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Novel Medical Student Basic Ultrasound Curriculum

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accuracy in identifying which ECGs require immediate cath lab activation while task switching from a parallel activity.

**Abstract:**

**Introduction:** Managing interruptions is a critical skill for emergency physicians (EPs). EP's activities are often interrupted for other concurrent clinical responsibilities, such as emergent electrocardiogram (ECG) interpretations. These interruptions can increase cognitive load and precipitate medical error. EPs learn to balance these responsibilities using a process called task switching. Task switching is a skill that requires practice to master, yet EPs have little exposure to exercises that purposefully integrate task switching during their training. We aimed to address this gap by exposing trainees to task switching events in the form of critical ECG interpretation while they were engaging in concurrent bootcamp activities.

**Curricular Design:** The curriculum was carried out in 2 phases. First, 12 PGY2 residents engaged in a small group session that tested their baseline confidence and ECG interpretation skills on 20 ECGs representing critical cardiac conditions as well as normal variants. The learners assessed each ECG as either "no activation", "activate cath lab", or "no activation but immediate cardiology consultation." The group then reviewed the correct interpretations and critical diagnostic elements of the 20 ECGs. The second phase of the curriculum was longitudinal. During concurrent bootcamp activities study investigators (acting as medical assistants) interrupted tasks and requested the trainees interpret the same 20 ECGs when presented in random order in 10 seconds or less. Confidence as well as percentage of correct interpretations were compared from phase 1 to phase 2.

**Impact/Effectiveness:** Participants showed improved confidence ( $2.46 \pm 0.59$  to  $2.93 \pm 0.60$ ;  $p = .021$ ; 5-point Likert scale) and increased mean percent correct ( $0.68 \pm 0.11$  to  $0.79 \pm 0.12$ ;  $p = 0.009$ ) following the curriculum. Our curriculum provides a pragmatic, reproducible approach to enhancing critical ECG interpretation with task switching in a way that mirrors the EM practice-environment.

## 36 Mitigating Interview Day Bias: Pre-Defining Merit to Create Standardized Targeted Questions

*Kamna Balhara, MD; Logan Weygandt, MD, MPH; Michael Ehmann, MD, MPH, MS; Linda Regan, MD, MEd*

**Learning Objectives:**

- 1) Mitigate impacts of bias by defining merit before residency interview season
- 2) Create behaviorally-based questions addressing those areas of merit
- 3) Implement questions in a standardized manner for each interviewee

**Abstract:**

**Introduction:** Residency interviews are uniquely susceptible to bias. Best practices for equitable interviewing

exist in cognitive psychology and corporate literature, yet are rarely implemented in residency interviews. Fewer than 5-22% of residency programs use standardized questions, though this is a known best practice. We describe how we defined merit prior to interview day and created standardized, scale-scored questions addressing those areas of merit.

**Educational Objectives:** Mitigate impacts of bias by defining merit before interview season;

Create behaviorally-based questions addressing those areas of merit;

Implement questions in a standardized manner for each interviewee.

**Curricular Design:** Pre-defining merit has been shown to mitigate effects of bias on hiring. Before the 2019-20 interview season, we convened key stakeholders (residency leadership, program staff, faculty, residents) to pre-define merit, specifically the values our program embodies and the characteristics our most successful residents possess. Next, we searched the corporate/cognitive psychology literature to identify behaviorally-based interview questions related to three key characteristics, and applied anchor-based rating scales for responses. Interviewers were trained to ask one of the three questions during each interview and immediately complete the rubric to ensure reliability. We considered standardized question performance during applicant ranking.

**Impact/Effectiveness:** Merit-based standardized questions represent a low-cost intervention that can be easily implemented at any training program. Interviewers responded positively to our intervention and indicated that it revealed unexpected insights and changed their initial perceptions of applicants. Review of interviewee feedback revealed no significant negative impressions of the standardized questions. This intervention represents a simple step programs can take towards building an inclusive workforce.

## 37 Novel Medical Student Basic Ultrasound Curriculum

*Diandra Escamilla, MD; Sean Burns, MD; Laura Welsh, MD; Kelly Mayo, MD*

**Learning Objectives:** Most students reported not having prior introduction to ultrasound before their ED rotation. Our objectives were for learners to be introduced to the basics of ultrasound, knobology, basic ultrasound physics, and image acquisition prior to their rotation in a virtual based format.

**Abstract:**

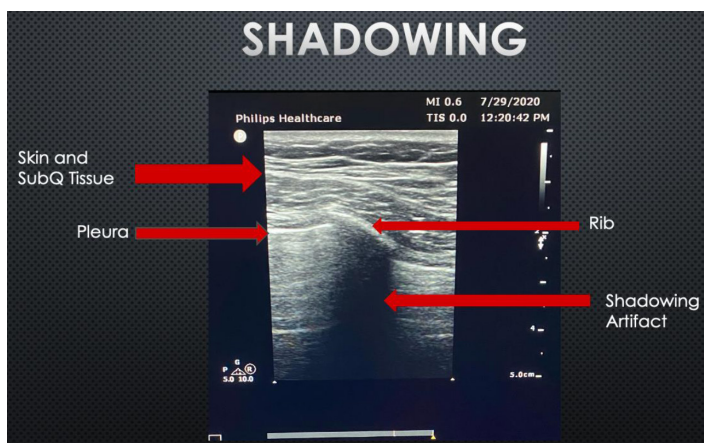
**Introduction/Background:** As ultrasound becomes increasingly used in different medical specialties, ultrasound training is increasingly incorporated into undergraduate medical education. However, much of the published curricula focus on specific applications. We

are unaware of any published curricula dedicated to basic ultrasound skills.

