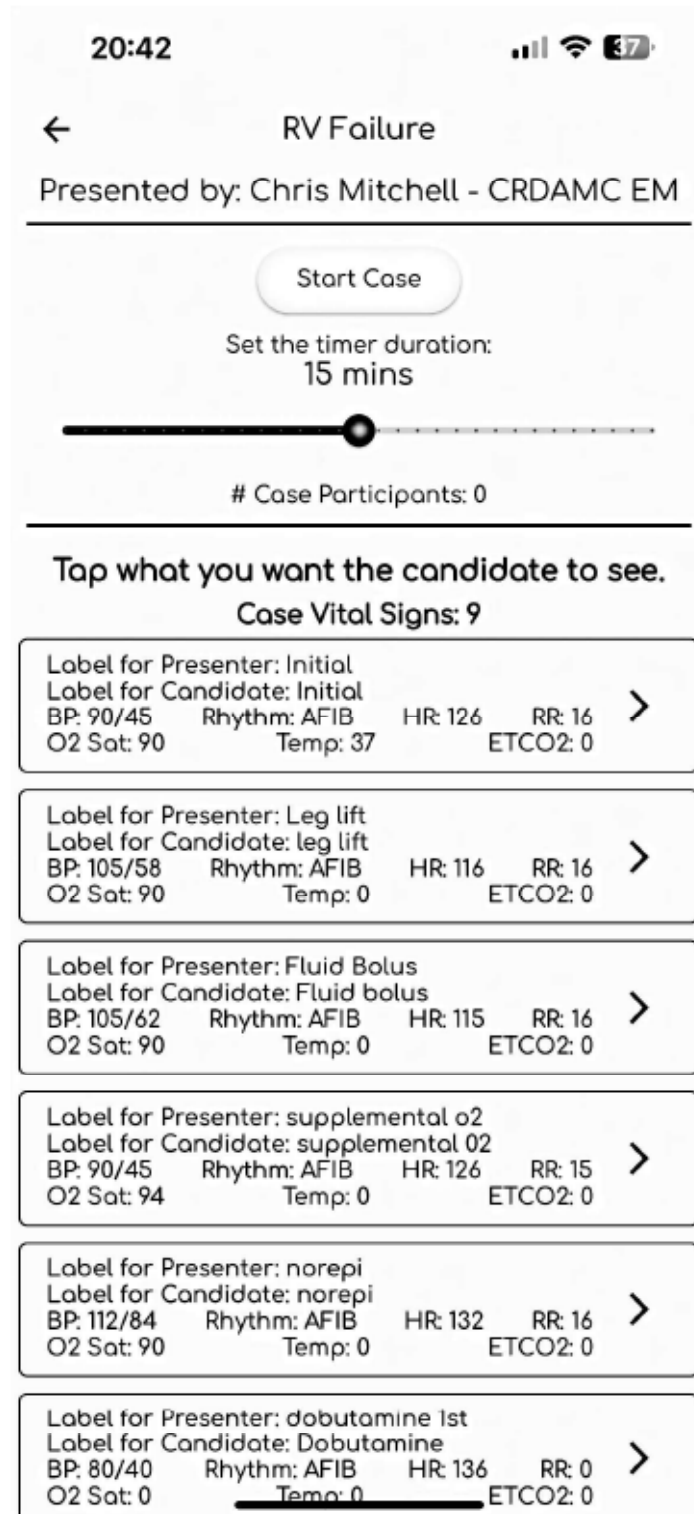


Provide ABEM-aligned, structured feedback to improve oral board performance. Support flexible learning environments from individual to group settings.

**Curricular Design:** MR PRO simulates realistic oral board scenarios, integrating EKGs, X-rays, and ultrasounds into interactive case analyses. Embedded feedback tools enable continuous improvement and reflective learning.



Regular sessions focus on image-based cases, and lectures use MR PRO's distribution feature to improve engagement and create active learning. Assessments include resident and faculty feedback, with performance outcome comparisons pre- and post-MR PRO integration. Initial challenges in adapting the app to various educational settings were addressed through iterative adjustments.

**Impact/Effectiveness:** MR PRO has improved resident proficiency, particularly in image-based learning. Resident feedback over five years confirms enhanced performance in oral board simulations. A paired t-test showed statistically significant improvements over textbook methods ( $t = -7.17$ ,  $p < 0.001$ ), underscoring its effectiveness in increasing engagement and preparedness. Future plans include expanded sessions and advanced scenarios to further enhance resident readiness. Image 1 and 2 demonstrate screenshots of the MR PRO visuals when in use.

## 31 Impact of a Grading Committee on Addressing Inequities in Assessment for a Fourth-Year Emergency Medicine Clerkship

Meredith Thompson

**Introduction:** Achieving equity in assessment in medical education has been described as a wicked problem. Prior research has hypothesized that grading committees for the assessment of medical students on clinical clerkships may help to mitigate the inherent inequities that currently exist.

**Objective:** The objective of this study was to assess the impact of a grading committee for a fourth-year emergency medicine (EM) clerkship on addressing inequities in assessment.

