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SCHOOL OF MEDICINE

A Novel Escape Room to Prepare Students for Clinical Rotations

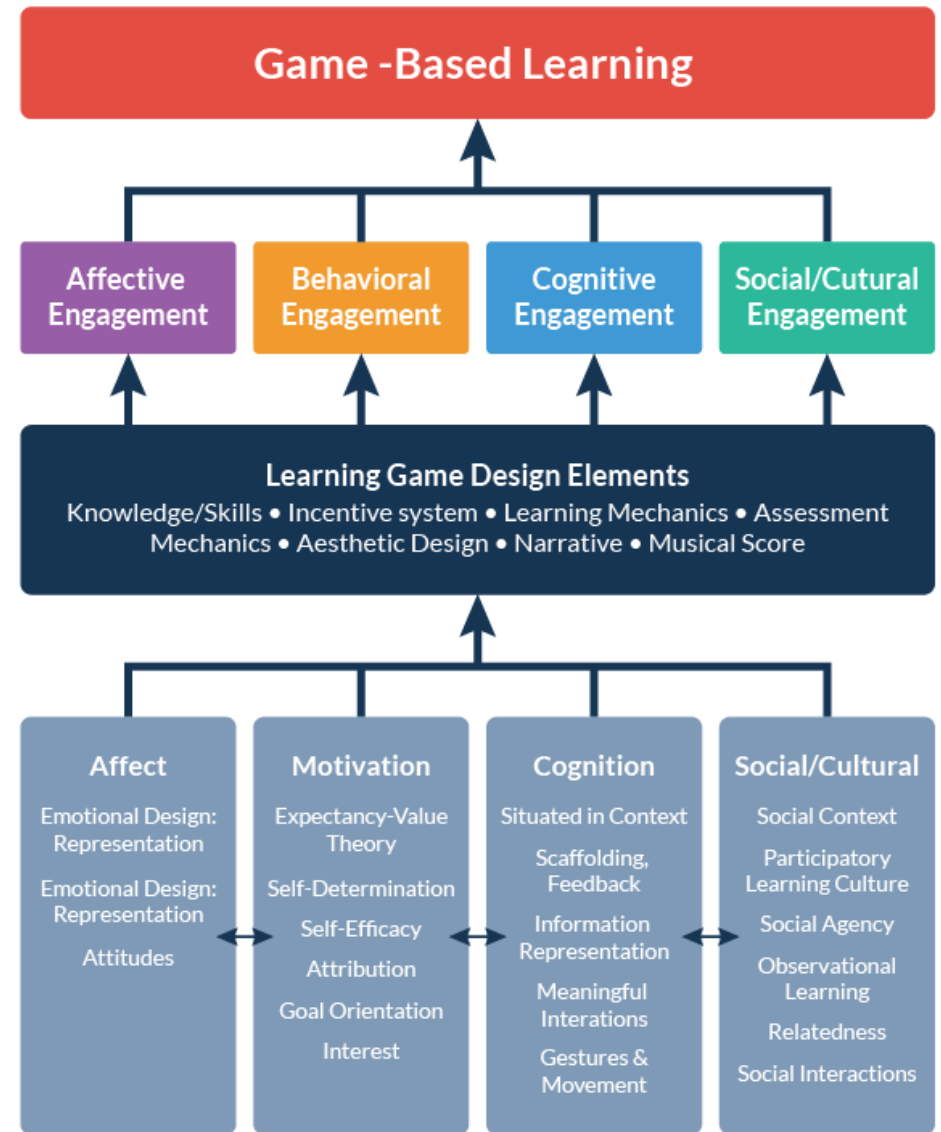
Candace Pau, MD
Jennifer Loh, MD
Lindsay Mazotti, MD



Disclosures

The presenters have no financial interest or affiliation concerning material discussed in this presentation.

