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Title

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Permalink

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Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 10(3)

ISSN

1936-900X

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Publication Date

2009

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International Perspective from Saudi Arabia on “Procedural Skills Training During Emergency Medicine Residency: Are We Teaching the Right Things?”

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Supervising Section Editor: Mark I. Langdorf, MD, MHPE

Submission history: Submitted July 07, 2009; Revision Received June 20, 2009; Accepted July 22, 2009

Reprints available through open access at www.westjem.org

[*WestJEM.* 2009;10:157-158.]

Commentary

This article illustrates the use of an essential post-residency survey to identify specific topic deficiencies in the emergency medicine (EM) residency curriculum. This method has been effectively used in other specialties. Lieberman et al.¹ used a post-residency survey in Canada to record opinions of 239 pediatricians for their preparedness for practice. Results showed trainees need more community and ambulatory pediatrics and less tertiary care exposure, and these were later incorporated in the curriculum. Khairy et al.² did a similar study to evaluate surgical residency training in Saudi Arabia. Ninety-six surgeons from different practice settings participated in the survey, which identified technical skills as the biggest training deficit. A structured skills training center for both junior and senior residents, especially outside the operating theater, was proposed.

Aksay et al.³ describes a 14-year experience in Turkey using a similar survey to guide developing their EM programs. They used three different surveys for residents, trainers, and department heads of 20 EDs and 261 physicians. One hundred eighty-five residents, 56 trainers and 20 department heads participated in the study. Comparison of resident and trainer views regarding various aspect of EM training program was presented. Resident views differed significantly from trainer views (expressed as sufficiency percentages) in the number of practical skills (29.6% vs. 67.3%), competency in practical skills (60% vs. 78.2%), literature update (21% vs 37%), and quality of education (44.3%.vs 76.8%). Similar observations were made when theoretical knowledge and practical skills were evaluated. The residents' sufficiency level for different core content compared to trainer were as follows: cardiovascular, 74% vs. 91%; neurology, 68% vs. 86%;

resuscitation, 83% vs. 98%; trauma, 76% vs. 87%; orthopedics 56% vs. 75%; pediatrics, 16% vs. 27%; and toxicology, 63% vs. 82% respectively. Resident and trainer views on practical skills were significantly different in all procedures except endotracheal intubation. For all other procedures the resident felt more under-prepared than the trainers reported. The authors concluded that while most of the departments have developed the basic components for residency training, significant gaps were identified in the curriculum taught and practical skills acquired. This important observation reminds educators of the need for post-training feedback to guide future training.

The present study used a similar survey to address preparation for “twelve common procedures taught during EM training and their importance in practice.” Investigators used procedures considered important but not emergent, with the assumption that emergent procedures are routinely performed and well taught. The responses were classified in three groups: over or under-prepared and concordant. Slit lamp usage, computed tomography interpretation, transvenous pacing and procedural sedation were areas reported as under-prepared.

The study limitations included small sample size, single residency program and lack of information on methods of instruction and intensity of training. The authors did not compare these results with emergent procedures preparation, which would have allowed better understanding of the cause of this perceived under-preparation. The significant message from this study is that this evaluation can help identify program-specific deficiencies and modify the residency accordingly.

This study looks at the micro level of actual educational delivery to each resident rather than the macro view of curricular plan. Practice environments differ across the country. What may be important in one environment may not be in another setting. In the U.S., rural and community ED practices customarily have fewer on-call specialists than urban, academic ones. This, in turn, requires emergency

physicians without backup to perform procedures that specialists traditionally do.

In Saudi Arabia, standardized EM training was introduced only in 2000. Because EM-trained specialists are limited, the majority of physicians are non EM-trained and require significant support from subspecialists for specific procedures. This mitigates the need for broad procedural training to some degree. We should note that due to the annual Hajj pilgrimage, EM training in Saudi Arabia emphasizes mass gathering casualty care, disaster preparedness and ability to cope with multicultural people with no background medical knowledge. EM training programs include a National Hajj Preparation course and mandatory Hajj rotation during the residency program to prepare for this real-world challenge.

High-fidelity simulation is increasingly used in the U.S. to teach uncommon procedures and rudimentary skills prior to experience on patients. In Australia and New Zealand, the College of Anesthetists recently instituted a mandatory 2 1/2-day simulation-based course to assess competency in critical situations. This course is required of all anesthesia trainees before completion of their training. A similar initiative is in development by the Australian College of Emergency Medicine.⁴ In the Middle East this concept is starting to evolve as well. Recently King Faisal Specialist Hospital in Riyadh (Saudi Arabia) identified the need for simulation

labs to teach uncommon procedures. Simulation certainly improves performance in the simulated setting; however, little information is available on the translation of these skills to the actual patient care environment and their outcomes.

Studies with large sample sizes and broader assessment of both curriculum and procedural spectrum are required to more closely mirror real world needs.

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