**Methods:** A retrospective cohort study was conducted using demographic and grade data from fourth-year medical students enrolled in a required emergency medicine clerkship at a state university-based medical school. The grading committee process was previously derived based on review of a prior work for clinical competency committees and instituted at the start of the 2021-2022 academic year. A series of one-way ANOVAs were conducted on student grade points (GP) for the EM clerkship (0-4). Three cohorts prior to the committee's formation (2018-2021; N=412) were compared with three cohorts after its implementation (2021-2024; N=419). The analyses included the following comparison groups: 1) Male vs Female, 2) Overall URM (Underrepresented in Medicine) vs Non-URM, 3) URM Male vs Non-URM Male, 4) URM Female vs Non-URM Female, and 5) URM Male vs URM Female.

**Results:** Prior to the grading committee, significant GP differences ( $p < 0.05$ ) were observed between Males and

Females (M= 3.52 vs 3.63; SD=0.46 vs 0.41; p=0.02) and between URM and Non-URM (M=3.41, 3.6; SD=0.43, 0.44; p=0.003). After the committee's formation, no statistically significant GP differences were found between Males and Females, URM Male and Non-URM Male, URM Male and URM Female. A difference persisted for overall URM and Non-URM (M=3.41, 3.58; SD=0.44, 0.43; p=0.003) as well as a newly emerging difference between URM Females and Non-URM Females (M=3.41 vs 3.60; SD=0.44 vs 0.42 p=0.007).

**Conclusions:** Grading committees have promise as part of an overall strategy to address assessment inequities on a fourth-year EM clerkship. More study is needed to discover how confounders affect the committee's impact.

## 32 Intubations, Central Lines and EKGs, Oh My: Competency Based Education in Emergency Medicine Residency Procedures

*Christopher Mitchell, Kevin Schlicksup*

**Introduction:** Emergency Medicine (EM) training requires consistent proficiency in essential procedures. Competency-based education (CBE) frameworks address the variability in procedural exposure that residents face during training. Research shows gaps in procedural experience, with Hayden and Panacek (1999) noting the need for standardized skill assessments across programs to ensure quality training. Simulation-based remediation, as outlined by Nadir et al. (2019), bridges skill gaps, while Antonoff et al. (2012) highlight the effectiveness of preparatory CBE courses in procedural skill acquisition. At Darnall Army Medical Center, our EM residency program employs a blend of simulation, cadaver labs, and structured checklists to address these needs, closing competency gaps and ensuring readiness.

**Objective:** Our program aims to:

Ensure procedural proficiency through structured testing across training stages.

Facilitate skill retention with progressive, interval-based assessments.

Identify skill deficits early, offering remediation through simulation and cadaver-based practice.

Promote self-reflection, reinforcing procedural mastery.

**Curriculum Design:** Our CBE curriculum combines simulation, cadaver-based labs, and checklist-based evaluations. Interns are checked off on airway management and intubation, while second-years undergo assessments for chest tube and central line placements. EKG interpretation and ultrasound competency assessments begin in the intern year. Required resources include cadaver specimens, simulation equipment, and standardized checklists, with oversight by faculty and senior residents. We identified a "proximity bias," as testing occurs soon after training,

potentially affecting long-term retention. In response, we are considering additional mid-year and end-of-year check-offs to reinforce retention.

**Impact:** Our program has led to high success rates in check-offs, with about 70% of residents passing EKG interpretation on their first attempt. 100% of second year residents successfully completed their skills checkoffs. This model contributes broadly to GME by demonstrating how structured, multi-modal CBE frameworks enhance procedural readiness. Future evaluations will monitor long-term skill retention, adapting the program to meet evolving EM training needs.

## 33 Implementation of Cost Effective Care Education in an EM Residency Curriculum: A Multimodal Approach

*Adam Roussas, Sean Dyer, Tarlan Hedayati*

**Introduction:** The ability to provide cost effective care is an ACGME core competency and reflected upon the ACGME annual survey. Yet, there are no best practices on how to incorporate this into residency education.

**Educational Objectives:** To increase awareness of the cost of labs and imaging for common ED complaints and the economic and financial systems that support ED care.

**Curricular Design:** We utilized a 3-pronged approach with case based learning, academic lectures, and on shift reference materials. First, we utilized a pre-existing small group, case-based clinical curriculum and created tables of the out-of-pocket costs of all possible ED testing and treatment related to cases on syncope, bronchiolitis, and low back pain. Instructors were given standardized guidance to ask residents to estimate costs of the visit and then compare their estimates with actual costs provided in the tables and engage in discussion regarding the cost. Three lectures were also given over the course of the academic year on topics related to ED economics, billing, and hospital financial services. Lastly, a reference sheet of the cost of common ED orders was made available in our clinical departments.

**Impact/Effectiveness:** Residents participating in cases were given pre-post surveys. After participating in the case session, 100% of residents indicated they had an improved understanding of the cost of care and 80% indicated they had improved confidence in making cost effective choices. 100% of residents indicated that seeing the actual costs of items was "very helpful" on a Likert scale. The year following implementation, our department's ACGME survey data showed an increase in resident's perception of being taught cost effective care from 67% to 81%. For faculty, this number increased from 77% to 100%. Learners further considered lectures and departmental reference materials valuable in their education of how to deliver cost effective care