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## Escape the Trauma Room

M. Podlog

*Northwell Health*, [mpodlog@northwell.edu](mailto:mpodlog@northwell.edu)

A. Husain

*Zucker School of Medicine at Hofstra/Northwell*, [ahusain1@northwell.edu](mailto:ahusain1@northwell.edu)

J. Greenstein

*Zucker School of Medicine at Hofstra/Northwell*, [jgreenstein1@northwell.edu](mailto:jgreenstein1@northwell.edu)

S. Sanghvi

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# Escape the Trauma Room

Mikhail Podlog, DO<sup>1</sup> , Abbas Husain, MD<sup>1</sup> , Josh Greenstein, MD<sup>1</sup>, and Snaha Sanghvi, DO<sup>2</sup>

## ABSTRACT

Traditional conference didactics may not be effectively meeting the learning needs of today's emergency medicine (EM) residents, and educators are employing various interactive approaches to engage learners. Escape Room is a popular adventure game in which participants must work together to solve a series of puzzles to escape a locked room. Our aim was to adapt this game design to teach core EM content and procedural aptitude. Upon entering the "locked" room residents were faced with a series of puzzles involving concepts such as toxicology antidotes, ventilator management, echocardiogram interpretations, airway foreign body removal, arterial line transducer setup, and using a cast cutter. Using teamwork and limited clues learners had to work together to "escape" the room. Afterward, a didactic summary was given to enhance knowledge retention. The Escape Room construct was successfully adopted as an engaging model to teach EM core content and procedure skills while simultaneously fostering team building. Feedback received was overwhelmingly positive. This unique alternative educational activity can be easily implemented at any EM residency program as an effective alternative educational tool

## BACKGROUND

Traditional conference didactics may not effectively meet the learning needs of today's emergency medicine (EM) residents.<sup>1</sup> Educators are moving away from hour-long lectures and are employing various interactive approaches to engage learners. Existing strategies include small-group discussion, simulation, flipped-classroom teaching, and interactive activities.<sup>2</sup> Escape Room is a popular adventure game, used for entertainment and team building, in which participants must work together to solve a series of puzzles to escape a locked room. The concept of an Escape Room educational activity offers the potential to expand an educator's repertoire of active learning methods. This novel activity has been recently described in the literature for nursing and medical student education with some success.<sup>3,4</sup> Our aim was to adapt this game design to teach core EM content and procedural aptitude, while creating an engaging team-building activity. We included a variety of core EM topics of different difficulties to benefit a diverse group

of learners. Core content included toxicology antidotes, airway and ventilator management, and echocardiogram (ECG) interpretation. Procedural skills included arterial line transducer setup, airway foreign body (FB) retrieval, and cast removal. We hypothesize that this innovative session would engage learners more than traditional conference didactics.

## EXPLANATION

The learners were divided into three equal groups of about 10 learners per group (one or two medical students and an equal number of junior and senior residents). The three groups attempted the "escape" consecutively since the same room was used, and each group had 1 hour to escape. Each group was initially briefed on the activity outside the "locked" trauma room. Upon entering, learners were faced with a series of puzzles. The first three puzzles, once solved, yielded a series of numbers that would open a locked box (Figure 1). These puzzles included a toxicology antidote

From the <sup>1</sup>Department of Emergency Medicine, Staten Island University Hospital, Northwell Health, Staten Island, NY; and the <sup>2</sup>Department of Emergency Medicine, Mercy Hospital, Springfield, MO.

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Supervising Editor: Esther H. Chen, MD.

Address for correspondence and reprints: Mikhail Podlog, DO; e-mail: mikepodlog@gmail.com.

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**Figure 1.** The trauma room (top left) gave learners access to several puzzles upon entering including the toxicology antidote matching puzzle (bottom left) and the airway and ventilator management questions (bottom right) to open a locked box (top right) that contained more clues.

matching puzzle, a maze with airway and ventilator management questions, and an ECG interpretation station. Once the locked box was opened, the learners retrieved additional clues that pointed them to the other remaining puzzles scattered around the room. These included airway FB removal, setting up an arterial line transducer, using a cast cutter, and solving a jigsaw puzzle for a dermatology visual diagnosis prompt. The answers to these final four puzzles helped decipher a phone number that, once called, would “unlock the room.” A full description of the activity is provided in Data Supplement S1 (available as supporting information in the online version of this paper, which is available at <http://onlinelibrary.wiley.com/doi/10.1002/aet2.10410/full>). The instructors were available to provide subtle clues if the learners were stuck on a topic for an extended period of time. This activity was piloted prior to implementation to ensure that all groups had sufficient time to “escape.” Learners were debriefed after completion of the activity with answers and a brief explanation to each puzzle. One week later the entire group was given a didactic summary of the topics covered to provide spaced repetition and enhance knowledge retention.

## DESCRIPTION

The Escape Room construct was successfully adopted as an engaging model to teach EM core content

and procedure skills while simultaneously fostering team building. To gauge effectiveness, residents completed an anonymous survey based on a 1 to 5 Likert scale after the educational activity with an 87% completion rate. Eighty-two percent rated this activity as highly educational. Ninety-four percent stated that the topics covered were very relevant to EM. Everyone answered that they would want to do this activity again. Written comments received included “Definitely more engaging than traditional activities,” “Gives you an incentive to learn and develop common skills such as handling the cast cutter, reading ECGs, learning antidotes to common medications, and learning to troubleshoot the vent,” and “Probably the best activity we ever did during any conference.” For reference, our standard conference day is 4 hours of didactics with occasional intermixed small groups and simulation sessions. This novel activity can be easily implemented at any EM residency program as an effective alternative educational tool.

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### **Supporting Information**

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The following supporting information is available in the online version of this paper available at <http://onlinelibrary.wiley.com/doi/10.1002/aet2.10410/full>

**Data Supplement S1.** Detailed activity walkthrough with explanations and pictures of individual stations.