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Mass Casualty Simulation for EM Residents

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Background: Mass media has a crucial role in influencing healthy behaviors and notifying the public about health concerns. It is important that physicians maintain the public trust by providing accurate, credible, and unbiased information. When interactions with the media are not carefully thought out, there can often be negative repercussions on a personal and institutional level. The purpose of the media workshop was to prepare residents to tactfully handle delicate situations that involve print and digital media. This course is important because it assisted residents in the development of critical thinking skills, effective communication, and providing health information concisely.

Educational Objectives: This curriculum was designed to successfully teach residents to communicate successfully when interacting with the media. It also allowed residents to develop their critical thinking skills. Our expectation was to develop a sincere dialog between residents and faculty that will assist them when interacting with the media in the future.

Curricular Design: A senior staff writer whose focus is medicine related news provided a lecture of information about how to prepare for and properly approach television and print interviews. Impromptu mock interviews were given to residents related to current health issues. These were recorded and reviewed by the remainder of the participants to provide immediate feedback. Anonymous pre and post workshop evaluations were provided consisting of questions in which participants responded on a five point Likert scale. Sixteen evaluations were completed. Respondents agreed that media conversations with physicians greatly impact audience's opinions (4.1); however most had no prior experience with media personnel (1.4) nor had they attended a similar workshop in the past (1.1). Results of the post-workshop evaluation revealed that participants felt more confident about talking in front of the camera (4.4) and the workshop was a good way of learning about the importance of media relations (4.4).

Impact/Effectiveness: The participants demonstrated increased comfort and knowledge in communicating with media and providing concise information to the public. This will ultimately contribute to further development of team management skills assessed by EM milestone twenty-three.

3 Mass Casualty Simulation for EM Residents

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Background: While mass casualty preparedness and knowledge has moved to the forefront of medicine in recent years, training for these incidences in EM residencies has remained minimal. An understanding of triage systems in a mass casualty incident is vital in managing the influx of critical patients during these events. Few examples of triage

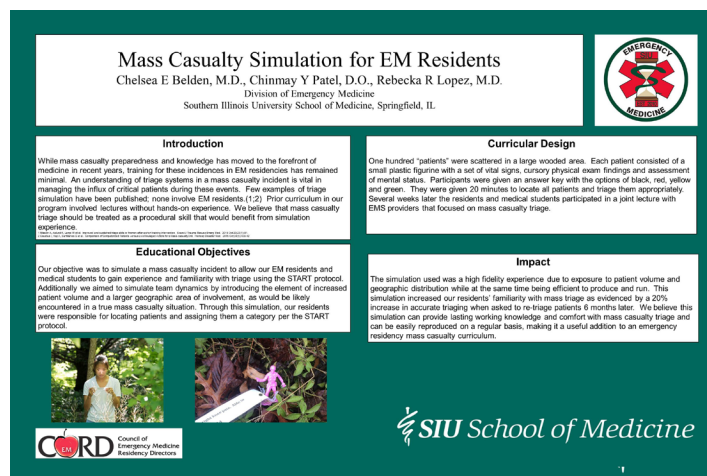


Figure 1.

simulation have been published; none involve EM residents. (1;2) Prior curriculum in our program involved lectures without hands- on experience. We believe that mass casualty triage should be treated as a procedural skill that would benefit from simulation experience.

1 Nilsson A, Aslund K, Lampi M et al. Improved and sustained triage skills in firemen after a short training intervention. *Scand J Trauma Resusc Emerg Med.* 2015 Oct 20;23(1):81.

2 Claudius I, Kaji A, Santillanes G et al. Comparison of Computerized Patients versus Live Moulaged Actors for a Mass-casualty Drill. *Prehosp Disaster Med.* 2015 Oct;30(5) 438-42

Educational Objectives: Our objective was to simulate a mass casualty incident to allow our EM residents and medical students to gain experience and familiarity with triage using the START protocol. Additionally we aimed to simulate team dynamics by introducing the element of increased patient volume and a larger geographic area of involvement, as would be likely encountered in a true mass casualty situation. Through this simulation, our residents were responsible for locating patients and assigning them a category per the START protocol

Curricular Design: One hundred “patients” were scattered in a large wooded area. Each patient consisted of a small plastic figurine with a set of vital signs, cursory physical exam findings and assessment of mental status. Participants were given an answer key with the options of black, red, yellow and green. They were given 20 minutes to locate all patients and triage them appropriately. Several weeks later the residents and medical students participated in a joint lecture with EMS providers that focused on mass casualty triage.

Impact/Effectiveness: The simulation used was a high fidelity experience due to exposure to patient volume and geographic distribution while at the same time being efficient to produce and run. This simulation increased our residents’ familiarity with mass triage as evidenced by a 20% increase in accurate triaging when asked to re-triage patients 6 months

later. We believe this simulation can provide lasting working knowledge and comfort with mass casualty triage and can be easily reproduced on a regular basis, making it a useful addition to an emergency residency mass casualty curriculum.



Figure 2.

4 Skill Retention After Completion of a Proficiency-Based Curriculum to Teach Cricothyroidotomy

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Background: When designing a curriculum for teaching procedures in an emergency medicine (EM) residency, it is important to provide adequate learning opportunities for residents to become proficient in highly important but rarely performed procedures. Prior methods using a proficiency-based training (PBT) curriculum have evaluated knowledge retention of surgical skills among medical students and surgical residents. Determination of the optimal interval for retraining of rarely performed skills among EM residents is not clearly defined.

Educational Objectives: This project is designed to use a PBT curriculum to teach cricothyroidotomy. Further, it is designed to determine the time interval that competence in this procedural skill is retained after a single PBT session. This method of teaching was chosen as it has previously been demonstrated to be effective in teaching and retention of more common skills, and is easily replicated in most EM training programs.

Curricular Design: Residents were asked to perform a cricothyroidotomy on a model. Each participant then underwent a teaching session in which he/she watched a video of a cricothyroidotomy and the proctor performed the

procedure on a model explaining each of 12 critical actions. The resident performed the procedure in front of the proctor with direct feedback provided. The resident was asked to practice the procedure until he/she performed two procedures in a row fulfilling all critical actions. He/she then performed the procedure in front of the proctor who decided if all critical actions were met and completed in less than 45 seconds. If the participant did not, he/she was allowed to practice and retest until all actions were completed in less than 45 seconds.

Impact/Effectiveness: This project contributes to the advancement of knowledge in effective curricular design for procedural education in EM residencies. Each participant's confidence level, number of critical actions completed and time to completion was recorded prior to the teaching session. Half the participants retested at 6 months and half will retest at 12 months. Among the 6 month participants, the confidence level increased from an average of 3.7 to 5.7/10. The average number of critical actions performed increased from 7.7 to 8.6/12. After a single demonstration of the correct procedure and one chance to retest, the number of critical actions performed increased to 11.5/12.

Lightning Oral Presentations

1 Do Emergency Medicine Residency Graduates Feel Prepared To Manage Closed Fractures After Training?

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Background: Fractures comprise 3% of all Emergency Department visits. Although Emergency Physicians may be responsible for managing most of the initial care of these patients, many report lack of proficiency and comfort with these skills.

Objectives: Our primary outcome was to assess how prepared recent EM residency graduates felt managing closed fractures. Secondary objectives identified whether residency training or independent practice contributed most to the current level of comfort with these procedures, and which fractures were most commonly reduced without orthopedic consultation.