

## 24 Enhancing Resident Confidence, Knowledge, and Skills in Obstetrics and Neonatal Resuscitation Through Simulation

Maria Moreira, MD; Taylor McCormick, MD; Jennie Buchanan, MD

### Learning Objectives/Educational Objectives:

Objectives included providing hands-on training to improve confidence in high-risk deliveries and neonatal resuscitation, and assuring ACGME delivery requirement compliance.

### Abstract:

Introduction/Background: COVID19 has affected off-service rotations for emergency medicine residents by limiting provider numbers in patient care areas. To mitigate the educational impact of decreased exposure to deliveries, we developed an obstetrics (OB) simulation (sim) curriculum.

**Curricular Design:** The curriculum consists of 4 sim sessions: 1) normal vaginal delivery & shoulder dystocia; 2) breech, cord prolapse, cord presentation; 3) postpartum hemorrhage & perimortem c-section; and 4) breech delivery, neonatal resuscitation, post-partum hemorrhage care. Sessions include a facilitated discussion, practice of techniques and procedures, and a comprehensive, high-fidelity sim. By the end of the 4 sessions, residents complete 13 deliveries, 1 c-section, 2 post-partum hemorrhage resuscitations, and 1 pediatric resuscitation. Throughout the year they will receive monthly e-mailed pearls for spaced repetition of knowledge. Additionally, at the end of the academic year, residents will repeat the final session, perform another c-section, and practice 5 additional deliveries.

**Impact/Effectiveness:** After overwhelmingly positive session feedback from the class of 2020, the curriculum was added as a required adjunct to the OB rotation. The class of 2021 has completed the 4 sessions prior to rotating on OB. Residents completed a 15-item confidence and knowledge assessment prior to the 1st and 4th sessions which demonstrated a significant improvement in both median reported confidence on a 3-point likert scale (1.5 [interquartile range(IQR) 1.2-1.5]) vs 2.1 [IQR 1.9-2.3],  $p=0.02$ ) and median percentage of correct responses for knowledge-based questions (18 [IQR 12-65] vs 82 [IQR 71-88],  $p=0.03$ ). Residents will take the quiz at the end of the academic year to assess confidence and knowledge retention, and further refine the OB sim curriculum.

## 25 Escape the EM Boards: Interactive Virtual Escape Room for GI Board Review

Megan Gillespie, MD

**Learning Objectives:** Review high yield gastrointestinal in-training exam and board material via an interactive virtual escape room.

### Abstract:

2020 is a year that will forever change medical education. The coronavirus disease 2019 pandemic caused the majority of medical education to abruptly transition to online platforms. Now more than ever, creative and engaging methods for expanding clinical knowledge and teaching teamwork as well as unique integrations of technology for medical education delivery are needed. This educational innovation discusses utilization of gamification and technology-enhanced active learning to deliver a fun and interactive distance learning activity that resembles an escape room.

This developed interactive virtual escape room is a no cost, unique alternative educational activity that can be done individually or in small teams in a remote, in-person, or mixed location setting. This interactive virtual escape room was created through utilization of Google Slides, Google Forms, Google Docs, educandy.com, jigsawplanet.com, puzzle.org, and bitmoji.com. The clues for this escape room were compiled from high yield gastrointestinal in-training exam and board review material from Dr. Carol Rivers' Written Board Review resources via Ohio ACEP app, "The Ultimate Emergency Medicine Guide: The only EM book you need to succeed" by Dr. Sajid Khan, RoshReview Question Bank, and Hippo EM Board Review Videos.

The target learner for this educational innovation is emergency medicine residents of all postgraduate years and third- or fourth-year medical students on emergency medicine rotations. Learners are sorted into groups and video conference and screen sharing were utilized to have participants work together as a team to attempt to "escape" this interactive virtual escape room.

Post-curriculum survey demonstrated that all of the participating residents and students enjoyed this alternative didactic activity and that the majority learned something, preferred a game like this to a standard lecture, and thought this was a helpful way to review for emergency medicine boards or in-training exams.



Figure 1. Escape room.

