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Educational Needs of Non-EM Residents Rotating in the Emergency Department

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Results: There is a significant difference between mean USMLE step 1 and step 2 scores, respectively for residents who passed the qualifying exam (220.4) and residents who failed the qualifying exam (step 1 - 220.4/207.9, $p < 0.05$ and step 2 - 228.8/208.9, $p < 0.05$). There is also significant difference between mean USMLE step 1 scores for residents who scored greater than or equal to 75 on ITE (220.0) and residents who scored below 75 on the ITE (209.0), $p < 0.05$. However there is not a significant difference between mean USMLE step 2 scores for residents who scored greater than or equal to 75 on the ITE (227.2) and residents who scored below 75 on the ITE (218.7), $p > 0.05$.

Conclusions: Our results seem to validate that higher scores on USMLE step 1 and 2 both seem to correlate with a higher rate of success in passing the ABEM Qualifying Exam. It also supports that higher Step 1 scores seem to correlate with success on the ITE. Surprisingly, we did not see a significant difference in USMLE step 2 scores with relation to ITE. These results represent the information from the entire breadth of a residency program over 20 years. With an increase in the competitiveness of the Emergency Medicine Residency Match, there continues to be an increase in the overall USMLE scores, and thus the statistical significance may need to be reexamined.

19 Early Clinical Experience in Emergency Department Yields Higher Scores on Standardized Clinical Assessments

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Background: The Clinical Reasoning Elective (CRE) is a student-led program which provides pre-clinical students exposure to real patients and the opportunity to practice building differential diagnoses. The program, now entering its fifth year, has been a supplement to the pre-2016 University of Michigan Medical School (UMMS) curriculum. Each year, the CRE has received overwhelming positive feedback from students, however little is known about the objective benefit of the CRE with respect to students' clinical skills.

Objectives: Assess the influence of participation in the CRE on students' clinical skills.

Methods: In the 2015-2016 academic year, 120 pre-clinical students were matched with 55 physician-mentors at the UMMS and Veteran's Administration Health System. Students completed histories and physical exams on patients who presented to the ED, with an emphasis on the organ systems they were currently studying. Students were expected to formulate a differential diagnosis, which they

presented and discussed with their faculty member who would provide feedback on their history and exam.

Self-reported participation in the CRE was compared with students' individual scores on the M2 Comprehensive Clinical Assessment (CCA). This exam covers 12 domains of physical exam skills, history taking, verbal presentation, and patient communication. All students who took this exam in 2016 (N=171) were included in the analysis.

Results: 107 out of 120 CRE participants completed an average of 10 sessions over the course of the program (range=1-20). Students who participated in CRE performed better on the clinical skills examination. Participation in the CRE as a continuous measure was significantly correlated with 5 domains of the M2 CCA including: abdominal history ($r=.23$), pulmonary physical exam ($r=.169$), communication ($r=.159$), and overall scores for physical exam ($r=.159$), and history taking ($r=.209$).

Conclusions: There is a measurable improvement in clinical skills performance for UMMS students who participated in the Clinical Reasoning Elective. In addition to the popularity of the CRE and the desire to make it an accessible experience for all students, expanding pre-clinical learning within the emergency department also proved to be a successful tool to teach communication, history, and physical exam skills on real patients.

20 Educational Needs of Non-EM Residents Rotating in the Emergency Department

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Background: Most academic institutions in the US have non-EM residents (NEMR) providing patient care in the Emergency Department (ED). Despite this, little is known about their learning goals or most valuable educational resources. These residents have diverse backgrounds based on their specialty which include Medicine, PM&R, Orthopedics, Surgery, ENT, Neurology, Psychiatry, Pediatrics, and ObGYN. Given this diversity, we aimed to assess their learning goals and needs in order to assist in the development of a more robust curriculum.

Objectives:

- To determine their educational goals for the rotation.
- To gauge the level of comfort of NEMR on basic EM medical knowledge and procedures pre and post rotation.
- To identify the most useful resources in their education.

Methods: A total of 40 NEMR rotating through UNC Hospital ED between January and November 2016 were surveyed anonymously pre and post rotation. IRB approval was obtained.

