Adequacy of Education in Musculoskeletal Medicine

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FROM ABSTRACT:

Background:
Basic musculoskeletal knowledge is essential to the practice of medicine.

A validated musculoskeletal cognitive examination was given to medical students, residents, and staff physicians in multiple disciplines of medicine to assess the adequacy of their musculoskeletal medicine training.

Methods:
The examination was given to 334 volunteers consisting of medical students, residents, and staff physicians.

Analysis of the data collected and comparisons across disciplines were performed.

Results:
The average cognitive examination score was 57%.

Sixty-nine participants (21%) obtained a score of 73.1%, the recommended mean passing score. [This means that 79% flunked the test].

Conclusions:
79% of the participants failed the basic musculoskeletal cognitive examination.

This suggests that training in musculoskeletal medicine is inadequate in both medical school and non-orthopaedic residency training programs.

Among the non-orthopaedists, scores were significantly better if they had taken a medical school course or residency rotation in orthopaedics, suggesting that a rotation in orthopaedics would improve the general level of musculoskeletal knowledge.

 THESE AUTHORS ALSO NOTE:

“Basic musculoskeletal knowledge is essential to the practice of medicine.”

Musculoskeletal problems are second only to upper respiratory illness as reasons why people seek medical attention in the emergency department.
Musculoskeletal symptoms are also the most common reason for visits to outpatient departments.

The examination taken by these physicians was validated by both orthopaedic and internal medicine chairpersons. A passing score was set at 73.1%.

Previously, this examination was given to eighty-five residents in their first postgraduate year of training, and 82% failed to demonstrate basic cognitive understanding of musculoskeletal problems, with an overall mean score of 59.6%.

Also, this same musculoskeletal cognitive examination was given to 22 medical students in their last month of their final year of training and 82% also failed. Specifically, 100% of these students failed the anatomy section of the examination, 64% failed in trauma section, and 45% failed in general orthopaedics.

“Regardless of specialty training, physicians, residents, and students in most areas of medicine should know the basic elements of musculoskeletal history and physical examination and basic musculoskeletal pathology.”

The purpose of this study was to determine the adequacy of musculoskeletal education by testing medical students and physicians in several fields of medicine at a university-based training hospital and a United States Army Medical Center. The examination was given to medical students, residents, and staff physicians. The examination was given to 113 medical students, 167 residents, and 54 staff physicians for a total of 334 participants; 95 were active-duty military personnel, and 239 were civilians. The physician participant specialties included internal medicine, orthopaedics, pediatrics, obstetrics-gynecology, general surgery, family practice, psychiatry, anesthesia, emergency medicine, ophthalmology, and radiology.

The average examination score was 56.9%. [This is an F grade]

Only 21% of the participants obtained a score of 73.1%.

79.3% failed the examination. [WOW!]

58% of those who achieved a passing grade were from orthopaedics.

Average scores broke down as follows:

- Internal medicine 54%
- Orthopaedics 94%
- Pediatrics 58%
- Obstetrics-gynecology 48%
- General surgery 59%
- Family practice 61%
- Psychiatry 35%
“No significant correlation was found between the number of years in practice or residency year and the score on the basic musculoskeletal cognitive examination.”

“155 participants (46.4%) who stated that they were comfortable with regard to their ability to perform a musculoskeletal examination had an average score on the cognitive examination of 66%.” [Amazing]

“179 participants who stated that they were not comfortable with regard to their ability to perform a musculoskeletal examination had an average score of 49%.”

The lowest percentage of correct answers was to the question that pertained to low back pain. Only 13% of the physicians answered the question correctly. [Wow! We should take over.]

DISCUSSION

“Practitioners must know how to treat basic musculoskeletal symptoms, when to refer patients with such symptoms, and what constitutes an orthopaedic emergency. The foundation of musculoskeletal knowledge must stem from appropriate medical school and residency training curricula.”

