

## **UC Irvine**

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

#### **Title**

Utilizing ACGME Milestones as Evaluation Metrics and SLOE Reporting During a Four Week Fourth Year Emergency Medicine Clerkship: A Two Year Experience

#### **Permalink**

<https://escholarship.org/uc/item/7n33d59b>

#### **Journal**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 16(4.1)

#### **ISSN**

1936-900X

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#### **Publication Date**

2015

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existing curriculum and increase retention.

**Educational Objectives:** This project's objective is to take the core content that a senior medical student is expected to learn and consolidate it into an easy-to-use, all-in-one educational tool that accommodates a variety of individual learning styles.

**Curricular Design:** The project's design is centered around Apple's iTunes U platform for iOS®. The curriculum is focused around the most common chief complaints and core content expected of the student learner. Each section contains both required and supplemental materials, including video lectures, podcasts, review articles, and reference materials in PDF format. Students independently progress through the curriculum and come prepared for a weekly simulation session that reinforces key concepts learned the week prior.

**Impact/Effectiveness:** A post-rotation survey indicated that this curriculum was well received, with 92% of students reporting they preferred the iTunes U "Fundamentals" over a textbook-based curriculum. Students rated podcasts and video lectures as the most helpful modalities. The majority of students felt this curriculum prepared them for clinical shifts in the emergency department. Comments from the survey revealed that students valued the portability and the multiple learning modalities that could be tailored to their individual learning styles.

## 93 Pre-Clinical Medical Student Simulation for Early Team Leader and Patient Assessment Experience

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**Introduction:** Most medical school curriculums limit clinical exposure to the final 2 years of training. Without practical experience on a medical team, it can be difficult for junior medical students to translate their basic science knowledge into patient assessment, or feel at ease discussing care plans in front of a team.

**Educational Objectives:** The goals of this simulation were to build comfort with assessing patients in front of colleagues as team leaders, and for students to become more familiar with determining whether patients are stable or unstable based on vital sign (VS) evaluation.

**Curricular Design:** First and second year medical students took turns acting as team leaders in simulated clinical scenarios involving cardiac patients. The 4 cases included atrial fibrillation, pericarditis with tamponade, pulseless electrical activity arrest, and ST segment elevation myocardial infarction. Each case required interpretation of stable and unstable VS, electrocardiogram review, and initiation of basic

diagnostic ordering and management. Prior to this session only 22% of student had participated in a real patient resuscitation. None had ever been team leader for either a real or simulated cardiac resuscitation. Pre- and post-session surveys assessed their comfort with patient evaluation in front of peers on a 1-5 scale (1-very comfortable, 5-very uncomfortable), and their perceived ability to assess unstable VS on a scale of 1-3 (definitely, maybe, not at all).

**Impact:** Before the session 22% rated their comfort with patient evaluation as a 2/5, vs. 88% 3/5, whereas afterwards 12.5% rated 1/5, 62.5% rated 2/5, and only 25% rated 3/5. Perceived VS assessment improved as well: pre-session 88% noted 2/3, while 22% reported a 3/3, while post session 25% 1/3 noted 62.5% 2/3 and only 12.5% 3/3. We conclude that integration of simulated clinical assessment early in the medical school curriculum increases student comfort with leadership and possibly improves basic clinical assessments.

## 94 Utilizing ACGME Milestones as Evaluation Metrics and SLOE Reporting During a Four Week Fourth Year Emergency Medicine Clerkship: A Two Year Experience

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**Introduction/Background:** The Accreditation Council for Graduate Medical Education Milestones presume graduating medical students will enter residency at a Milestone Level 1. At current, the Council of Emergency Medicine Residency Directors standardized letter of evaluation (SLOE) does not specifically assess or communicate the performance by students on an emergency medicine clerkship using the Milestones; however, residency programs must begin assessing residents on the Milestones immediately upon entry.

**Educational Objectives:** With Institutional Review Board approval, we sought to determine first if an assessment of the milestones could be done during a 4 week 4th year medical student clerkship. If assessable, we then sought to determine the proportion of medical students performing at Milestone Level 1.

**Curricular Design:** For 2013-2014, we implemented a Milestones-based clerkship assessment and reporting system in our institutional SLOE using our traditional clerkship design and evaluation process. During this phase, for 75 students 55 SLOEs were issued, of which 50 contained our Milestone summary. Deficiencies were noted in Milestones 12 (8) and 14 (3). Review of that data led to redesign of the clerkship and its evaluations for 2014-2015. Figures 1 and 2 note our iterative changes. On-shift assessment forms include anchors Occasionally (>60%), Usually (>80%) and Always (100%) at points 1,

