

## **UC Irvine**

### **Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health**

#### **Title**

A Needs Assessment for an Emergency Medicine Longitudinal Didactic Curriculum

#### **Permalink**

<https://escholarship.org/uc/item/4rt0b960>

#### **Journal**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 24(3.1)

#### **ISSN**

1936-900X

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#### **Publication Date**

2023

#### **DOI**

10.5811/westjem.60985

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4.12,  $p < 0.05$ ), and confidence in applying lower extremity splints (2.92 vs. 4.19,  $p < 0.05$ ).

**Discussion:** The incorporation of a formal orthopaedic splinting skills workshop in EM training improves both splinting quality and learner confidence in splint selection and application.

## 2 A Multi-Procedure, Task-Training Kit And Curriculum For A Virtual Medical Student Rotation

*Abbas Husain, Rodrigo Kong, Shorok Hassan, Norman Ng, William Caputo, Simone Rudnin, Adil Husain*

**Background:** Due to the COVID19 pandemic, medical students' participation in ED clinical clerkships was significantly reduced which led to a loss in procedural skill training. To address this, we developed a multi-procedure, task-training kit and curriculum for use in a virtual format. Virtual procedure skill training with a specifically designed kit and curriculum can lead to improved confidence in performing those procedures for remote medical students. We discuss feasibility, resource allocation, and future development and application.

**Objectives:** Procedural training is essential in EM education as muscle memory contributes to practitioner proficiency. Practical skills labs are good ways to practice procedures that

are rare or difficult to perform on a patient for the first time. The objective of this task training kit is as an adjunct to a curriculum that provides training to medical students of the same caliber as a practical skills lab. This kit is to give our virtual medical students the experience they would have if they were in person.

**Curricular Design:** We created a lightweight (2.1kg), inexpensive kit (\$98.93) to teach 5 procedures: lateral canthotomy, cricothyroidotomy, tube thoracostomy, suturing and splint application. An accompanying curriculum was developed for use in a virtual format, including strategies for participant engagement, optimizing video and audio capture, and providing feedback. Kits were mailed to students. The curriculum was delivered via a video conferencing platform. The students completed pre and post session surveys.

**Impact/Effectiveness:** 12 Students have completed the rotation. Confidence to perform the steps of the procedures, as measured with a 5-point Likert scale, increased for four of the procedures with lateral canthotomy showing the largest change: from 2 (SD 0.89, Var 0.8) to 5 (SD 5.2, Var 0.27). There was no change with suture application.

## 3 A Needs Assessment for an Emergency Medicine Longitudinal Didactic Curriculum

*Maxwell Thompson, William Davis*

**Background:** Emergency Medicine (EM) encompasses many aspects of medical care. An ideal didactic curriculum prepares residents to pass the written board exam while also providing practical skills and knowledge essential for patient care. Designing such a curriculum is challenging due to advances in medical knowledge and changes to the content of the Qualifying Exam offered by the American Board of Emergency Medicine (ABEM). In 2019, ABEM released an examination blueprint detailing the breakdown of written exam content taking effect in fall of 2020. Content areas on the written examination are broken down based on their relative importance to practice. Frequently encountered and clinically significant content areas are given more weight in these guidelines. This project aims to identify areas for improvement in curriculum design to maximize preparation for the written board examination.

**Methods:** The didactic curriculum for an EM Residency Program was reviewed from July 2016 to June 2019. Each lecture was classified and compared to the updated ABEM examination blueprint. Additionally, the In-Training Exam (ITE) results for each of these content areas was reviewed and compared to national averages.

**Results:** When compared to the ABEM examination blueprint, 15 of 20 topic areas (75%) were underrepresented in the curriculum, with two content areas found to have comprised less than 1% of the didactic curriculum. ITE exam



**Figure.** A. The unpacked kit; B. Lateral canthotomy; C. Chest tube trainer; D. Cricothyroidotomy trainer; E. Suture trainer; F. Splinting supplies.

scores for the graduating class of 2019 were above the mean in all but 9 categories, overall (15%). Three content areas were also underrepresented in the didactic curriculum as well.

**Conclusions:** This needs assessment of the curriculum reveals that, when compared to the ABEM blueprint, a significant number of core content areas were underrepresented in the curriculum, with two being almost absent. The content areas identified represent an area in which the didactic curriculum can be improved to remain in accordance with published guidelines.

