

## 24 Comparison of Medical Student Feedback Versus Clinical Faculty Feedback on Resident Physician ACGME Milestones

Battaglioli N, Stephens M / York Hospital, York, PA

**Background:** Emergency Medicine residency training programs are continuously looking for ways to evaluate their residents in the setting of the ACGME milestones. Prior studies have focused on resident feedback given by medical students- these studies indicated that residents found the feedback about their teaching and clinical performance useful and important. No studies, thus far, have looked at utilization of medical students as a means to provide resident feedback regarding ACGME milestones.

**Educational Objectives:** To study the utilization of medical students as an assessment tool when evaluating residents on four ACGME Milestones; Multi-Tasking, Professional Values, Patient Centered Communication and Team Management.

**Curricular Design:** Medical students rotating in the Emergency Department were given an evaluation survey that was used to assess 2nd and 3rd year residents in a three year residency training program. The students were asked to evaluate each resident that they had worked with during each shift. The evaluations contained questions regarding how a resident and performed on four different milestones; Multi-Tasking, Professional Values, Patient Centered Communication, and Team Management. The wording used is identical to wording used from the ACGME and ratings were given on the same 9 point scale that is used in the ACGME Milestones. Feedback from medical students will be compared to consensus scores for the aforementioned milestones as was determined by clinical faculty.

**Impact/Effectiveness:** Data collection to determine full impact is still ongoing. Medical students may be able to provide meaningful feedback to residents and program leadership regarding resident progression through these four identified milestones. Some of the milestones such as Patient Centered Communication and Professional Values can be difficult to assess by clinical faculty and medical students observe many of these interactions and may provide a different perspective on resident performance. Medical student evaluation would provide another facet of evaluation for residency programs to use in their 360 degree feedback process.

## 25 Creation, Implementation, and Assessment of a Near-Peer Taught, EM-Focused Electrocardiogram Curriculum for EM PGY-1s

Burns W, Lank P / McGaw Medical Center of Northwestern Memorial Hospital, Chicago, IL

**Background:** Electrocardiogram (ECG) interpretation is fundamental to the practice of emergency medicine (EM). Expert training needs to be provided during EM residency because only the basics can be assumed to be covered in medical school. Currently there is no nationally recognized or endorsed ECG curriculum for EM residents. We describe the implementation of an innovative near-peer standardized curriculum for first year residents in ECG interpretation.

**Educational Objectives:** Our primary objective was to develop a curriculum encompassing ECG diagnoses critical to the practice of EM, minimize the effect of varied medical school exposure, and provide enrichment via exposure to rare ECGs.

**Curricular Design:** Material from a cardiology elective as well as free open access medical education (FOAMed) resources were used to create 34 EM-focused cases which have been taught by near-peer (PGY-3/4) volunteers during established weekly PGY-1 educational sessions since July 2014. Cases with an ECG, FOAMed links, and challenge questions were emailed to PGY-1s in advance of a short (10-15 minute) small group. After each session an answer document is sent or further review and future use as a resource. This curriculum could easily be expanded to additional residency programs and since July 2015 is also being implemented at another program by a recent graduate.

**Impact/Effectiveness:** The Northwestern EM classes of 2018 & 2019 were surveyed on medical school education and the effectiveness of this innovation. 22 of 30 surveys were completed and 1 was incomplete. 13/23 (57%) of respondents believed that medical school prepared them to interpret ECGs in the ED either very poorly or poorly. 17/22 (77%) of respondents believed that instruction while working in the ED was ineffective or very ineffective split 10/11 (91%) and 7/11 (64%) between PGY1s and PGY2s respectively. Participants believed that this innovation was effective or very effective in 22/22 (100%) of responses. 16/22 (73%) of respondents believed near-peers (PGY2-4) are the most effective teachers, split 10/11 (91%) and 6/11 (55%) between PGY1s and PGY2s respectively, with EM attending at 4/22 (18%) and EM fellow 2/22 (9%) as the remaining responses. In summary, the effectiveness of this curriculum is perceived significantly more favorably than bedside instruction at this institution.

## 26 Developing a Clinical Track in Emergency Medicine To Teach and Assess Level 1 Milestones

Leung C, Hartnett D, Gardner S, Kman N / The Ohio State University College of Medicine, Columbus, OH; Georgetown University Hospital, Washington, DC

**Background:** Although EM Interns are expected to have attained competency in all Level 1 EM milestones

(EMMs) upon graduation from medical school, studies have shown that many have not achieved this goal. Evidence suggests that multiple different assessments over time are required to adequately evaluate competence in any particular domain. This may be difficult to achieve in a standard four week clerkship. A longitudinal elective, capstone course, or Clinical Track in EM may provide better assessment of EM milestones. At our institution, medical students are required to enter a specialty specific clinical track to work toward entry level milestones.

