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Lessons Learned from an High Fidelity in situ ED ECMO Simulation Pilot

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Author

Filkins, Alexandra

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Objectives: We aimed to determine if participation in a POCUS refresher course impacts graduating medical students' confidence level in POCUS skills and planned frequency of POCUS use during internship.

Methods: We conducted a cross-sectional study of graduating non-surgical specialty-bound medical students participating in a POCUS refresher course 1-2 months before graduation. The course consisted of a two-hour didactic session followed by a hands-on practice session reviewing lung POCUS, cardiac POCUS, IVC POCUS, and ultrasound-guided access. Students completed pre-course and post-course surveys assessing their confidence in POCUS skills, planned utilization of POCUS as interns, and need for additional POCUS training before internship on a 5-point Likert scale.

Results: 179 students completed surveys before and after participating in the POCUS refresher course. After the course, students reported increased confidence in their POCUS skills ($p<0.001$) and felt they were more likely to perform lung POCUS ($p<0.001$), cardiac POCUS ($p<0.001$), IVC POCUS ($p<0.001$), and ultrasound-guided access ($p<0.001$) during internship. Participants also reported decreased need for additional POCUS training prior to beginning internship ($p=0.004$) (Table 1).

Question	Pre course score mean (CI)	Post course score mean (CI)	P value
Confidence in POCUS skills	2.02 (0.02, 4.02)	2.68 (1.31, 4.04)	<.001
Likelihood of needing additional POCUS training during your internship year before using POCUS	4.26 (1.88, 6.64)	3.98 (1.73, 6.23)	<.01
Planned frequency of POCUS use during internship	3.30 (1.10, 5.50)	3.65 (1.44, 5.87)	<.001
Planned frequency of lung POCUS use during internship	2.98 (.77, 5.20)	3.36 (1.15, 5.57)	<.001
Planned frequency of cardiac POCUS use during internship	3.18 (.90, 5.45)	3.58 (1.41, 5.74)	<.001
Planned frequency of IVC POCUS use during internship	3.14 (.88, 5.40)	3.46 (1.15, 5.76)	<.001
Planned frequency of ultrasound-guided peripheral IV placement during internship	3.20 (.86, 5.53)	3.71 (1.32, 6.07)	<.001
Planned frequency of ultrasound-guided central line placement during internship	3.42 (.70, 6.14)	4.04 (1.53, 6.55)	<.001

Conclusion: Participation in a POCUS refresher course 1-2 months prior to graduation increased medical student confidence in POCUS skills and planned frequency of use of POCUS applications during internship. As a result, this POCUS refresher course may serve an important role in better preparing new physicians for the increasing use of POCUS in medical practice.

2 Lessons Learned from an High Fidelity in situ ED ECMO Simulation Pilot

Alexandra Filkins

Background: ED initiated ECMO based CPR (eCPR) is a critical intervention to provide circulatory support for select cardiac arrest patients. As a high acuity low frequency procedure, it requires orchestration of ad-hoc teams, performing procedures in an unfamiliar environment, all within a tight timeline. We designed an interdisciplinary high fidelity simulation pilot program focused on the nontechnical skills of ED based eCPR. Educational Objectives: Prior to eCPR program initiation, needs assessments and interdisciplinary training are required to ensure a smooth process. We created an in situ simulation pilot to identify common clinical and educational needs for ED based eCPR at our safety-net urban level one trauma center.

Curricular Design: A simulation scenario was designed by clinical experts in simulation. The case began with an EMS call and concluded with the manikin on eCPR exiting the ED and participants included all members of the eCPR code team including EPs, CT surgeons, nurses, RT,, ED and ECMO technicians. The pilot was run in the same ED resuscitation bay by staff while on shift. The SIM was debriefed using the PEARLS method. We collected feedback about the roles and tasks of each member, medical and procedural understanding, as well as general comments. We conducted a thematic needs analysis, which was then used to refine the eCPR process and guide future training

Results: A consistent theme across all debriefings was the need for role clarification around learners, particularly for ED residents. Based on the survey we created the defined roles based on level of training. We identified important disconnects between team members regarding indications for chest compressions, defibrillation, and medications before, during, and after cannulation.

Conclusion: This eCPR in situ simulation identified the need for predefined and sequential roles for ED residents as well as targeted educational training on various phases of eCPR care.

3 Paving Professional Development Tracks: Create a Road from Scholarship to Program Requirements

Bryan Kane, Nathalie Torres, Shawn Quinn, Gavin Barr, Alexandra Amaducci, Mary Nemeth, Dawn Yenser

Background: The ACGME requires residents to participate in scholarship, quality improvement (QI), and patient safety (PS). Academic tracks that focus on a particular