**Educational Objectives:** Our objectives were for learners to be able to define necessary terms in ultrasound probe manipulation, identify the correct probe for image acquisition, describe common artifacts encountered in ultrasound and explain the common ultrasound modes.

**Curricular Design:** We created a two-part curriculum for third year medical students on their EM selective. The module consisted of a 20-minute introductory video shared with the students prior to their orientation start date. We designed a 15-question quiz through Kahoot to incorporate active learning and retrieval practice. Video content was based on the ACEP policy on ultrasound education and expert consensus from ultrasound and education EM faculty. This curriculum was implemented three times with iterative changes made based on learner feedback. After the final curriculum was implemented, a post-survey was then sent out at the end of their rotation to receive feedback on the effectiveness and utility of the project.

**Impact/Effectiveness:** Qualitative data thus far suggests the students strongly agreed that ultrasound teaching would be useful in their future residencies and that they wished they were introduced to it earlier in their rotation. 62% of students found the virtual based format “very useful” in introducing them to clinical ultrasound. 62% of student also found the quiz to be “very useful” in cementing their ultrasound knowledge. Students on the rotation felt more comfortable ultrasounding their patients on shift and reviewing the images with residents after watching the video.



**Image 2.** Image captured from Ultrasound Basics Training video (available at <https://youtu.be/ppvv6y1tsF4>) discussing common artifacts encountered in ultrasound.

## 38 Opioid Use Disorder Tabletop Simulation: An Immersion Experience to Increase Empathy and Awareness of Stigma

*Lauren Walter, MD; Jennifer Hess, MD; Michelle Brown, PhD, MS, MLS(ASCP) SBB; William Opoku-Agyeman, PhD*

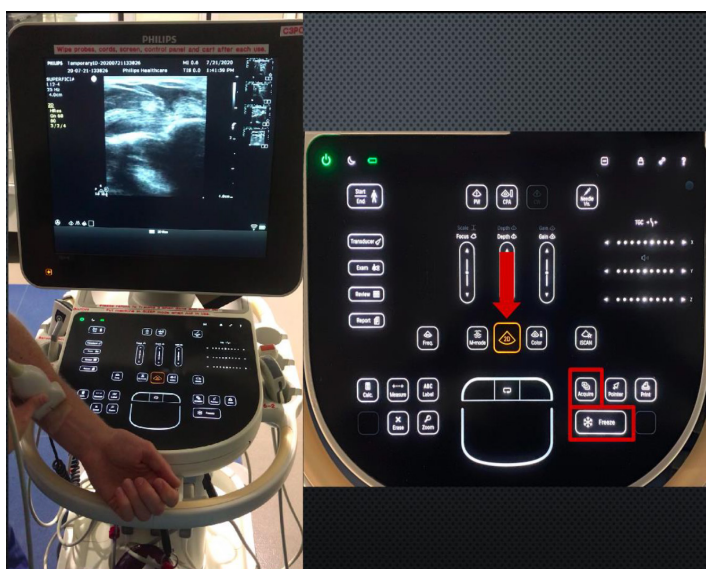
### Learning Objectives:

- 1) Demonstrate feasibility and acceptability of OUD education via delivery of an ‘opioid tabletop simulation.’
- 2) Improve awareness of stigma and increase empathy for OUD patients.

### Abstract:

As a subspecialty, Emergency Medicine (EM) is increasingly faced with addressing the needs of patients presenting with Opioid Use Disorder (OUD). However, most EM physicians remain inadequately prepared to identify and manage this population – the opioid epidemic has outpaced EM residency education, resulting in a critical gap. An additional disease-specific hurdle involves acknowledging stigma and practicing with empathy toward a traditionally stigmatized patient group. Creating ‘OUD competent’ and sensitive EM physicians will require incorporating OUD-specific training into EM residency.

**Curricular Design:** A 2-hour immersive OUD Tabletop Simulation was delivered to 18 EM residents and faculty as part of a comprehensive OUD didactic. The simulation is an experiential tool which helps learners understand that OUD is a chronic disease for which there is treatment and recovery. Participants are taught how stigma and resiliency can impact people with OUD. Presented in a board-game-like format, the simulation personalizes the experience for participants who are asked to simulate navigating life with addiction, be a healthcare provider responsible for



**Image 1.** Image captured from Ultrasound Basics Training video (available at <https://youtu.be/ppvv6y1tsF4>) which demonstrates how to acquire images on the machine.