When Fun & Games Are More Than Just Fun & Games



Escape Rooms in Medical Education

EDUCATING WELL

Future Healthcare Journal 2020 Vol 7, No 2: 112-5

EDUCATION AND TRAINING The great escape? The rise of the escape room in medical education

Authors: Jonathan Guckian,^A Leanne Eveson^B and Hannah May^C

MEDICAL TEACHER
<https://doi.org/10.1080/0142159X.2021.1909715>



TWELVE TIPS



Twelve tips for creating an escape room activity for medical education

Kasey Davis^a , Huay-ying Lo^b, Royanne Lichliter^c, Kelly Wallin^c, Gemma Elegores^c, Sharon Jacobson^d and Cara Doughty^e

^aDepartment of Pediatrics, Division of Pediatric Critical Care Medicine, Baylor College of Medicine, Houston, TX, USA; ^bDepartment of Pediatrics, Division of Pediatric Hospital Medicine, Baylor College of Medicine, Houston, TX, USA; ^cThe Simulation Center, Texas Children's Hospital, Houston, TX, USA; ^dPatient Safety, Texas Children's Hospital, Houston, TX, USA; ^eDepartment of Pediatrics, Division of Pediatric Emergency Medicine, Baylor College of Medicine, Houston, TX, USA

Trapped as a Group, Escape as a Team: Applying Gamification to Incorporate Team-building Skills Through an 'Escape Room' Experience.

Zhang XC, Lee H, Rodriguez C, Rudner J, Chan TM, Papanagnou D.

Cureus. 2018 Mar 2;10(3):e2256. doi: 10.7759/cureus.2256.

PMID: 29725559 [Free PMC article.](#)

Integration of TeamSTEPPS Framework and Escape Room to Improve Teamwork and Collaboration.

Fitzpatrick S, Smith-Brooks A, Jones-Parker H.

J Dr Nurs Pract. 2021 Nov 1;14(3):233-243. doi: 10.1891/JDNP-D-20-00054.

PMID: 34963671

Break out of the Classroom: The Use of Escape Rooms as an Alternative Teaching Strategy in Surgical Education.

Kinio AE, Dufresne L, Brandys T, Jetty P.

J Surg Educ. 2019 Jan-Feb;76(1):134-139. doi: 10.1016/j.j Surg.2018.06.030. Epub 2018 Aug 17.

PMID: 30126728

Escape MD: Using an Escape Room as a Gamified Educational and Skill-Building Teaching Tool for Internal Medicine Residents.

Khanna A, Ravindran A, Ewing B, Zinnerstrom K, Grabowski C, Mishra A, Makdissi R.

Cureus. 2021 Sep 27;13(9):e18314. doi: 10.7759/cureus.18314. eCollection 2021 Sep.

PMID: 34725586 [Free PMC article.](#)

Using an Escape Room Modality to Teach Mock Code Essentials.

Daniel L, Valko J, McAtee TJ, N-Wilfong D.

J Contin Educ Nurs. 2021 Mar 1;52(3):118-122. doi: 10.3928/00220124-20210216-05.

PMID: 33631021

[See all similar articles](#)

- Require foundational level of knowledge
- Designed for learners to consolidate or apply existing skills

Conventional Clinical Escape Rooms



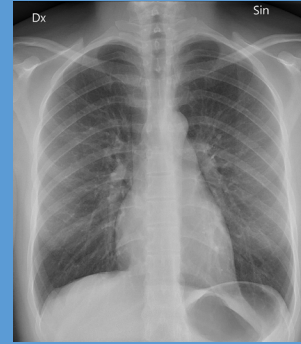
- Platform for introduction of new clinical skills
- Catalytic effect for future learning

KPSOM Escape Rooms



First Year:

- History and physical examination
- Measure vital signs
- Basic lab tests and imaging
- Patient safety



Second Year:

- Approach to decompensating patient
- Primary survey
- Emergent interventions
- Surgical equipment and procedures

