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FoEM Clerkship: An Open-Access Case-Based Flipped Classroom Curriculum for Emergency Medicine Clerkships

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pre period as relative risk.

Conclusions: While there was not a statistically significant increase in the total number of POCUS scans, the study prompts additional research questions and alternative ways to measure a successful intervention. Further research could evaluate the quality of POCUS scans performed or confidence of the sonographer before and after the SIM.

Table 1.

Period	Percent of Studies			Count of All US		
	eFast	Echo	Biliary	eFast	Echo	Biliary
	All					
Pre	11%	25%	5%	339	251	341
Post	6%	30%	3%	294	352	254
	PGY1					
Pre	0%	0%	8%	0	2	71
Post	0%	34%	7%	1	76	43
	PGY2					
Pre	14%	29%	4%	148	56	111
Post	7%	33%	1%	96	133	88
	PGY3					
Pre	16%	35%	5%	76	46	60
Post	8%	36%	6%	74	77	36

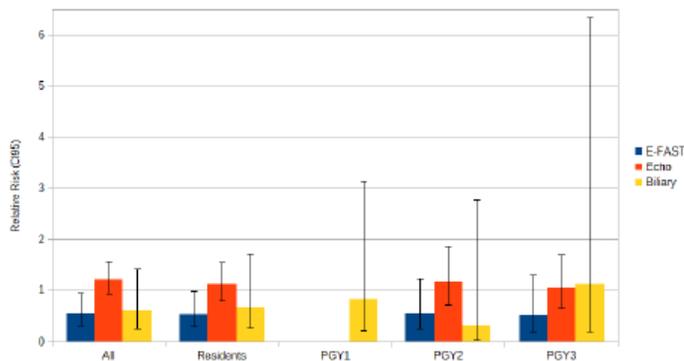


Figure 1. Change in US rate by type, level.

Innovation Abstracts

1 Assessing the Inconsolable Infant: Look Everywhere!

Damian Lai, Julianne Blomberg, Jeremiah Ojha, Kristen Oliff, Brent Becker

Introduction: A crying infant is a common presentation in the Emergency Department. Resident physicians in the early stages of training express discomfort when dealing

with pediatric patients, due in part to the inability of infants to relay their own history. We designed a simulation emphasizing the importance of a comprehensive head-to-toe physical exam and maintaining a broad differential in assessing inconsolable infants.

Objectives: Identify non-obvious causes of inconsolable crying by performing a complete and thorough infant physical exam.

Curricular Design: Residents from a 3-year emergency medicine residency program participated in a simulation activity involving three infant task trainers with various causes of inconsolable crying. The simulated patients had the same baseline presentation: 8-month-old child, born at 40 weeks with an uncomplicated birth history presenting with normal vitals and inconsolable crying starting 2 hours prior. Participants were tasked with using a history and physical examination to identify pathology including a hard palate burn from hot milk, recent vaccination, eyelid foreign body, buccal stomatitis, rectal fissure, corneal abrasion, cellulitis, diaper dermatitis, hair tourniquet, and nasal foreign body. We recorded the time required by each participant to identify all 10 causes.

Impact: Participants, especially interns, valued the emphasis on a thorough infant physical exam and appeared to gain the most from the activity. Junior residents tended to search for higher acuity cardiopulmonary causes. We observed that senior residents were more organized, resulting in more efficient completion of the activity. Notably, the identification of eye pathology took the most time to diagnose. This activity also facilitated discussions on exam findings relevant to non-accidental trauma. We plan to integrate this activity into our new intern boot camp sessions.

2 FoEM Clerkship: An Open-Access Case-Based Flipped Classroom Curriculum for Emergency Medicine Clerkships

Max Berger, Stephen Villa, Steven Lindsey, Howard Choi, Megan Henn, Kristen Grabow Moore

Background: Over 75% of EM residency programs use Foundations of Emergency Medicine’s (FoEM) free, open-access, learner-centric, level-specific curricula to teach EM core content to residents. In a 2022 survey of FoEM users, 59% of participating programs reported use of Foundations I (PGY-1 course) to teach students, and 54% confirmed interest in a specific FoEM Clerkship course. With an increasing number of schools requiring EM clerkships and demonstrated interest, we built FoEM Clerkship to support level-specific didactics for EM clerkship students.

Educational Objectives: Course objectives include 1) identify “can’t-miss” differential diagnoses for common ED presentations; 2) build a framework for determining “sick”

versus “stable”; 3) recognize the “EM Mindset”, including initial stabilization/workup and “worst-first” mentality.

