

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

A Novel Curriculum for Reducing Distal Radius Fractures in an Emergency Medicine Residency Program

Permalink

<https://escholarship.org/uc/item/507793cv>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 23(4.1)

ISSN

1936-900X

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Publication Date

2022

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activity, 40 minutes in the ED, 15 minute post-activity, 45 minute debrief).

Impact/Effectiveness: No significant difference was observed between pre- and post-activity task lists ($p=0.17$). Overall, qualitative feedback revealed the activity felt very realistic and provided a positive learning experience. Simulated patients felt “vulnerable” and “frazzled.” Simulated family felt “anxious” and “stressed.” Observers were surprised at how many steps occurred simultaneously in the encounter. All participants reported the importance of communication.

31 Airway Tape Review: Learning Through Retrospective Review of Video Laryngoscopy Cases

Justin Chapman, Lucienne Lutfy-Clayton

Learning Objectives: With Airway Tape Review (ATR), we sought to implement a curriculum where actual resident airway recordings are reviewed in a group setting. The lecture series highlights best airway practices, challenging cases and common mistakes encountered by learners.

Introduction/Background: Airway Tape Review (ATR) provides a novel approach to covering airway curriculum through real airway cases. The advent of video laryngoscopy has allowed viewing of resident intubation by the supervising attending, improving safety and feedback in real time. Recording these intubations allows for retrospective review, knowledge translation to learners and supervisors not present and aligns curricular goals and objectives to actual cases. Reviewing these cases in a group setting provides professional development of airway skills in a safe and supportive environment for both learners and supervisors.

Educational Objectives:

- Review intubations to highlight curricular goals and objectives for airway skills
- Improve professional development of learners through the experience of a larger quantity and variety of intubations
- Discuss best practices in pre, peri and post intubation management
- Align ATR with curricular goals and objectives.

Curricular Design: We have implemented vignette-based didactic sessions that permit a “walk-through” of complex airway situations encountered by residents. Established at the UMass Chan-Baystate Emergency Medicine (EM) residency by Dr. Lutfy-Clayton and translated to the UMass Chan EM residency, our lecture series consists of a 1-2 hour quarterly interactive session with a collation of resident intubations pre-reviewed and edited to highlight teaching objectives. The session emphasizes resident participation and can be paired with relevant resident education including journal club and simulation to provide for additional spaced repetition.

Impact/Effectiveness: Retrospective review plays a key

role in development of clinical acumen as an EM physician. ATR provides a means to decelerate and distill discrete airway skills through repetition and the impact of real cases. Potential future uses for video laryngoscopy review include regular, direct resident feedback and tracking of resident improvement.

32 A Novel Curriculum for Reducing Distal Radius Fractures in an Emergency Medicine Residency Program

Steven Morrin, James Willis, Kayla Basedow, Lauren McCafferty

Learning Objectives: We developed a curriculum using a high-fidelity model for residents to learn proper reduction of closed, stable distal radius fractures without orthopedic consultation.

Background: EM residents are expected by the ACGME to be competent in managing orthopedic injuries. Given that these injuries make up 20% of ED visits, it is essential that residents feel comfortable and competent in managing them. In a recent survey sent to alumni of several EM residencies, more than half of respondents reported feeling not at all or somewhat prepared to independently reduce closed fractures. They also stated seeing wrist and distal radius and ulna fractures most frequently. We also received resident feedback from our own program that they felt uncomfortable reducing these fractures without orthopedic consultation, even though it fell within their scope of practice.

Educational Objectives: We developed a curriculum using a high-fidelity model for residents to learn proper reduction of closed, stable distal radius fractures without orthopedic consultation.

Curricular Design: Residents were given pre-reading materials on distal radius fracture reduction. During the session, residents were shown a brief presentation on the finger trap reduction technique and relevant anatomy. They were then given a demonstration by faculty using a SawBones high-fidelity simulation arm model. The simulation arm bones are radiopaque, allowing for both pre- and post-reduction x-rays in order to display proper alignment. After demonstration of reduction and radiographic confirmation, residents were able to practice closed reduction and x-ray interpretation under direct supervision.