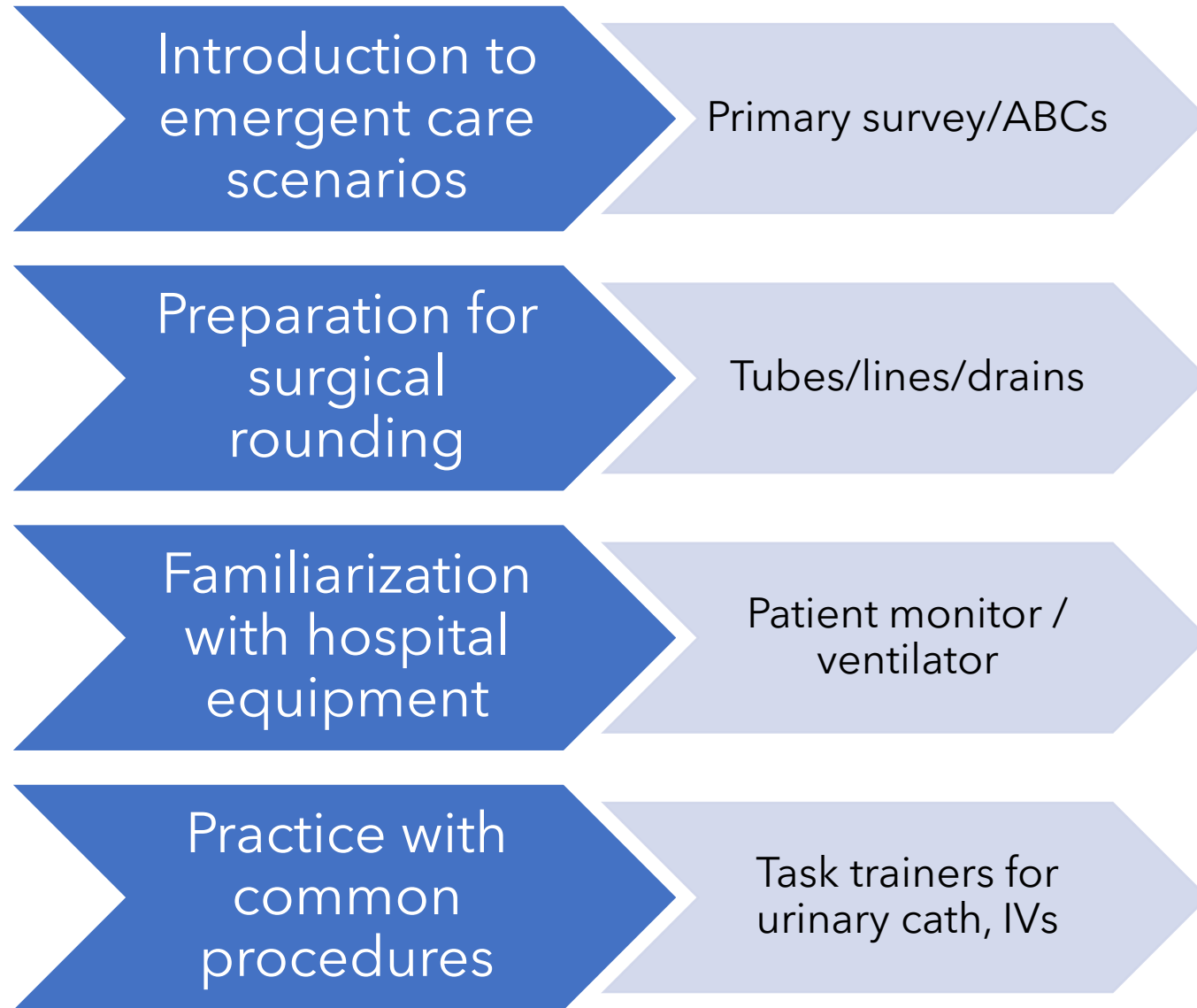


Fourth Year (planned):

- Interprofessional collaboration
- Crisis resource management
- Diagnosis and management reasoning
- Electronic health record



Gap Analysis



Session Learning Objectives	<ol style="list-style-type: none">1. Identify basic functions of a high-fidelity mannequin2. Review the initial approach to resuscitation in an emergent care scenario ("ABCs")3. Identify common surgical tubes, lines and drains4. Practice teamwork and team communication skills in the context of an urgent/emergent care scenario
Key Learner Actions	<ol style="list-style-type: none">1. Connect endotracheal tube to the ventilator2. Activate patient monitor3. Administer correct medication to resolve hypotension4. Formulate antidote and administer to patient<ol style="list-style-type: none">a) Urinary catheterizationb) Empty suction canister connected to nasogastric tubec) Empty Jackson-Pratt draind) Perform venipuncture



Repetitio est mater studiorum...

