

**Image 1.** Frequency counts to the Likert-scale "I am confident in my ability to handle an incident such as this" before and after MCI simulation.

**Table 1.** Mean MCI knowledge scores for participants before and after their MCI simulation by education level.

	Pre-Test		Post-Test		p-value
	Mean (SD)	N	Mean (SD)	N	
Medical Students	31% (0.15)	19	60% (0.19)	10	<0.05*
PGY-1	54% (0.23)	12	68% (0.19)	9	0.07
PGY-2	60% (0.20)	10	80% (0.18)	7	<0.05*
PGY-3	57% (0.13)	8	81% (0.22)	3	<0.05*
Total	47% (0.22)	49	69% (0.20)	29	<0.05*

\*Statistical significance at p<0.05

## 28 Novel Approach to Quality Improvement and Patient Safety Education for Emergency Medicine Residents

*Nicole Vuong, Ayanna Walker, Shayne Gue, Stephanie Cohen, Latha Ganti*

**Introduction:** Patient safety has become a national topic since a 1999 Institute of Medicine report estimated that medical errors kill almost 100,000 people per year. Education of the emergency physician would not be complete without a robust curriculum dedicated to this topic.

**Learning Objective:** Our goal was to create a novel curriculum introducing EM residents to the importance of quality improvement and patient safety in today’s healthcare marketplace with a focus on experiential learning.

**Curricular Design:** We designed and delivered an 18-month Quality Improvement curriculum through multiple educational strategies. Emphasis was placed on experiential learning which included: 1) Project teams consisting of faculty and resident members who work collaboratively on projects using the PDSA methods. Projects are presented at Hospital Quality Council meetings and regional/national quality conferences. 2) DEMQC (Dept of Emergency Medicine Quality Committee), a monthly workgroup of PGY-3

residents, who identify and execute QI initiatives in our ED in a timely/efficient manner. 3) Participation in various hospital committees to recognize and appreciate the importance of ongoing QI and patient safety initiatives, as well as serving in a liaison role to keep ED staff informed.

**Impact/Effectiveness:** Since implementation, there have been 20 QI projects completed, with 3 ongoing, by 49 (100%) of our residents. These projects have been disseminated broadly through abstracts/presentations/publications on the local, regional, and national levels. Some lasting examples include: decreased CAUTIs after education on foley placement in the ED; utilization of airway checklists; and the impact of onboarding education for off-service rotators.

## 29 Population Health in the Emergency Department - Creation of an M4 Elective

*Madeline Kenzie, Sehr Khan, Taylor Sonnenberg, Ashley Pavlic*

**Introduction:** In July 2020, ACGME’s common program requirements were updated to include population health training and competency. Beginning training during medical school for students pursuing emergency medicine will allow future trainees a head start at gaining skills and awareness surrounding social determinants of health and community engagement. There is wide variety in undergraduate medical education pedagogy but a demonstrated growing interest nationally regarding population health training.

**Educational Objectives:** To create an interdisciplinary, multimodal course focused on addressing population health topics with an emphasis on community involvement. This curriculum will target M4s with varying specialty interests who elect to participate in the elective.

**Curricular Design:** EM residents and faculty were involved in curating a curriculum for M4s. A four week curriculum was divided into four main topics: introductory discussion, homelessness/poverty, victims of violence, and mental health. The course focused on incorporating non-traditional methods including site visits, shadowing experiences, and patient panels to supplement background reading and video material. Surveys were given to students at the end of the rotation for feedback.

**Impact/Effectiveness:** Students in their post-curriculum survey expressed appreciation. Notably, experiences with videos, book chapters and conversations with community stakeholders were rewarding for the students. Their reflections suggested that these experiences will impact their future interactions with vulnerable patient populations. The population health elective was continued on for the following year and is scheduled to occur again this upcoming year. Limitation of our evaluation is the bias of participant self-

selection, this would best be addressed by further expansion of the course to be required for all M4s.

### 30 Practical Training for Emergency Burr Hole Using Three-Dimensional Printed Task Trainer

*Andrew Crouch, Jessica Andrusaitis*

**Introduction:** There is limited space around the brain and if this area fills up with fluid, this can cause compression of brain tissue and be life-threatening. In order to relieve the pressure, a hole can be drilled through the skull. This is typically performed by a neurosurgeon but if a neurosurgeon is not available, the emergency medicine (EM) physician should be prepared to do it. This is a rare procedure and most EM physicians have not had exposure to it. A pilot trial with our model (Image 1; Image 2) was conducted in June 2022 with 5 EM residents and 2 neurosurgery residents. By the end of the session, all residents could accurately describe and perform the procedure without assistance.

**Educational Objectives:** To evaluate the efficacy of a Burr hole task trainer by using a survey to assess the comfort levels of participants before and after using the task trainer.

**Curricular Design:** This is a prospective study on an educational model to teach placement of a Burr hole. We will use a survey to assess pre- and post- skill lab comfort with this procedure by EM residents PGY1-3. The study will take place during a skills session at an ACGME-accredited EM residency at a Level 1 Trauma center scheduled for January 4, 2023.

The anticipated number of participants is 60. Participants will rank their overall comfort of performing Burr hole placement before and after the skills session.

**Impact/Effectiveness:** Since residents currently get little to no training in this procedure, we anticipate that our formal survey results will confirm that practice with this model increases physician comfort level. Since faster evacuation of fluid collection is associated with better outcomes, we hope that training with this task trainer will increase physician skill and confidence and translate to better patient outcomes.

### 31 REPS Shift Debrief

*Jennifer Bolton, Conor Dass, TJ Welniak, Aaron Barksdale*

**Introduction/ Background:** Burn-out has been found to be prevalent in emergency medicine residents while professional levels of fulfillment have been found to be low. Debriefs are common in emergency medicine and at many institutions have been implemented after difficult

cases such as codes or traumas. There has also been research on barriers to obtaining and giving feedback in the emergency department to facilitate learning in emergency medicine residency. Based on this review, in theory, if residents are given a formal, organized time to talk through positive moments on shift, their own growth, feedback from peers and attending physicians, and reflecting on what was learned during the shift and how to improve on future shifts, this could improve burnout and job satisfaction in emergency medicine residents.

**Educational Objective:** A debrief checklist was

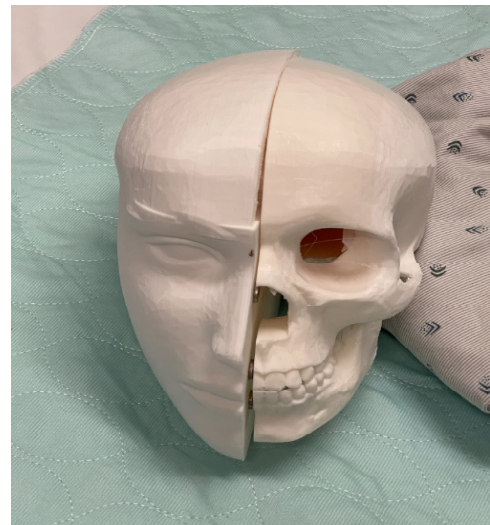


Image 1.



Figure 2.