

## **UC Irvine**

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### **Title**

Use of Virtual Reality for Teaching Procedures

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**Strengths:** This module overcomes resource limitations of live and VR simulation, and can be completed asynchronously anywhere.

**Limitations:** Participants need internet access. The debrief requires a facilitator skilled in disaster triage and debriefing. Assessment of effectiveness included neither triage accuracy/speed, nor comparability to live simulation/VR.

**Feasibility and transferability:** This innovation is freely accessible online. Future development will allow learners to select their experience level, for simplified or complex cases. Open source code allows anyone to develop their own adaptation.

## 46 Use of Virtual Reality for Teaching Procedures

*Phillip McCoy, Stephen Miller*

**Learning Objectives:** The objective of this innovation is to provide virtual reality as an alternative method for learners in emergency medicine to build procedural competence. We will also be looking at feasibility of VR for education and participant satisfaction.

As part of a wider virtual reality curriculum, we are developing and assessing the feasibility of using virtual reality as an alternative method for learners to build competence in procedural skills. This innovation is being tested and implemented with medical students rotating through on their 4th year emergency medicine elective. The study's plan is to look at how practicing procedures with virtual reality compares to more traditional hands-on simulation techniques. Medical students were given a lecture on how to do a surgical chest tube. Then, depending on the month, students were either assigned to practice with virtual reality programs or with simulation task trainers. The following week students were assessed on their ability to walk through and perform a surgical chest tube based on clinical skills evaluation that is already used for emergency medicine residents at VCUhealth. The goal of this innovation is to allow for more easily accessible ways to practice procedures through deliberate practice and allow residents to build experience and competence in procedures in emergency medicine. This has the potential to be especially beneficial in high acuity, low frequency procedures.

## 47 Reducing Electronic Health Record (EHR) Click Fatigue: An Innovative Approach to Common Order Sets

*Eric Medrano, Mohamad Ali Cheaito, Mohamad Moussa*

**Learning Objectives:** Our initiative aims to develop an education innovation that contributes to: • Enhancing EHR usability through facilitating the process of placing medical

orders. • Decreasing click fatigue while increasing professional satisfaction among emergency medicine residents.

**Introduction/Background:** Bureaucratic tasks are the leading cause of burnout among emergency medicine physicians. Among those tasks is placing medical orders in the Electronic Health Record (EHR), which is a time-consuming and rigorous process that can lead to click fatigue and increase physician burnout. Therefore, we believe that optimizing the EHR experience for order placement will not only decrease the amount of time spent using the EHR but will also decrease click fatigue and improve overall satisfaction of emergency medicine physicians.

**Curricular Design:** We designed a PowerPoint educational module for the emergency medicine residents that guides them through the process of creating their own personalized order sets. In this module, we demonstrated the step-by-step process of developing order sets for three of the more common presentations to the ED: chest pain, abdominal pain, and headache. This is a significant, minimal cost method that can be used to facilitate many patient encounters through expediting the placement of workup and management orders. After partaking in the educational module, residents were able to develop their own personalized order sets, which will inevitably reduce the number of clicks.

**Impact/Effectiveness:** Integration of this module has been successful among the emergency medicine residents and was very well received. The number of clicks saved using the order sets presented in the PowerPoint educational module was eight, six, and fifteen clicks for the chest pain, abdominal pain, and headache order sets, respectively. This educational innovation has high transferability to other institutions that use EHRs. We expect that employing this strategy will decrease the amount of time spent on bureaucratic tasks, decrease click fatigue, and improve the overall wellness of the ED physician. Our long-term plan includes expanding our educational curriculum and utilizing qualitative assessment tools to examine its effectiveness.

## 48 Value Transformation through Process Mapping- An Idea Generator for Resident led QI Projects

*Joel Atwood, Amber Billet*

**Learning Objectives:** Review fundamental principles in high-value care Develop a list of opportunities to optimize value based care in the ED Introduce Value Process Mapping to explore barriers to high value care.

**Introduction/Background:** Quality Improvement (QI) is a key component of resident education and an ACGME requirement. Despite being on the front lines and witnessing low value care on a regular basis, many residents struggle to complete robust QI projects throughout residency. A key barrier to resident participation in QI projects is inexperience