoskeletal knowledge among recent medical graduates has again been found wanting. The need for further musculoskeletal education has been established. Implementing strategies to correct the deficiency has yet to be addressed." In this study, a test was given and scored by orthopedic surgeons. The study found that the Australian interns and general practitioners were just as deficient as their American counterparts.³

A study performed at the University of Pennsylvania School of Medicine in 2002 involved another basic competency examination in musculoskeletal medicine. The difference in this test and one of the past studies was that it was set up by internal medicine program directors, not orthopedic program directors, although essentially, the results were the same: "78 percent of medical school graduates failed to demonstrate basic competency on the examination according to the criterion set by internal medicine program directors. It is therefore reasonable to conclude that medical school preparation in musculoskeletal medicine is inadequate." It was also determined, "One or two weeks, representing less than 2 percent of the entire typical curriculum, is probably insufficient. ..." Another conclusion of the

study: "Students must master the topic of musculoskeletal medicine. The results of these studies suggest they have not."⁶

In 2003, the AMA created a resolution relative to musculoskeletal care in graduate medical education. The AMA resolution stated:

"Whereas, according to a recent study, 82 percent of medical school graduates examined failed to demonstrate basic competency in musculoskeletal medicine; and whereas, a follow-up study reported that according to the standards suggested by the program directors of internal medicine residency departments, a large majority of the examinees once again failed to demonstrate basic competency in musculoskeletal medicine; and whereas, it is therefore reasonable to conclude that medical school preparation in musculoskeletal medicine is inadequate; therefore be it resolved that the American Medical Association strongly urges our medical schools to formerly re-evaluate the musculoskeletal curriculum ... to urge our medical schools to make changes that ensure medical school students have the appropriate education and training in musculoskeletal care. ..."⁷

The perplexity is obvious; the solution is not.

Is there a solution to this predicament? One of the leaders on curricular reform in musculoskeletal medicine is Dr. Joseph Bernstein, MD, of the University of Pennsylvania. He was involved in two of the aforementioned studies. According to Dr. Bernstein, "It would be impractical and wrong for a single group to mandate a universal solution. Indeed, a broad-based coalition representing all interactive disciplines and departments will be necessary."

Unfortunately, the intention is only for allopaths and osteopaths to be involved in the broad-based coalition. Chiropractors, physical therapists and massage therapists do the majority of patient work in musculoskeletal medicine. There is a great deal standing in the way of curricular reform, such as the amount of time that medical students have in their current curriculum, more funding for teachers and instructional materials, the politics of medical school power structures, and the lack of enthusiasm on behalf of those who don't care to give up field practice to teach academics. Also, orthopedic surgeons don't want to give up their high salaries as surgeons to teach in classrooms. Those interested in reforming curriculum have to define the topics and create the teaching materials. There must be an integration of musculoskeletal topics into the existing curriculum, and the addition of musculoskeletal medicine to the current curriculum.⁸ At least one study has shown that teaching primary care doctors in limited manual therapy is not useful.¹¹ It is probably a daunting task, given the competition between internists, osteopaths, surgeons and the like. Improving health care is a necessity, and with the everlasting and consistent failures in musculoskeletal medicine, more patients will exhibit common sense and seek alternative care for relief.

Multiple studies performed by David Eisenberg, MD, et al., have consistently shown that more visits are made to providers of nonmedical therapy than to all U.S. primary care physicians, and that a majority of the conditions treated are musculoskeletal. Furthermore, more money is spent out-of-pocket on unconventional therapies than is spent out-of-pocket annually for all hospitalizations in the United States. The same study shows that of the top alternative therapies, musculoskeletal health care practitioners - specifically chiropractors, acupuncturists and massage therapists - collectively were visited most frequently.^{9,10} Of all alternative therapists studied, only chiropractic is licensed in all 50 states in this country. With a continuing increase in the number of visits to alternative health care practitioners versus visits to all primary care physicians, perhaps terms such as "mainstream, unconventional, and alternative" should be redefined. With both their presence and payments, patients in the United States are finding relief from musculoskeletal problems in the offices of doctors of chiropractic.

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