“In 1990, there were fifteen million office visits because of mechanical low-back pain, making it the fifth most common reason for all physician office visits. Fifty-six percent of those visits were to primary care physicians. Questions 6, 11, and 14, which pertained to this topic on the cognitive examination, were answered correctly by 10%, 24%, and 27%, respectively, of the participants who were in the primary care specialties.” [This means that these doctors had their lowest understanding of the low back.][VERY IMPORTANT!]

“The underlying deficiency of musculoskeletal medical knowledge may be due, in part, to the lack of exposure to basic anatomy and to musculoskeletal medicine as a whole.” [This is an amazing statement!]

The average score on the eight basic anatomy questions on the examination was 49%, yet anatomy is one of the core courses of medical education. [This would imply that what they are learning is primarily short-term memory.]

One study notes that less than 3% of all curricular hours in the typical Canadian medical school are devoted to musculoskeletal education.

Only 25 (20.5%) of 122 medical schools in the United States required a formal musculoskeletal clerkship (averaging 2.4 weeks) in the clinical years.” [INCREDIBLE!]
“Almost half of the American medical schools do not require any formal clinical or basic musculoskeletal course prior to graduation.”

[Can this be correct?] [AMAZING!]

“There is a lack of exposure to musculoskeletal medicine in medical schools, as the majority of respondents who were not comfortable with performing a musculoskeletal examination claimed that their training in the area had been inadequate or nonexistent.” [WOW!]

“A required course in orthopaedics should be considered essential for adequate musculoskeletal training.” [Wow, one required course]

This study is the first to assess basic cognitive musculoskeletal knowledge in multiple disciplines of medicine at all levels of training. “Deficits in musculoskeletal knowledge were found at all levels, excluding the orthopaedists.”

“This study strongly suggests that there is a lack of basic musculoskeletal education in medical school and during nonorthopaedic residency training.”

KEY POINTS FROM DAN MURPHY

1) Basic musculoskeletal knowledge is essential to the practice of medicine.

2) Musculoskeletal symptoms are also the most common reason for visits to doctors.

3) Musculoskeletal problems are second only to upper respiratory illness as reasons why people seek medical attention in the emergency department.

4) This study represents the third time this examination on basic musculoskeletal medicine has been given to medical students, residents, and physicians, and the results being published. The first two times, the flunk rate was 82%. This study showed that 79% flunked the basic musculoskeletal examination.

5) These studies show that training in musculoskeletal medicine is inadequate in both medical school and residency training programs.

6) The musculoskeletal question missed most often, answered correctly by as few as 10%, pertained to the low back.

7) In 1990, there were fifteen million office visits because of mechanical low-back pain, making it the fifth most common reason for all physician office visits.

8) The deficiency of musculoskeletal medical knowledge may be due to the lack of exposure to basic anatomy and to musculoskeletal medicine as a whole.
9) The average score on the eight basic anatomy questions on the examination was 49%, yet anatomy is one of the core courses of medical education.

10) Less than 3% of all curricular hours in the typical Canadian medical school are devoted to musculoskeletal education.

11) Only 25 (20.5%) of 122 medical schools in the United States required a formal musculoskeletal clerkship (averaging 2.4 weeks) in the clinical years. [INCREDIBLE!]

12) Half of the American medical schools do not require any formal clinical or basic musculoskeletal course prior to graduation.

13) The majority who took this examination were not comfortable with performing a musculoskeletal examination and claimed that their training in the area had been inadequate or nonexistent.

COMMENT FROM DAN MURPHY

I am a Diplomate of the American Board of Chiropractic Orthopedics. I took the entire program twice. My primary instructor was the great Richard Stonebrink, DC, DABCO. The DABCO program had a major impact on my knowledge, thinking, clinical understanding, clinical skills, and clinical practice. Perhaps many of us should take the DABCO program and help take over this area of healthcare. This is the third time this test had been given to medical students and physicians and the results published. It is obvious that physicians are incompetent in musculoskeletal issues, and we should take over. Our standard chiropractic education, with its emphasis on musculoskeletal education, puts us far ahead of the medical students and physicians.