In academic training centers, these responsibilities are frequently divided among multiple medical providers on a team. Yet many residents go on to practice at smaller EDs where they will manage resuscitations as a single provider (SP), creating an important training gap.

Educational Objectives: Teach residents a systematic approach to cardiac arrest resuscitation as a SP. Residents will use this approach to efficiently obtain a history, examine the patient, assess airway and CPR, and perform ultrasound, all while directing the code.

Curricular Design: We developed a rapid cycle deliberate practice (RCDP) simulation of an adult patient who arrives at the ED in cardiac arrest with pulseless electrical activity. A week before the simulation, the resident is provided an outline for a stepwise approach to managing a cardiac arrest case as a SP (Figure 1). During the simulation, the resident can access U/S and airway equipment. An EM faculty member and a simulation specialist act as supporting ED staff. The case uses a high-fidelity mannequin, a mechanical CPR device, and speakers to simulate the sound of alarms and CPR. Consistent with RCDP technique, portions of the case may be repeated until the resident achieves predefined objectives (Figure 2). A second EM faculty member observes and provides direct feedback throughout the case. After implementation, a didactic on evidence-based cardiac arrest management was added prior to the simulation to aid in focusing the learning during RCDP on the specific mechanics of leading the code.

Impact: Written resident feedback has described the curriculum as a high yield experience which should be offered to all residents before graduation. The RCDP format allows the resident to actively incorporate constructive feedback from faculty in an iterative fashion.

Timeline	Pre-arrival	Arrival (ER CPR Round 1)	Pulse/Rhythm Check #1	CPR Round 2	Pulse/Rhythm Check #2
Room activity	Team in room	EMS arrival, transferring patient to ED cart, getting patient on defibrillator, nurse starting IV, CPR ongoing	10 second pause	CPR ongoing	10 second pause
Physician actions	- Ensure RN & RT aware - US ready (turned on, gel on cardiac probe) - Airway ready (glide, ET tube, suction) - IO kit ready - Mental prep "Do we have someone who can work on an IV and someone who can do compressions?"	**Brief history** - What happened? Med history? - Down time? - Rhythm? - IV/IO Access? - EtCO2? - Last time epi given? Shocks given? Other meds given? - Family on the way? Code status? **Focused exam** - Bilateral breath sounds? (PTX) - Dialysis patient? (HyperK) - Unilateral leg swelling? (PE) - Recent surgery? (PE, hypovolemia) - Signs of toxins or trauma? **Readiness for pulse check #1** - Patient on monitor? - US probe on chest, finger on pulse "Once the patient is on the monitor we'll do a pulse & rhythm check and take a look with ultrasound"	- Finger on pulse - US probe on chest - Eyes on monitor - Pulse? Shockable rhythm? "PEA on the monitor" - Cardiac activity on US? "No cardiac activity on ultrasound. Resume compressions."	- EtCO2 level? "Our end-tidal is 20" - CPR quality? "Good compressions" - Appropriate access? "How is our access?" - If no IV, place IO ...consider calcium, TPA, or IV fluids ...consider US for DVT **Readiness for pulse check #2** - Head of bed for airway - Assign team members for pulse and rhythm check	- Exchange/confirm airway - Check rhythm and ask about pulse "Patient is intubated with a 7.5 tube, 23 at the teeth. Rhythm is PEA. No pulse, let's resume compressions."

Figure 1. A selected portion of the systematic approach to the resuscitation, which is provided as sudy material to each resident prior to the simulation.

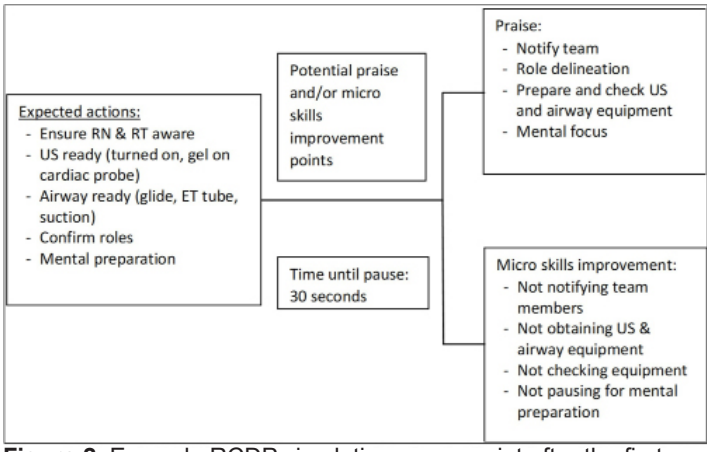

Figure 2. Example RCDP simulation pause point after the first pulse and rhythm check of the case.

29 Validity of a Novel Entrustable Professional Activities Based End of Shift Assessment

Dima Jaber, Elise Lovell, Ryan Tabor, Ravi Chacko, Ryan McKillip

Background: Entrustable professional activities (EPAs) are being introduced in GME as a means for translating ACGME Milestones into clinical practice. To ensure a valid framework for decisions regarding resident advancement, it is critical that EPAs accurately reflect resident competency.

Objectives: Determine if an EPA based assessment of EM residents provides sufficient validity to support its utility for ACGME reporting.