Milestone	Primary Means of Assessment	Year Two Revisions
Emergency Stabilization (PC1)	On shift evaluation	Students required to overtly report abnormal vital signs to faculty
History and Physical (PC2)	On shift evaluation	
Diagnostic Studies (PC3)	On shift evaluation	
Differential Diagnosis (PC4)	On shift evaluation	Students required to present minimum 5 part differential to faculty
Pharmacology (PC5)	On shift evaluation	Students required to present drug allergies prior to suggested therapy
Observation/Reassessment (PC6)	On shift evaluation	Students required to re-evaluate their patients hourly and provide an update to the faculty
Disposition (PC7)	Nursing shift	Students locate critical equipment on nursing shift
Task-switching (PC8)	On shift evaluation	
Gen Approach to Procedures (PC9)	Procedure Consult™ quizzes, Student's Procedure Recorder	Faculty attest to use of universal precautions in procedure recorder
Airway Management (PC10)	Simulation Lab, Procedure Consult™ quizzes	Cases changes to emphasize BVM (bag/valve/mask)
Anesthesia, Pain Management (PC11)	Procedure Lab, Procedure Consult™ quizzes, In house quiz, Procedure recorder	Addition to in house quiz. Faculty attest to use of local anesthesia in procedure recorder

**Figure 1.** Milestones #1-11 iterative changes and means of assessment.

Ultrasound (PC12)	Ultrasound lecture, Procedure Recorder	Faculty attest to use of ultrasound on shift in procedure recorder
Wound Management (PC13)	Procedure Lab, Procedure Consult™ quizzes. Procedure recorder	Students required to repair 1 laceration on shift. Addition repairs considered for improved grade
Vascular Access (PC14)	Simulation Lab, Procedure Consult™ quizzes. Procedure recorder, Nursing Shift	Addition of femoral stick to simulation lab case
Medical Knowledge (MK1)	Not assessed for SLOE	SAEM test score included, but level one status not indicated with this instrument
Patient Safety (SBP 1)	IHI Open School	IHI module requirement added
Process Improvement (SBP 2)	Automatically passed	As written, we presume students can identify members of a health care team
Technology	Partially assessed. Students cannot participate in our EMR	Medicine reconciliation added to nursing shift
Practice Based Improvement (PBL 1)	Participation in Fresno Test of EBM Based Two Hour Workshop	
Professionalism (PR 1)	On shift evaluation	
Accountability (PR 2)	Completion of assignments. Social media anchor not assessed	A revised checklist records asynchronous assignment completion
Patient Centered Communication (ICS 1)	On shift evaluation	
Team Management (ICS 2)	On shift evaluation	

**Figure 2.** Milestones #12-23 iterative changes and means of assessment.

3, and 5 of a Likert Scale. Students are deemed proficient with an average of >80% on Milestones measured on shift. Milestones not evaluated on-shift were graded as Pass/Fail. Faculty were educated about the changes, and fliers were posted in the emergency department.

**Impact/Effectiveness:** This year 49 students rotated. 575 on-shift evaluations were completed, with 16 Milestones deficiencies noted. Of 41 SLOEs, 1 noted deficiencies in Milestones 2, 3, 4, 5, and 8. Communication of Milestone proficiency via the SLOE may identify students who will require early observation or remediation. In our system, however, even with increased rigor of assessment, we find that assessment with the Milestones does not adequately differentiate students.

**Educational Soundbites Oral Presentations**

**95** **Creating Clarity for the Process of Managing Residents through Remediation, Probation and Termination**

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**Introduction:** Our recent study on resident remediation demonstrated that most emergency medicine program directors (PDs) recognize formal remediation as a resident status, but there is still much variation regarding the triggers for remediation, probation and termination (RPT), as well as the processes and documentation for these residents.

**Educational Objectives:** To create a clear framework for PDs to manage residents who need RPT.

**Curricular Design:** Through consensus, a team of graduate medical education leaders, including PDs in multiple specialties, developed the framework below for struggling residents. We focused on the definition, process of management, documentation, and notification for each category describing residents in RPT (Table 1).

1. Informal remediation: when a resident's performance is deficient in one or more milestones or competencies. Process: Initiate when there are warning signs of problems that are not significant enough to trigger formal remediation.
2. Formal remediation: when deficiencies are significant enough to warrant formal documentation because informal remediation failed or because the issues are substantial. Process: Initiate when the resident fails to correct the identified deficiency in the designated observation period, or substantial deficiencies are identified.
3. Probation: when resident is unsuccessful in meeting the terms of formal remediation or if initial problems are so significant to warrant immediate probation. Process: Initiate when the resident fails to correct the deficiency in formal remediation in the designated observation period.
4. Termination: when a resident is unsuccessful in meeting the terms of probation or if initial problems are so significant to warrant immediate termination. Process: initiate when probation is not successful.

**Impact:** We propose a consensus framework for RPT. The impact will be clarity surrounding RPT, and to provide guidance for PDs, residents, and post-graduate employers.