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A Unique Video-Review Curriculum to Improve Resident Education and Quality Measures in Cardiac Arrest

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2 A Novel Standardized Multimodal Model of Critical Care Assessment of Junior Residents

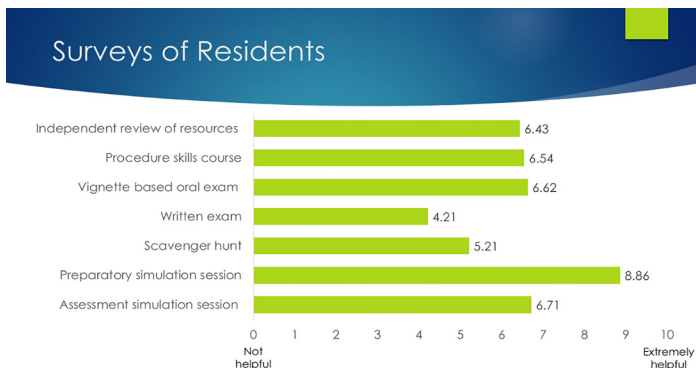
Liu E, Joshi K, Hernandez J, Roppolo L, Velez L, Martinez J / University of Texas Southwestern, Dallas, Texas

Background: With our residency program’s primary teaching facility moving to a new building the resident staffing model changed, resulting in a perceived decrease in critical care experiences for interns. Because in their second year, postgraduate year (PGY)-2 residents take on the role of resident in charge, there was a need to provide additional training and to ascertain that the new PGY-2s had sufficient critical care understanding and ability prior to being assigned this graduated responsibility.

Educational Objectives: 1) Standardize and enhance critical care teaching among junior residents; 2) evaluate readiness to function as the resident in charge; 3) maximize translation effectiveness while allowing for flexibility in the curriculum to address individual learning needs; and 4) ensure patient safety

Curricular Design: Unlike traditional teaching, the “Critical Care Checklist” (CCC) used a blended learning approach to evaluate procedural competency, mastery of pharmacology, EKG interpretation, understanding of protocols, clinical performance, as well as team and resource management. The CCC included a procedural skills course; a vignette-based oral exam; a written exam; a preparatory simulation that included rhythm recognition and code scenarios; a scavenger hunt; and an assessment simulation followed by a faculty-led debriefing. PGY-2s with difficulties were given remedial training and reassessed.

Impact/Effectiveness: This multimodal assessment of junior residents provided insight that each element of the checklist individually could not. The CCC highlighted the learning needs of each resident and helped to provide individualized instruction to residents to fill performance gaps. Effectiveness of the CCC was measured by rate of successful completion of the CCC, post-assessment resident surveys, and feedback from faculty. Results showed simulation and active learning were highly valued compared to written testing and traditional teaching (Figure 1). Faculty feedback of residents’ performance after implementation of the curriculum has also been positive.



3 A Unique Video-Review Curriculum to Improve Resident Education and Quality Measures in Cardiac Arrest

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Background: Currently residents are trained to manage cardiac arrests through simulation or observation. While simulated training with video is heavily studied, few data exist on the utilization of video review of actual cases. Our program provides education through video review and individual feedback. We are one of the first to show improvement in a core resuscitation measure.

Educational Objectives: Our program aims to improve cardiopulmonary resuscitation (CPR) knowledge and competency through individual feedback and monthly didactics. For each case, feedback is given by email to build individual strengths and identify educational opportunities. This is done with a set template with objective data and subjective remarks. A case is selected based on educational content and presented monthly. Data are collected annually to assess whether video review improves knowledge of core resuscitation measures.

Curricular Design: Video review of trauma is common and felt to improve the care of patients. We expanded this practice to CPR cases. Videos from 24 hour/day surveillance in resuscitation rooms are reviewed by two independent observers, and feedback is sent to the resident, nursing, and attendings involved. Videos are reviewed for Cardiac Arrest Registry to Enhance Survival (CARES) elements, a national standard for cardiac arrest research. Monthly one-hour lectures review a case selected for a specific educational topic and build in a stepwise fashion. When possible, topics correspond to the 2013 Model of the Clinical Practice of Emergency Medicine. This program has many stakeholders, including information technology, the hospital, and department administrators. Once installed, the program requires significant faculty and resident involvement to capture and review cases. Once staff was encouraged to use the resuscitation bays with videotaping capability and initial training problems were resolved, our program collected 70-80% of all resuscitations.

Impact/Effectiveness: While early data are encouraging, we do not have enough data to show a statistically significant improvement in outcomes. Anecdotally, residents, faculty, and staff have identified video review as an important adjunct to their education. We will work with focus groups of staff and residents to better identify areas of strength and improvement of this program.