A time manipulation concept
to facilitate repetition

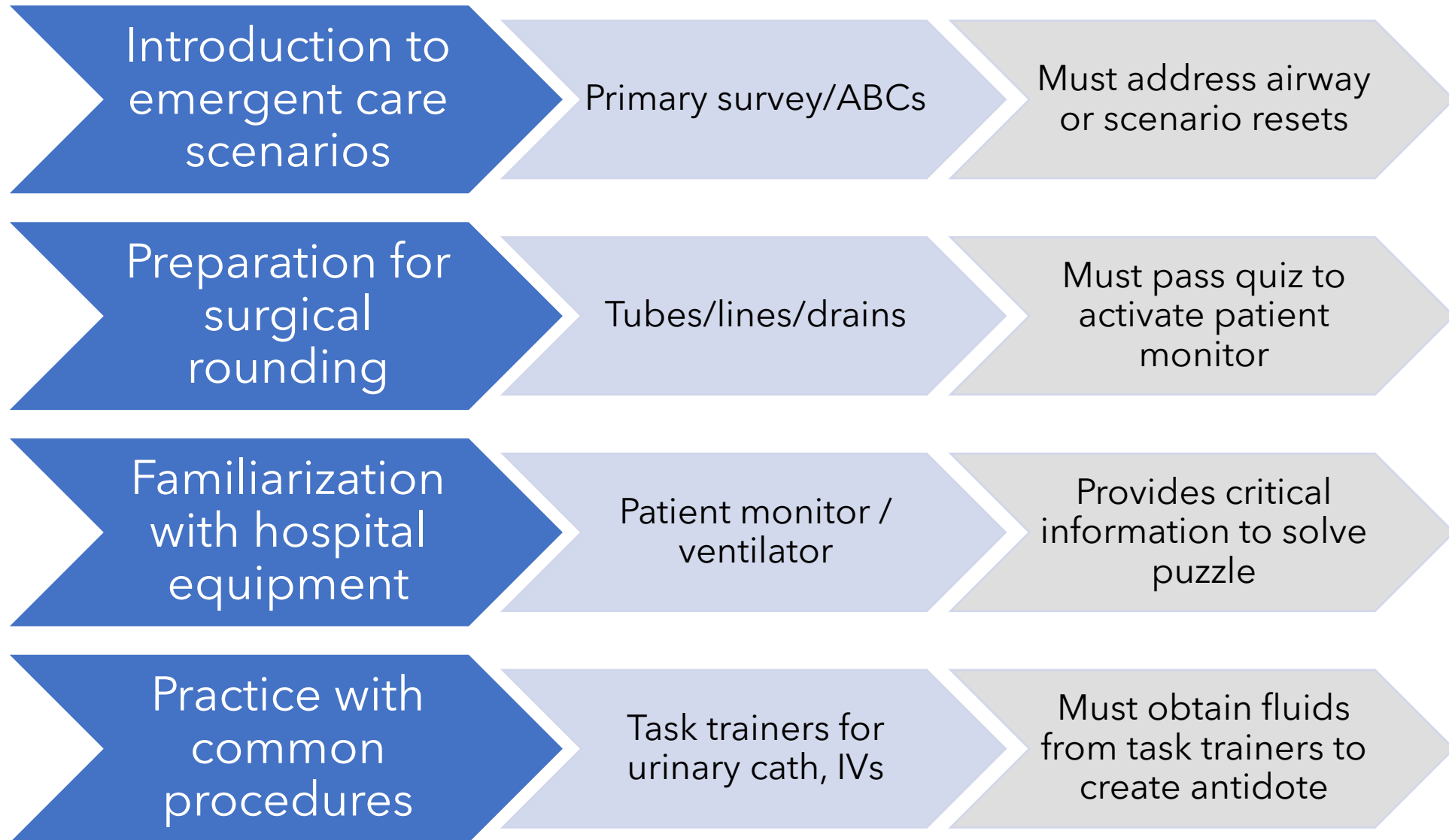
**Aliens have
invaded the earth.**

Logistics



- **Group Size:** 4 students
- **Staffing:** 1 faculty facilitator and 1 simulation technician per group

- **Pre-activity survey:** 5 minutes
- **Pre-briefing:** 5 minutes
- **Escape Room:** 60 minutes total (10 rounds of 5 min each + 1 min to reset between rounds)
- **Debriefing:** 20 minutes
- **Post-activity survey:** 5 minutes



1 → What is the name of this drain? *

A Foley bulb

B Penrose

C Jackson-Pratt

D Dobhoff

E Salem sump



3 → Which of the following is a type of nasogastric tube commonly used for gastrointestinal decompression? *

A Foley

B Penrose

C Dobhoff

D Salem sump

E Coude



John Adult 8/10/2022 16:02 3ways

SIM MED A - DCU ***** Pulse High** ***** APNEA**

1mV **HR 130/50 124**

Pleth **SpO2 100/92 97**

NIBP Cuff 17 16:02 **Pulse 130/50 122** **awRR 30/8 12** **Tperi 101.0/79.0 97.0**

Sys. --/--
160
90 (--)