Curricular Design: Using Kern’s model, our team of expert faculty refined topics in the CDEM Curriculum, established module objectives, and created templates for a development team including EM residents as authors, and Clerkship Director and medical student stakeholders as editors. Modules were adapted from existing Foundations I cases, with added emphasis on determination of stability and development of the differential, and de-emphasis of advanced management. After iterative stakeholder and expert review, 13 cases (Table 1) were paired with curated asynchronous resources (e.g., book chapters, blog posts) to support flipped classroom learning and an “Essential Learning” summary to support spaced repetition.

Impact/Effectiveness: Since publication of the curriculum and implementation resources (Table 2) on the FoEM website in July 2023, 66 programs serving 2,750 students have registered to use FoEM Clerkship. To investigate effectiveness and fuel improvement, we will obtain survey data from program leaders and learners in 2024. We hope that FoEM Clerkship provides an effective national tool for EM clerkship learning.

Table 1. FoEM Clerkship Curriculum Topics..

Chest Pain	Back Pain
Shortness of Breath	Toxic Ingestion
Abdominal Pain	Trauma
Pediatric Fever	Syncope
Vaginal Bleeding	Dizziness
Altered Mental Status	Sepsis
Headache	

Table 2. Resources for FoEM Clerkship Module 1: Chest pain.

Implementation Resources	Didactic Resources	Asynchronous Resources
<ul style="list-style-type: none"> • Clerkship Course Director Implementation Guide • Clerkship Small Group Instructor Guide • Clerkship Learner Guide • Foundations Case Note Sheet 	<ul style="list-style-type: none"> • Case 1 • Essential Learning Summary 	<p>Text Based:</p> <ul style="list-style-type: none"> • Tintinalli’s (9e), Chapter 48 • Rosen’s (10e), Chapter 22 <p>FOAMed:</p> <ul style="list-style-type: none"> • CoreEM: Chest Pain • EM in 5: Approach to CP • NuMose: Chest Pain <p>Podcasts:</p> <ul style="list-style-type: none"> • EM Basic: Chest Pain • EM Clerkship: Chest Pain

*Active links for all resources can be found at www.foundationsem.com.

3 Cased-Based Imaging Curriculum: Filling an Educa

Katrina D’Amore, Michael Fucci, Raymond Isenburg, Christine Ju, Matthew Kuhns, Hyunjoo Kuhns, Anthony Sielicki, Scott Hamlin, Kristen Gabrow Moore, Eric Steinberg

Introduction/ Background: Emergency medicine (EM) physicians are expected to be competent in radiographic

interpretation. Despite this, radiology training is variable in EM residency programs. Foundations of Emergency Medicine (FoEM) is a free curriculum that currently serves 245 EM sites globally. According to the 2020 FoEM needs assessment survey, 63% (80/126) of programs did not have a formal radiology curriculum. An average of eight hours of conference time per year was dedicated to radiology.

Educational objectives: Within the established FoEM platform, we sought to create a high-quality curriculum for EM radiology that was clinically relevant, able to be delivered asynchronously, and had elements appealing to all learning styles.

Curricular Design: Case-Based Imaging is a two-pronged curriculum targeting EM residents. High yield topics were identified to complement the existing Foundations of EM content. The first prong consists of a recorded lecture. While viewing, the learner is expected to complete a worksheet. The second prong consists of learner-driven interactive radiology cases on Pacsbin, a cloud-based picture archiving and communication system (PACS). Quizzes contain questions with both static and dynamic radiographic images. Quizzes were reviewed by EM and radiology faculty and piloted prior to release. All content is available at foundationsem.com/case-based-imaging/.

Impact/Effectiveness: To date, 14 modules have been published, accumulating 4,541 views from 2,000 unique viewers. This likely underestimates true viewership as modules may be viewed in group settings. 453 unique users completed self-assessment quizzes. Our five most popular modules (“Pneumonia,” “Appendicitis,” “Head Trauma,” “Pulmonary Embolism,” and “Small Bowel Obstruction,” had mean pre-test scores of 80, 67.9, 82.9, 78, and 70.5, respectively, and post-test scores of 87.3, 83.4, 96.6, 84.3, and 75.2 respectively, suggesting curricular effectiveness.

4 Safer Stimulant Use: Harm Reduction Curriculum for Emergency Medicine (EM) Residents and Faculty

Alexa Van Besien, Karrin Weisenthal, Samantha Johnson, Laura Welsh

Introduction: Concurrent with the opioid epidemic, there is a significant rise in stimulant use-related Emergency Department (ED) visits with a similar increase in morbidity and mortality. Abstinence counseling is insufficient as many patients who use stimulants (PWUS) do not want to stop using stimulants, and there are no FDA-approved treatments for stimulant use disorder. Employing harm reduction techniques in the ED can improve the health and safety of PWUS and reduce mortality rates, but no formal curricula exist on the subject. Thus, we designed a curriculum to empower EM physicians to utilize these strategies using