Results: 45% and 47.5% answered the pre and post-rotation survey respectively. NEMR were asked to rate their comfort level in 10 basic EM chief complains and procedures pre and post rotation (Fig 1). NEMR were asked to rate the most valuable learning resources in the ED. 95% rated ED attendings as the most valuable followed by EM residents at 89%. 50% and 39% felt that EM conferences and online curriculum were the least helpful respectively. When asked whether their educational goals were met during their ED rotation 16% said very much, 42% moderately, and 0% not at all. Suggested improvements for the rotation included more shifts on higher acuity bays, less switching between day and night, more bedside ultrasound teaching, and pre-rotation orientation.

Conclusions: In conclusion, NEMR in general felt very uncomfortable and poorly prepared to handle common patient complaints and procedures in the ED revealing a knowledge gap that these residents have. Survey results showed increasing level of comfort in all 10 procedures/knowledge criteria after the rotation reinforcing the importance of the EM rotation to their ongoing education. While most residents felt that their learning goals were met, this knowledge will help us improve and modify their experience to help better meet their goals.

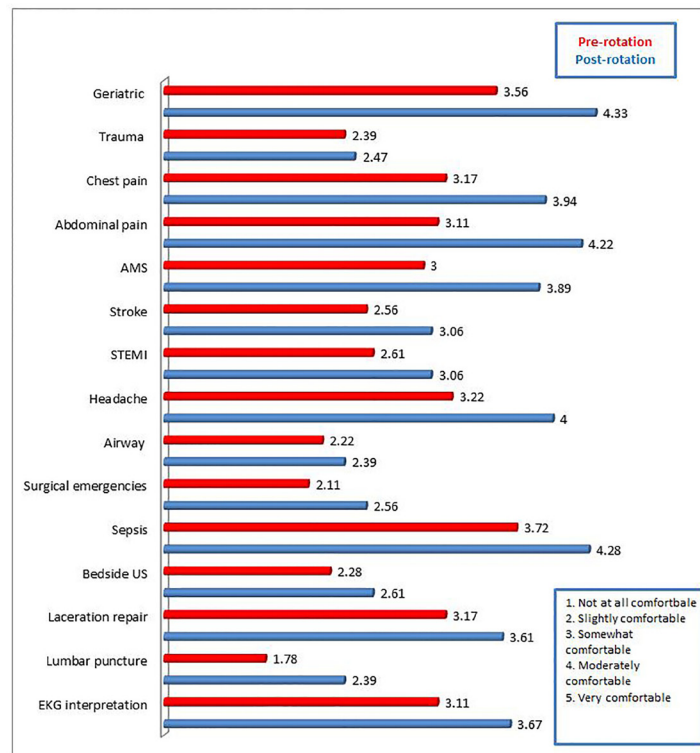


Figure 1. Pre and Post-rotation Level of Comfort of NEMR.

21 Effect of Commuter Time on Residency Work Hours

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Background: The impact of work hours on resident well-being and patient safety have long been a controversial issue. What has not been considered in resident work hour limitations is whether resident commuting time has any impact on a resident’s work week, well-being, and whether resident commuting time should be considered in calculating total resident work hours.

Objectives: We sought to investigate resident commuter time, methods of commuting, and potential consequences of extended commute.

Methods: A self-administered electronic survey was generated and distributed to all 174 allopathic emergency medicine program directors on a national academic listserv. Participation was voluntary. The study received institutional board review approval. The survey instrument consisted of twelve multiple-choice questions.

Results: Survey response rate was 8% of all possible residents.

Commuter time was found to be 30 minutes or less in 70% of respondents. 16% of residents reported commuter time of 31-45 minutes and 11% reported 46-60 minutes. 0.4% reported a commuter time of 76-90 minutes and 1 resident had a commuter time of 91-105 minutes.

The resident who reported having a commuter time of 91-105 minutes used train as method of commuting and also reported working 12 hour shifts. Of the two residents with 76-90 minute commute times, one commuted by car and the other by train. The former worked 8 and 12 hour shifts. The latter worked various shift of either 8, 10 or 12 hours shifts.

Most concerning was the 29.3% of residents reported falling asleep while driving their car home from work. We found 12% of respondents reporting being involved in a car collision commuting to or from work.

When asked their opinion on the effect of commute time, those with commute times greater than 1 hour 75% of residents responded it was detrimental.

Conclusions: While the majority of emergency medicine residents in this survey have commuter times of 30 minutes or less, there is small population of residents with commuter times of 76-105 minutes. Given that these residents often work 12 hours shifts, at times residents whose commute is up to 105 minutes each way could be traveling a total of more than 3.5 hours for each round trip to/from work. These extended commuter times may be having detrimental effects on resident health and well-being.