**Best of the Best Presentations**

**A Simulation-Based Curriculum for Evaluating the Entrustable Professional Activities (EPAs) During the Emergency Medicine Clerkship**

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**Introduction:** Program directors (PDs) have expressed concern that some medical school graduates are not prepared for residency. This is a problem for emergency medicine (EM) because our residents treat critically ill patients and should all have a baseline level of competency. To address this issue, the American Association of Medical Colleges (AAMC) developed the Entrustable Professional Activities (EPAs), a list of tasks and responsibilities that medical students are expected to perform unsupervised upon graduation. It is likely that EPA evaluations will soon become embedded within existing medical school curricula and clerkships. Since the purpose of the EPAs is to evaluate whether medical students can perform these tasks independently, we can deduce that not all students are competent in all tasks. Since we do not know which tasks students can or cannot perform independently, one of the safest ways to evaluate them is through medical simulation.

**Objectives:** To develop a simulation-based framework for evaluating the EPAs during the EM clerkship.

**Design:** While all EPAs are relevant to EM, a majority can be evaluated through simulation, and 2 can be evaluated only by simulation (Figure 1). Our curriculum involves 1 weekly simulation session per 4 week clerkship where the student will independently perform 1 scenario. A maximum of 4 EPAs are evaluated per scenario. Each EPA is evaluated at least twice (before and after the half-way point) (Figure 2a). EPA performance is graded using a standardized scoring vignette which remains static for each EPA, and is based upon bulleted lists provided by the AAMC in their document, Core EPAs for entering residency (Figure 2b). Students receive feedback on performance and are tracked longitudinally.

**Impact:** A simulation-based curriculum during the EM clerkship may evaluate EPAs without compromising patient safety. Identification of and remediation of weak areas should improve competence and thus the efficiency of incoming interns.

**Figure 1. EPA, entrustable professional activities**

**Figure 2. EPA, entrustable professional activities**

**A. Sample EPA Schedule for a 4-week Clerkship**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
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<tbody>
<tr>
<td>EPAs evaluated: 1, 3, 6, 10</td>
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<th>Week 3</th>
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<tr>
<td>EPAs evaluated: 1, 2, 10, 12</td>
<td>EPAs evaluated: 3, 4, 6, 10</td>
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**B. Example of scoring vignette for EPA 10:**

**Pre-entrustable learner:**
- Does not recognize age appropriateness of, trends in, and variations in patient's vital signs
- May dismiss concerns of patient deterioration by team members
- Is easily distracted by multiple problems and has difficulty prioritizing for efficient patient care
- Demonstrates limited ability to gather, filter, prioritize and connect pieces of information to form a patient-specific differential diagnosis, initiate interventions, and drive testing decisions
- Requires supervision and/or other members of the team to initiate correct interventions and testing in an urgent or emergent setting
- Delays seeking help due to pride, anxiety, fear, and/or inadequate awareness of personal limitations
- Inconsistently orders and interprets test results delaying resuscitation and further testing or interventions

**Entrustable learner:**
- Recognizes age appropriateness of, trends in, and variations of patient's vital signs
- Actively listens and elicits feedback from team members regarding concerns about patient deterioration and determines next steps
- Adheres to institutional procedures and protocols regarding escalation of patient care
- Gathers, filters, prioritizes, and connects pieces of information to form a patient-specific differential diagnosis, initiate interventions, and drive testing decisions
- Initiates interventions and tests with frequent reassessment to determine level of help needed and to anticipate next steps
- Understands and recognizes personal limitations, emotions, and personal biases and acts accordingly when needed
- Interprets results and results in a timely fashion and expedites early clinical deterioration

**ALiEM AIR Series: Curating, Evaluating, and Monitoring Individualized Interactive Instruction Using Social Media Resources**

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**Background:** In 2008, the emergency medicine (EM) Resident Review Committee endorsed a change in educational requirements to allow for asynchronous learning, or Individualized Interactive Instruction (III). This change coincided with increasing use of social media (SM) resources in medical education. Despite widespread SM use by learners, residency programs struggled to incorporate SM into III due to difficulties providing oversight, monitoring participation, and assessing quality of these resources. Academic Life in Emergency Medicine (ALiEM)
created the ALiEM Approved Instructional Resources (AIR) series to address these difficulties.

**Objectives:** ALiEM AIR series provides EM residency programs curated SM options for III. The series fulfills Accreditation Council for Graduate Medical Education requirements for III (must monitor and evaluate resident participation, provide faculty oversight, and monitor program effectiveness), by 1) Recruitment of editorial board to evaluate online resource quality; 2) Development of scoring instrument to rate each resource, applying principles of instrument design; and 3) Piloting of series to determine feasibility and user satisfaction.

**Curricular Design:** Each module begins with a set of articles that are scored by the Executive Board using an internally derived scoring system (Figure 1). Articles are limited to those published within last 12 months. Resident participation is tracked using Google Forms. Residency programs can securely obtain this information through ALiEM.

**Impact:** This innovation was designed to address the growing need for faculty oversight and quality control for residents who access SM resources for III. As of November 2014, 4 modules are available with 30 participating US residency programs (Figure 2). The most recent module 1-week Google Analytics data had 348 page-views from 167 cities. Studies are in progress to collect validity evidence to further guide scoring instrument use.

### Figure 1.

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<th>Tier 1</th>
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**Figure 2.**

### Use of Skip Logic Embedded Within the Electronic Medical Record for Milestone-Based Resident Evaluation

**Marshall J, Chung A, Welnik T, Saloum D, Gupta K, Weiner C / Maimonides Medical Center, Brooklyn, NY**

**Introduction:** The Emergency Department (ED) version of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is coming. In our patient satisfaction surveys, patients treated by residents gave lower patient satisfaction scores. To convey the importance of the patient experience, we developed a patient experience simulation.

**Objectives:** This experience provided residents with the patient perspective of an ED visit in order to fully appreciate the drivers of patient satisfaction.

**Design:** A full-immersion, in-situ simulation was used. The sim was conducted for over two 4 hour periods in the ED, with Â½ of the class in each sim. ED staff was briefed just prior to the sim.

Interns were paired, with one as patient, the other as family member. Patients were provided with background info (motor vehicle collision) (MVC) and chief complaint (knee/neck pain). Patients were immobilized and transported via ambulance to the trauma bay. Family members were separated for registration. Patients were assessed by a doctor of medicine (MD), registered nurse (RN) and medic, and sent to radiology. After simulated films, patients were taken to a hall space and reunited with family.

Patients were given cues to heightened awareness of typical patient needs (You have 10/10 right knee pain, you need meds, you have to void, etc.) An RN and two MDs continued to role-play caregivers, providing test results, etc. Discharge instructions were provided. Each intern completed a Press-Ganey survey. A debrief was held, using survey results and discussion points of the positive and negative aspects, and emotional response to the experience.

**Impact:** Participants overwhelmingly felt this was a powerful sim that heightened awareness of the patient experience. The expressed motivation to address the full array of patient needs including pain relief, privacy, comfort, communication, etc. Residents indicated they would be far more cognizant of these needs based on their own patient experience.