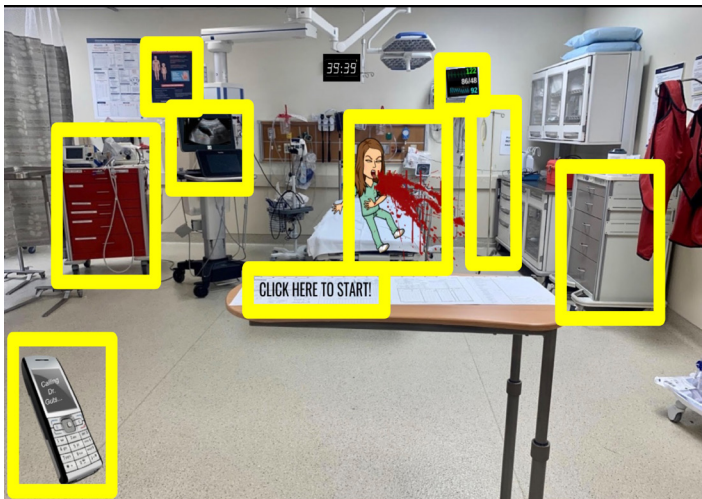


Figure 2. Clue locations.

## 26 Escape this Emergency Room: Simulation Education During a Pandemic

Nicole Elliott, DO; Michael Nguyen, MD; Julie Fritzges, DO; Louis Morolla, DO; Steven Johnson, DO; Tara Ortiz, CNA

**Learning Objectives:** To provide emergency medicine (EM) residents an educational activity that promotes teamwork and wellness. It includes cooperative problem solving, task-delegation, pride in team accomplishments, and recall of emergency medicine knowledge all while staying compliant with social distancing guidelines.

**Abstract:**

**Background:** Escape Room is a game in which participants solve puzzles in order to escape a room. The game engages participants’ knowledge and problem-solving while also encouraging teamwork. In professional medical education, strategies that promote active learning are in demand. Activities like Escape Rooms can foster wellness among the residents based on overwhelming satisfaction from participants in previous studies. Furthermore, social distancing

Table.

What is your current level of training? PGY-	Did the Escape Room encourage you to work together as a team? Yes=1, No=2	Should Escape Rooms like this be used to enhance resident wellness? Yes=1, No=2	Did the Escape Room provide or reinforce medical education? Yes=1, No=2	Please feel free to provide comments.	How can we improve the Escape Room experience?	Complete?
3	1	1	1		All residents should have the opportunity to participate in special simulation events like this. Enhances wellness, class bonding, team work	Yes
3	1	1	2	Too simple for pg3-4	More difficult med content for pg3-4	Yes
3	1	1	1		I thought it was a great experience	Yes
3	1	1	1		Organizing some of the boxes to correspond to specific patients or clues would be helpful. A little frustrating to have answers but not know how to use them/which box to use them on	Yes
3	1	1	1		Do more of these escape rooms, super fun! Had to work together, problem solve and think outside the box.	Yes
2	1	1	1		Nothing	Yes
2	1	1	1	So much fun and I felt I got to practice real medical skills and use knowledge. I honestly wish I could do one of these once/ week	Standardized sheets with information at the beginning like instructions , how many boxes, etc.	Yes
2	1	1	1		This was a great exercise. I would definitely be down to do another.	Yes
2	1	1	1		Standardized set of instructions prior to activity	Yes

during the COVID-19 pandemic has limited the ability of residencies to gather large groups for didactics. The Escape Room format by its nature, provides an activity that requires fewer learners at a time to be present. Its implementation can foster wellness through social interaction while staying compliant with local public health guidelines.

**Design:** EM simulation faculty devised puzzles based on a mass casualty incident. The scenario presented EM residents with multiple simulated patients. Residents identified the solutions to the puzzles as they resuscitated patients, performed procedures, identified injuries, calculated medication doses and triaged arrivals. Prior to presenting a high-fidelity environment with manikins, procedural-trainers and locked-boxes, faculty piloted the scenario with low-cost elements like envelopes, pictures and index cards. This pilot defined the flow of the escape room and offered an alternative



Figure 1.