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A Low Cost Cesarean-Section Trainer on a Live Model to Teach the Procedure of Resuscitative Hysterotomy

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Caretta-Weyer H, Wilbanks M, Snow B, Kraut A, Barclay-Buchanan C, Westergaard M/University of Wisconsin, Madison, WI

Background: The ACGME mandates that residency programs maintain a program evaluation committee (PEC) which evaluates the educational activities of the program annually from the vantage point of resident and faculty stakeholders. While the traditional PEC structure does not include input from administrative, nursing, or ancillary staff, these individuals often have useful feedback. We sought to enrich our program evaluation process by eliciting 360 degree reviews of educational experiences from emergency medicine residents, off-service residents and faculty, nursing staff, administrators, and other relevant stakeholders in monthly, rotation-specific reviews. To our knowledge, this represents a novel approach to the PEC and provides the opportunity to explore untapped resources for improving educational experiences.

Educational Objectives:

1. Initiate comprehensive, systematic evaluation of program educational experiences in line with function of PEC
2. Collect feedback from key stakeholders, including non-traditional sources, in order to identify actionable, high-yield recommendations for improvement
3. Establish longitudinal tracking of key recommendations to ensure implementation of meaningful change

Curricular Design: We implemented a comprehensive multi-source review system in order to expand and accelerate our program evaluation process. Each month, five reviewers (chief resident, resident, program leader, core faculty, administrator) review a documentation packet and conduct interviews of key stakeholders (including non-traditional sources) using reviewer-specific interview tools. The findings are presented for residency-wide discussion at monthly meetings and then integrated into a final document highlighting strengths, areas of concern, and proposed improvements. This document is shared with the rotation director for feedback before negotiating final recommendations, which are tracked for successful implementation on a quarterly basis by the PEC.

Impact/Effectiveness: The 360 degree review process uncovers significant opportunities for improvement that are missed by traditional reviews. The negotiation process and formalized recommendations improve accountability on the part of rotation directors. Lastly, residents demonstrate improved understanding and engagement in program evaluation and improvement processes.

3 A Low Cost Cesarean-Section Trainer on a Live Model to Teach the Procedure of Resuscitative Hysterotomy



Figure 1.

Bryant R, Wagner J, Sampson C/University of Utah, Salt Lake City, UT; Washington University, St Louis, MO; University of Missouri-Columbia, Columbia, MO

Background: Resuscitative hysterotomy is a low frequency, high-risk procedure. Procedures that occur rarely in clinical practice present a unique learning challenge. Most can be taught in a cadaver lab, or with simulators that make serial practice cost prohibitive. Providing residents with cost effective, replaceable trainers represents a significant financial challenge for residency programs. A once per career procedure is more likely to be successful in practice if the proceduralist has performed the procedure in a simulated fashion during training.

Educational Objectives: We provide a description of the use of a novel teaching method for the procedure of resuscitative hysterotomy on a live volunteer using a model previously described.

Curricular Design: A previously described resuscitative hysterotomy model can be assembled using items from non-medical stores. This model has traditionally been used on manikins.

During a didactic session on critical illness in pregnancy we described the procedure of resuscitative hysterotomy.

The model was fitted to a resident (Figure 1), and a surprise cardiac arrest was staged. A resuscitative hysterotomy was then performed on the resident fitted with the mock pregnancy model to demonstrate the procedure.

Afterward, 3 resuscitative hysterotomy models were made available to residents to practice the procedure. This approach allowed staged repetition of the procedure with a description, then demonstration, and then an opportunity for hands on practice.

Impact/Effectiveness: Our residency program uses E-value to provide feedback to presenters. Feedback from the teaching session was universally favorable (Table 1), with attendees commenting on the quality and realism of the resuscitative hysterotomy simulation, and the improved educational benefit from both seeing and doing the procedure, rather than just having it described. The benefit of using this model on a live volunteer is the extra degree of realism that it brings to the procedure. This novel approach using a cost effective model on a realistic patient in a clinical scenario of resuscitative hysterotomy has the potential to improve performance when the opportunity arises in clinical practice.

Table. Results from survey to evaluate performance of presenter at resident conference.

Question	n/a	Needs improvement (1)	Good (2)	Excellent (3)	Outstanding (4)	Total	Average (1-4)
The content presented was relevant to the practice of emergency medicine	1	0	0	3	16	20	3.84
The speaker presented material at an appropriate level for resident training	1	0	0	3	16	20	3.84

4 A Novel Apprenticeship Model Providing Progressive Educational Responsibility and Individual Development to Emergency Medicine Residents

Moll J, Troendle M, Moffett P/Virginia Commonwealth University, Richmond, VA

Background: In many clinical environments, patient care demands limit the opportunity to provide direct mentorship and individual instruction to new interns, or progressive teaching responsible to more senior residents. We developed an apprenticeship rotation to accomplish both early in the academic year.

Educational Objectives: The objective of the curriculum was to use an apprenticeship model to provide individual personalized educational guidance and development to new emergency medicine interns from a senior resident. By doing so, the senior resident will learn adult educational theory, and develop skills in bedside teaching and assessment of a learner.

Curricular Design: EM1 residents in a PGY1-3 emergency medicine training program were paired 1:1 with a final year EM resident over a two-week period. The rotation took place at a moderate acuity 25,000 annual census Veterans Administration emergency department. Senior residents had no individual patient care responsibility, functioning

solely in the preceptor role. Seniors received education on adult learning theory using self directed materials, then subsequently developed bedside teaching topics, performed structured observation assessments, and completed specific mid and end rotation evaluations.

Impact/Effectiveness: Over the initial 6 months, 100% of seniors strongly agreed the rotation was a valuable addition to their education, emphasized their development as an educator, and felt the rotation should continue in future years. Eighty percent of interns felt it was a valuable addition to their education, with 20% neutral. All felt the rotation emphasized and was valuable to their development as an emergency medicine intern. The majority (80%) felt the rotation should continue, with 20% neutral. The only negative cited was parking availability. Our early experience has shown enthusiasm and perceived value from final year senior residents for progressive responsibility not available to them at the primary clinical site. New interns, while slightly less enthusiastic, all found development value.

5 A Novel Approach to Medical Student EMS Education

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Background: Emergency medical services (EMS) and prehospital medicine is a critical component of most any healthcare system in the US and throughout the developed world, yet medical students rarely, if at all, receive formal or informal training on even the basics of prehospital care. A formal introduction to EMS medicine would benefit both the physician and the practice of EMS medicine.

Educational Objectives: Provide an introductory educational experience for 3rd year MD students on EMS systems, prehospital care, mass casualty triage and management, and prehospital transport considerations.

Curricular Design: Our EMS division developed an EMS workshop for all third year medical students on their EM rotation. The program begins with a 15-20 minute didactic session to discuss history of EMS, provider capability, system components and design, and the concepts of on-line/ off-line medical direction. Students are then given instructions on basic mass casualty triage and are “dispatched” to an outdoor scene to a simulated bus accident involving 18 “paper patients” that they must locate, triage, and treat (Fig 1). As the teams progress through the exercise, individual patients generate “breakout skill stations” (Table 1). The final task is for students to determine a transport mechanism (air vs ground), priority, and destination in a simulated trauma system.

Impact/Effectiveness: Physicians in most any specialty may be called on to serve as medical directors, educators or advisors, and will at some point most certainly call on EMS for care of an ill patient, yet if their chosen specialty is not EM, the