**Educational Objectives:** To describe the development and implementation of a Clinical Track in EM designed to give students the opportunity to achieve competency in all of the Level 1 EM Milestones (EMMs).

**Curricular Design:** A needs analysis was performed by mapping Level 1 EMMs to curricular components of required 4th year clerkships including a required clerkship in EM.

New assessment methods for milestones that were not being adequately evaluated were then created and incorporated into a comprehensive longitudinal curriculum.

The Clinical Track in EM is comprised of a series of required 4th year clerkships and electives which allow development of the EMMs. Students can take Advanced Topics in Emergency Medicine, an EM elective specifically designed to teach Level 1 EMMs. Alternatively, students can combine recommended electives (anesthesia, ultrasound, toxicology, etc.) to obtain equivalent knowledge and skills.

Students on the EM Clinical Track complete a series of assessments as shown in Table 1.

These include:

1. Structured shifts for evaluation of EMM 1-8 and 17-23
2. Quizzes for assessment of EMM 5
3. Procedure log and checklists for EMM 9-14
4. A final simulation for EMM 1-8, 11, 13, and 23

**Impact/Effectiveness:** Seventeen students are currently enrolled in the EM Clinical Track. This curriculum may provide the foundation for successful student transition into EM residency. Information garnered from these assessments could be used to help program directors customize early residency education around strengths and weaknesses of their incoming interns.

## 27 Development of a Simulated Model for Corneal Foreign Removal

Janssen A, LaBond V / Michigan State University, Fenton, MI

**Background:** Ocular foreign bodies are common and occur on a daily basis in the practice of emergency medicine. Mismanagement of these emergencies can have serious consequences. Adequate early training of residents and medical students regarding the approach to this problem is essential. The procedure involves a delicate process requiring a unique skill set. Attempts to learn these skills on human subjects can be awkward and in some cases dangerous. Developing a realistic model to establish the foundation of this procedure is critical in the initial development for competence.

**Educational Objectives:** The objective was to design an ocular model that was life sized, realistic, low cost, and mobile that could have readily interchangeable parts to accommodate the greatest amount of learners. This would allow for practice in a non-stressful and safe environment.

**Curricular Design:** An adult sized foam head from a craft supply store was obtained. Orbits were drilled into the model, and spherical gelatin ocular globes molded from ice cube trays were held in place with tooth picks. A defined amount of glitter was measured and placed in the center of the globe replicating corneal foreign bodies. The consistency and natural tendency of the gelatin to “hold” the glitter to its surface replicated an actual cornea with similar foreign body adhesiveness. Additional globes could be replaced quickly and easily to keep participants downtime at a minimum. Learners were educated in a didactic session and then assessed on 15 point scoring system felt to be critical in the accomplishment of this procedure.

**Impact/Effectiveness:** The ocular foreign body simulator provides a realistic, cost effective method to enhance learning in a safe and non-stressful environment. This will positively impact the learner’s practice when they encounter a patient with a corneal foreign body while maximizing patient safety. At the same time it will allow for an objective process for accessing procedural competency.

Table 1. Methods for Assessing Level 1 EM Milestones

Milestone	CPA	DOC	Sim	Procedure Lab	Assessment shifts	Learning quizzes	ATTEM Procedure checklist	Comprehensive Sim	Other
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2									
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\*Abbreviations: H&P—History and Physical Examination, PBL—Practice-Based Performance Improvement, ATTEM—Advanced Topics in Emergency Medicine  
 CPA—Clinical Performance Assessment, DOC—Direct Observation of Competence, Sim—Simulation

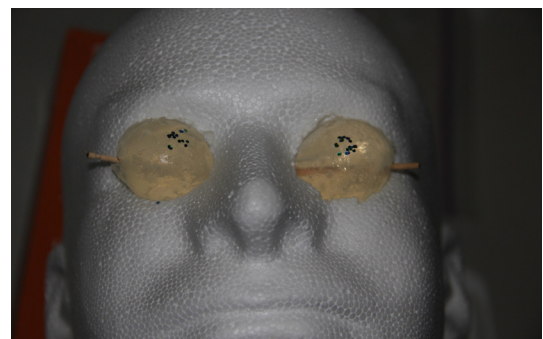


Figure 1.