Design: A novel end of shift assessment system was implemented using a set of 22 EM EPAs. Faculty members assessed level of required supervision (entrustment) on a scale of 1 to 5, from "I had to do it" to "I did not need to be there at all," and provided written feedback. Two elements of Messick's validity framework, relations to other variables and internal structure, were used to assess validity. For relations to other variables, mean entrustment levels were compared between PGY classes. Analysis of variance was used to determine if differences in entrustment between classes were significant and demonstrated logical progression. To validate internal structure, because residents were assessed in unequal frequencies across EPAs, data were applied to an unbalanced random-effects model with expected phi-coefficient > 0.3. At the end of the biannual assessment cycle, EPA results were mapped to ACGME Milestones to yield reportable data.

Impact: From February 15 to October 31, 2023, 2,151 assessments were completed by 51 faculty members: 549 for PGY1, 631 for PGY2, and 971 for PGY3 residents. Positive feedback averaged 21.1 words and constructive feedback 16.6. Mean entrustment levels were 3.1 (SD 0.90), 3.8 (SD

0.87), and 4.5 (SD 0.71) (Figure) for PGY1, PGY2, and PGY3s, respectively (P<0.001). The phi-coefficient was 0.31, providing evidence that differences in entrustment were due to residents, not faculty members. Results indicate validity of the EPA based assessment and support its use by the clinical competency committee for ACGME reporting.

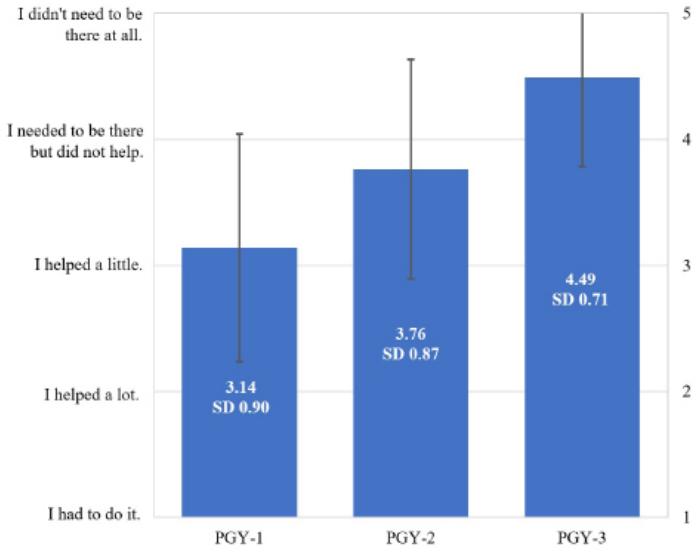

Figure. Mean intrustment level by post-graduate year class.

30 Guess Who: Toxicology and Pharmacology

Lynn McGowan, Avery Michienzi

Bakcground: Over one million Emergency Department visits are made each year due to poisonings. Approximately 40% of reported poisonings are secondary to pharmaceuticals. Given the increasing incidence and high morbidity associated with drug ingestion, it is critical that new and engaging methods are available for educators to teach these subjects.

Educational objectives: 1. Review the mechanism of action, indications and side effects of emergency medications. 2. Differentiate between common drug and environmental poisons. 3. Use gamification to engage learners and improve wellness.

Curricular design: We created Pharmacology and Toxicology versions of the classic board game Guess Who in order to challenge learners to recall unique characteristics and commonalities between toxidromes and drug mechanisms. Each matching pair of boards included a total of twenty-four drugs or toxins with a corresponding mystery card deck. The goal is to correctly identify a mystery card randomly selected by your opponent. Each turn, a player may ask one yes/no question to eliminate items on the board that do not fit the mystery card description. The best strategy is to ask a question that allows you to eliminate the largest number of items from your game board, thus challenging players to identify commonalities between the items. Each team was provided with a reference guide which included high yield facts about each of the items on the board. Use of this guide limited the need for multiple facilitators without risking transfer of misinformation.

Impact/effectiveness: Pharmacology and Toxicology Guess Who has been incorporated into EM resident conferences and used for a wider audience at two regional EM conferences in Pennsylvania. Toxicology Guess Who is also played by medical students, residents and fellows from multiple specialties who are rotating through a medical toxicology service. The game has received overwhelmingly positive feedback from players.

31 Low Tech, High Impact: A Tabletop Escape Game for Toxicology Review

Darielys Mejias, Shayne Gue

Introduction: Intentional and accidental drug overdose and exposure to toxic substances are commonly seen in the Emergency Department. There are multiple toxic substances that are rarely seen but are associated with high morbidity and mortality. It is important that emergency medicine physicians are effectively trained to identify and manage such cases. Our innovative Toxicology Escape Room utilized interactive gamification for residents to review challenging toxicology cases not frequently encountered.

Educational objectives: The goals of this innovation were 1) to promote collaboration and gain consensus among residents while reviewing high-yield toxicology concepts in preparation for the in-training exam; and 2) to recognize and differentiate signs and symptoms of specific intoxications to provide high-quality emergency stabilization and treatment.

Curricular Design: This escape room-style activity was comprised of a series of interconnected puzzles necessitating solutions. 19 participants were divided into 3 teams, racing against one another to solve the puzzles in the fastest time. The first puzzle involved matching medications with their respective drug classes, yielding a numerical code unlocking the next stage. This stage involved a crossword puzzle of clinical presentations of toxicities, antidotes, and other associations. Selected letters from the crossword puzzle were used in an unscramble exercise to find the final clue to unlock the mystery box. We allotted 20 minutes for the exercise, with an additional 10-minute debrief to review key points and clarify questions.

Impact: Learners completed pre- and post-activity tests and a post-activity survey. Results showed a significant increase in knowledge translation (37.9% to 89.5%, p<0.0001). All 19 participants reported that the Toxicity Escape Room was engaging and challenging and 94.7%