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38 Simulation First 5 for Emergency Medicine Interns: Critical Actions in Managing Unstable Patients

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Introduction: Emergency Medicine (EM) interns begin residency with variable preparation for ACGME milestones and comfort in managing clinical emergencies. Despite this variability, it is not uncommon for EM interns to be the first provider to evaluate unstable patients.

Learning Objective: To rapidly and effectively prepare emergency medicine interns for the initial management of unstable patients using a standardized, five-step algorithmic approach to minimize cognitive load.

Curricular Design: We developed 10 simulation scenarios focused on the initial management of unstable patients with common, undifferentiated chief complaints, including: anaphylaxis with angioedema, acute bronchospasm with hypoxia, STEMI, sepsis due to pneumonia, acute pulmonary edema with hypoxia, massive GI hemorrhage, hyperkalemia, opioid intoxication, agitation, and seizure. The algorithmic approach focused on recognizing a “sick” patient, appropriately seeking help, performing a primary survey, requesting IV access and non-invasive monitoring, developing a differential diagnosis, obtaining relevant initial tests, and initiating resuscitation. Groups of five interns (alternating team leaders) ran each five minute scenario, followed by ten minute debriefing sessions facilitated by EM faculty. Instructors advocated for an algorithmic, five step approach, listed critical and dangerous actions, encouraged self-reflection and provided real-time feedback. All interns completed course evaluations.

Impact/Effectiveness: This “First 5” simulation curriculum has been implemented in our EM internship orientation since 2012. Course evaluations were completed by the majority of participating interns, who rated the course greater than 4 on a 5-point Likert scale, and reported greater confidence and better preparedness in the independent initial management of unstable patients. Future innovations include documenting level 1 EM Milestones and entrustable professional activities for interns who complete the curriculum.

EM Priorities

- Patient sick or not sick?
 - If sick:
 - Call for help
 - ABCs primary survey
 - IV, O2, monitor
- Bedside tests?
- Additional tests?
 - Labs
 - EKG
 - Imaging
- Initial treatment?

Figure 1. Sample Slide.

39 Slack® Intern Curriculum (SIC): A MedEd Innovation for Social Media

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Introduction: There are few clinical experiences for newly-matched EM “pre-interns.” Many arrive to their first shifts feeling unprepared for clinical work. We designed a social media based curriculum with the goal of improving pre-intern perceived preparedness (PP) and clinical knowledge (CK) using ACGME Milestones.

Educational Objectives: The objective was to ease the transition from medical school to internship by creating curriculum designed to illustrate several ACGME EM Milestones. A secondary goal was to spark clinical discussions with the participants and the session moderators. To increase the clinical knowledge and feeling of preparedness of newly matched EM Interns.

Curricular Design: Levels I and II of the Milestones in Table 1 were selected. 10 clinical cases addressing the most Milestones were composed in the form of Slack posts with text information, visual cues, clinical questions, and answers.

SIC was implemented at 11 EM residency programs. Subjects completed pre- and post-curriculum surveys assessing PP, CK, and curriculum feedback.

Impact: 151 pre-interns invited to participate. 115 and 63 pre-interns completed the pre- and post-curriculum survey respectively. Increases in PP were found for Milestones 5, 9, 10, and 12. (Table 2). While median reported preparedness was unchanged in some skills with a significant p-value, the Mann Whitney U test demonstrates a shift in the distribution of responses. There was no difference in mean exam scores after the curriculum, but there was an improvement in Milestone 10 CK.

Conclusions: SIC improved PP and some aspects of CK in pre-interns based on several topics in ACGME Milestones in EM, and allowed participant collaboration with co-interns despite geographic barriers. Limitations include variable participation and 45.2% lost-to-followup rate. Implementing the SIC may be beneficial for easing the transition to EM residency.

Table 1. Pre and Post Test Self-Reported Preparedness (1-5), Mann-Whitney U Summary Table.

Milestone Skill	Pre-Test Median	Post-Test Median	p-value	U
Recognizing Abnormal Vital Signs	4	5	0.3203	5790.5
Recognizing the Unstable Patient	4	4	0.7041	5548.5
Ability to form a Diagnostic Plan	4	4	0.6987	5244
Determining the Need for Diagnostic Studies	3	3	0.1954	5921.5
Ordering Appropriate Diagnostic Studies	3	3	0.9941	5401
Interpreting Results of Diagnostic Studies	3	3	0.6568	5580
Constructing a Differential Diagnosis	4	4	0.1598	4851.5
Recognizing Classes of Medications and Mechanisms of Action	3	3	0.2798	4944.5
Selecting Appropriate Medications	3	3	0.09773	6080
Recruiting Appropriate Clinical Resources	3	3	0.07565	6141.5
Making Admission or Discharge Decisions	3	3	0.1949	5939
Assigning Admitted Patients to Appropriate Level of Care	3	3	0.07112	6153
Describing Pertinent Anatomy for Specific Procedures	3	3	0.1363	6020.5
Describing Indications, Contraindications, Complications of ED Procedures	3	3	0.002479	6661
Describing Upper Airway Anatomy	3	3	0.03268	6294.5
Identifying Procedure Equipment and Technique	2	3	0.001295	6745.5
Identifying the Pharmacology of RSI Medications	2	3	0.002792	6654.5
Ability to Confirm Placement of ET Tube	3	4	0.004147	6607.5
Recognizing Indications for Ultrasound Imaging	4	4	0.2576	5864
Ability to Optimize Ultrasound Images	2	3	0.01651	6418
Interpretation of Ultrasound Images	3	3	0.3639	5783

Table 2. Pre and Post Test Self-Reported Preparedness (1-5), Mann-Whitney U Summary Table.

Milestone Skill	Pre-Test Median	Post-Test Median	p-value	U
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40 Standardization and Documentation of Critical Event Debriefing: A Framework for Resident Engagement in Inter-professional Quality Improvement

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Learning Objective: To fulfill the ACGME requirement for resident engagement in inter-professional quality improvement while realizing the known benefits of formalized debriefing.

Abstract: Critical event debriefing facilitates inter-professional education, emotional processing, and quality improvement. Prior studies show that debriefings are underutilized and many departments do not have a formalized program despite recommendations by the American Heart Association. When implemented, debriefings are rarely documented and threats to patient safety are often lost to follow-up and remain unaddressed.

In the winter of 2017, we created a multidisciplinary critical event debriefing committee comprised of Emergency Medicine faculty, residents, nurses, and case managers.