Impact/Effectiveness: We administered an identical six-question survey before and after in which we assessed residents’ current comfort level with distal radius fracture reduction and splinting. Few residents (17%) initially reported feeling comfortable reducing closed distal radius fractures. After the intervention, almost all residents (88%) reported feeling comfortable. We are currently collecting follow-up data on comfort and frequency of orthopedic consults in the ED.



Image 1.

33 Medical Simulation Training on Trauma-Informed Care in the Emergency Department

Caroline H. Lee, Carlos Dos Santos, Taylor Brown, Henry Ashworth, Jason Lewis

Learning Objectives: To describe a novel simulation training developed to teach Trauma-Informed Care principles and applications for patient care in Emergency Medicine. To present results from pre- and post-surveys about effectiveness of simulations to learn and apply Trauma-Informed Care in acute-care settings.

Introduction/Background: Emergency Medicine physicians often care for patients experiencing direct sequelae from traumatic events including abuse, discrimination, and violence. Trauma-Informed Care (TIC) is a framework that recognizes the prevalence of trauma, promotes patient empowerment, and aims to minimize retraumatization. Limited curriculum on TIC in acute-care settings exists despite its widespread utility, with medical simulations (SIM) presenting a novel educational opportunity for this aim.

Educational Objectives: Describe principles of TIC and its importance in clinical practice. Present strategies for performing TIC-guided history taking and physical exams. Discuss situations when trauma screenings are indicated for patient safety and care. Facilitate the practice of TIC in acute-care settings.

Curricular Design: An SIM workshop reproducing relevant clinical encounters was developed for medical students to practice implementing TIC in the Emergency Department (ED). Students attended a didactic on TIC fundamentals and its applications in clinical care. Small groups then interacted with three SIM cases caring for patients with urgent medical needs and pertinent history related to intimate partner violence, transgender health, and discrimination in the healthcare system.

Impact/Effectiveness: Application of TIC principles

is essential to providing patient-centered care in the ED. A pilot group of 12 students participated in these SIM sessions. The workshop was well-received, as 100% of participants found simulation training “Very” or “Extremely Useful” in preparing to apply TIC in patient interactions, compared to 42% prior to the session ($p < 0.05$). Students also developed relevant skills, as 42% of students felt “Very” or “Extremely Confident” in using appropriate TIC language during physical exams, compared to 0% initially ($p < 0.05$). Overall, this novel intervention represents a feasible and effective session for teaching TIC skills in Emergency Medicine.

34 Teaching and Assessing Bag Valve Mask Ventilation to 4th Year Medical Students via Checklist

Aman Pandey, Mary McHugh, Meghan Michael

Learning Objectives: Create a checklist that is expert reviewed to teach BVM to 4th year medical students. Implement a curriculum to teach using the checklist and then assess performance with high-fidelity simulation.

Introduction: Bag-valve-mask ventilation (BMV) is an essential skill to master when teaching medical students basic airway management. Standardized checklists help teach and assess learners. A validated checklist for teaching BMV to medical students does not exist in the literature. Current standards typically involve teaching learners BMV skills on mannequins in static situations.

Educational Objective: Create a checklist that is expert reviewed to teach BVM to 4th year medical students. Implement a curriculum to teach using the checklist and then assess performance with high-fidelity simulation.

Curricular Design: A previously published checklist was improved upon using expert consensus of 10 EM and 10 anesthesia faculty. A 2-handed technique using an oropharyngeal airway was emphasized to maximize a novice’s success. Senior anesthesiology and EM residents taught 200 4th year medical students using rapid sequence deliberate practice methods and the checklist. After achieving proficiency, they participated in a SIM case that required BMV. Video review was used to assess the students’ skills with the checklist.

Impact/Effectiveness: We now have a standardized, expert reviewed checklist to teach BMV skills to 4th year medical students. While all students achieved proficiency using a static mannequin, many of the students’ skills deteriorated in the high-fidelity simulation. For example, in the simulation, only 65% of students connected the oxygen to the wall correctly, 24% of students did not use the two-handed technique, and 81% of students did not correctly size and insert the oropharyngeal airway. Since our goal is to teach students BVM for use in the hospital environment, by collecting the high-fidelity simulation