## 4 A Snapshot of Exam Usage in Emergency Medicine Clerkships

*William Alley, Iltifat Husain, David Story*

**Background:** Emergency Medicine (EM) clerkships often use a written exam to assess the knowledge gained over the course of an EM rotation. Clerkship Directors (CDs) may choose the NBME EM Advanced Clinical Exam (ACE), the SAEM M4 exam, which has two versions, or locally developed exams. There is little consensus on their optimal usage.

**Objective:** This survey-based study was designed to collect data regarding the use of common available EM exams during clerkships.

**Methods:** The authors designed a cross-sectional observational survey to collect data from EM CDs on exam utilization in clerkships. The survey population comprised the list-serve of the academy of CDEM on the SAEM website and a manual search of the EMRA Match website. 87 programs (42% response rate) completed the survey between August 2019 and February 2021. Data obtained include clerkship characteristics, exam utilized, weight of the exam relative to the overall grade, and testing alternatives if the preferred exam was previously taken.

**Results:** Of the 87 responses, most (82%) were completed by a CD. 53% of institutions require an EM rotation, of which 52% occur in the 4th year, 26% in the 3rd, and 22% occur in either. Students are tested in 74% of required EM clerkships and 69% of EM electives. In required rotations, 57% use the NBME EM ACE, while 51% of EM electives use the SAEM M4 Exam. A majority of programs (57%) weigh the exam score at 11-30% of the final grade. Data for extramural rotations mirrors that of EM electives.

**Conclusion:** This survey elucidates exam usage among EM clerkships. An EM clerkship is required at a majority of our sample, with a significant majority using an exam to evaluate medical knowledge, and while national EM exams are frequently used, there are several programs that use departmental exams, and the weight of the exam score relative to the final grade varies widely. Further scholarship on the best use of these exams to provide the most reliable assessment is needed.

## 5 Analysis of Emergency Medicine Clerkship Grades by Identification as URiM vs. non-URiM

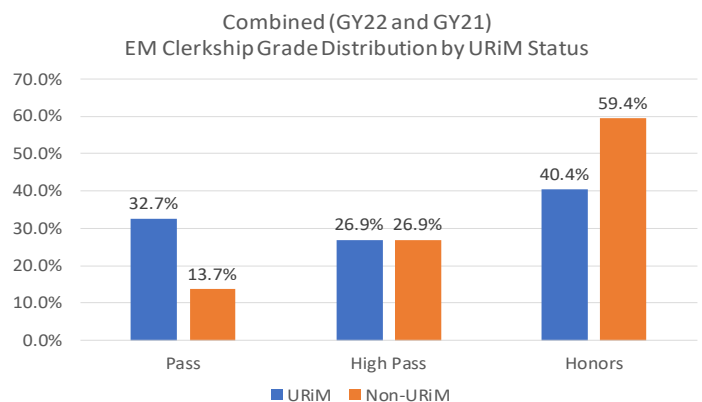
*Kevin Walsh, Joseph House, Laura Hopson, Elizabeth Holman*

**Background:** Previous studies have identified racial differences in both core clinical clerkship evaluations and components of residency applications, including the MSPE and SLOE. To our knowledge, no study has investigated the impact of Underrepresented in Medicine (URiM) status on EM clerkship grades.

**Objectives:** To determine whether there is a difference in EM clerkship grades and its components (NBME exam scores and clinical assessments) between URiM and non-URiM medical students.

**Methods:** This retrospective sample was drawn from University of Michigan Medical School (UMMS) students in Graduation Year (GY) 2021 or 2022 who completed the required EM clerkship. Using a non-parametric Mann-Whitney U-test, we compared the overall composite score on the EM clerkship, the EM NBME Exam score, and clinical assessments between URiM and non-URiM identifying students.

**Results:** 334 students completed an EM rotation in GY 2021 and 2022. 11 students with “Missing” race data were excluded. 52 (16.1%) identified as URiM while 271 (83.9%) identified as non-URiM. There was a significant difference between URiM and non-URiM groups in performance on NBME Subject Exam ( $p=0.0001$ ), where the non-URiM group outperformed the URiM group (Non-URiM Mean = 81.2; URiM Mean = 77.6). There was no statistically significant difference for clinical performance ( $p=0.057$ ). Overall clerkship grades differed, as URiM students had a higher percentage of “Pass” grades (32.7%) and lower percentage of “Honors” grades (40.4%) than non-URiM students (13.7%, 59.4%).



**Figure 1.** Combined (GY22 and GY21) EM clerkship grade distribution by URiM status.