UI icons: Home, Pulse Alarm, Start Stop, Graph Trends, Main Tally, Help Screen

Antidote Mixing Guide

Base for all combinations = 40 mL Serum of the Seraphim





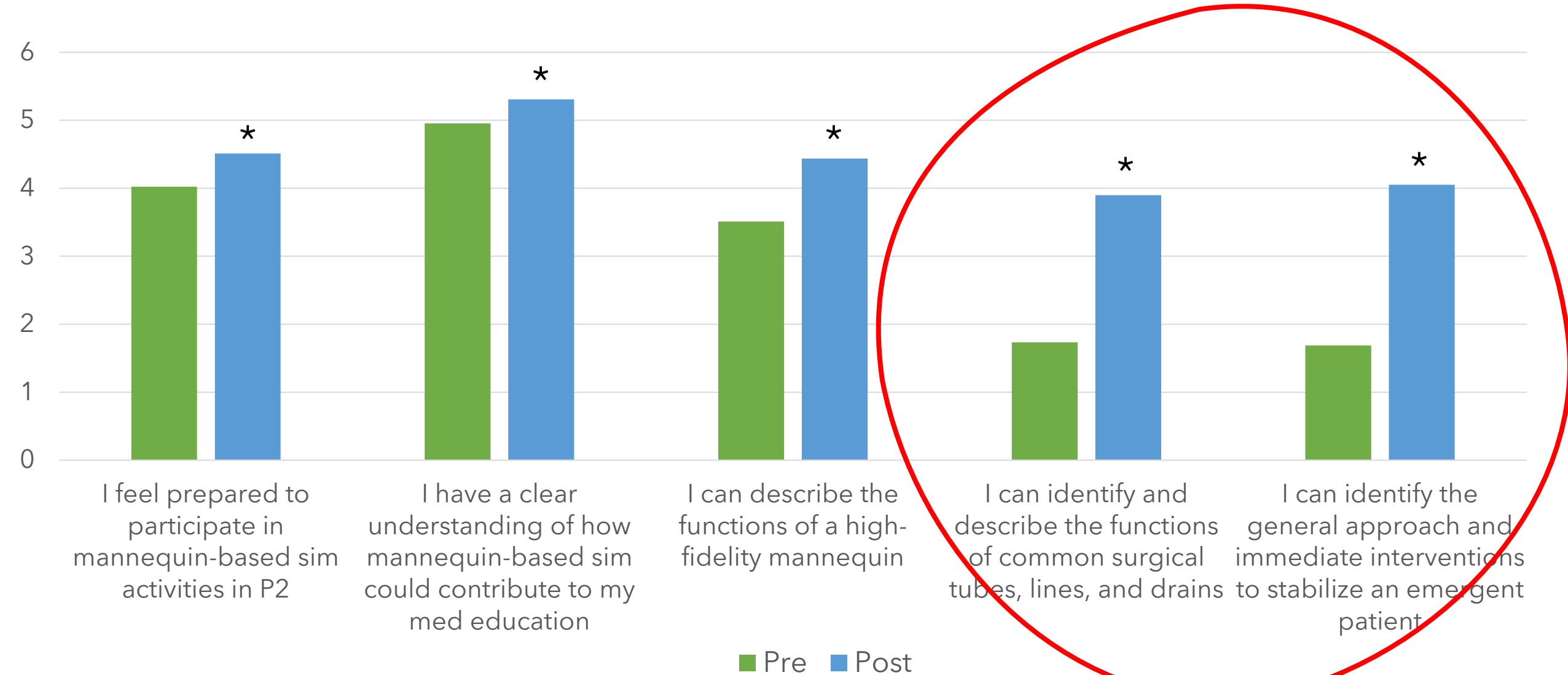
Design Elements

- Non-linear construction allows different team members to work concurrently on different puzzles
- Hints can be provided by faculty based on group performance
- Gateway steps related to patient safety / critical interventions must be completed before additional progress can be made
- In-situ debriefing allows reinforcement of key concepts and demonstration of procedural skills

M2 Escape Room - Student Retro Pre/Post Survey

(n = 39, 6-point Likert scale with 0 = strongly disagree and 6 = strongly agree)

* indicates $p < 0.05$



What did you like about this activity?

“ Loved the team-building aspect and just how much we got exposed to in a short period.”

“ Basic knowledge of tubes, lines, and drains was helpful and made me want to study more.”

“ High energy and opportunities to iterate and try new things.”

Contact Us



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Take a 3D Virtual Tour of our Simulation Center:
<https://tinyurl.com/kpsomsimtour>



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