include: trauma team activation, waiting room anxiety, and referral delays from the ED). Working with designers and stakeholders (including patient representatives), learners would map the experience of a particular project. Strengths and opportunities for improvements would be identified at each step of the project. The team would then prototype solutions which will be presented to site chiefs for implementation and evaluation. **Conclusion:** Working with designers offers a practical and powerful approach to undertaking QI projects in the ED. We hope that this process allows residents to undertake projects that they are personally invested in and helps build longitudinal relationships beyond direct clinical work with the local ED they are working in
Keywords: quality improvement, operations, curriculum

LO42

Ice Cream Rounds: the adaptation and implementation of a peer-support wellness rounds in an emergency medicine residency training program

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Introduction / Innovation Concept: Emergency Medicine (EM) is a specialty that requires physicians to deal with acutely ill patients in a fast-paced environment, which can create stress, mental exhaustion and burnout. Continually changing working teams in the Emergency Department does not always allow appropriate debriefing for difficult patient encounters and outcomes on shift. To address these challenges, we sought to adapt and implement a peer-support rounds called 'Ice Cream Rounds' used in some Pediatric training programs for an EM training program. **Methods:** CCFP and Royal College EM residents were surveyed to determine interest and need for Ice Cream Rounds. Of the 31/50 respondents, 87% (26/31) identified their co-residents as their main source of support after difficult patient encounters and 71% (22/31) felt that current opportunities to debrief after difficult experiences were only "sometimes" or "rarely" adequate. Overall, 84% (26/31) were interested in attending Ice Cream Rounds. Residents expressed that they did not want staff present for Ice Cream Rounds so two residents (SCS and TK) obtained training to lead peer-support sessions from The Faculty of Medicine Wellness Program. Attendance at rounds was voluntary and the EM program provided funding for refreshments. Two Ice Cream Rounds were piloted. Attendance and feedback was recorded from pilot sessions. **Curriculum, Tool, or Material:** Resident-only, peer-run confidential debriefing sessions. Sessions were voluntary and lasted one hour. Approximately 20-30/50 residents attended each Ice Cream Rounds. Discussions were confidential but include topics such as difficult patient encounters, poor patient outcomes, challenges in residency, and ethical issues. In response to positive attendance and feedback, the EM program provided 3-4 one-hour protected time slots with a stipend for refreshments for future academic years. Comments from residents consistently reaffirmed that Ice Cream Rounds was a helpful forum to discuss important issues with colleagues and provided a safe and confidential resource to help cope with residency challenges. **Conclusion:** We adapted, implemented, and evaluated a novel Peer-Support Wellness Rounds for debriefing resident issues and difficult patient encounters in a EM training program. To our knowledge this is the first Canadian initiative to implement such rounds in an EM training program. We believe that this template can be easily adopted by any EM training program and will effectively address wellness challenges faced by residents during their training.
Keywords: innovations in emergency medicine education, wellness, burn out

LO43

Does point of care ultrasound improve resuscitation markers in emergency department patients with undifferentiated hypotension? The first Sonography in Hypotension and Cardiac Arrest in the Emergency Department (SHOC-ED 1) Study; an international randomized controlled trial

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Introduction: Point of Care Ultrasound (PoCUS) protocols are commonly used to guide resuscitation for emergency department (ED) patients with undifferentiated non-traumatic hypotension. While PoCUS has been shown to improve early diagnosis, there is a minimal evidence for any outcome benefit. We completed an international multicenter randomized controlled trial (RCT) to assess the impact of a PoCUS protocol on key resuscitation markers in this group. We report diagnostic impact and mortality elsewhere. **Methods:** The SHoC-ED1 study compared the addition of PoCUS to standard care within the first hour in the treatment of adult patients presenting with undifferentiated hypotension (SBP < 100 mmHg or a Shock Index >1.0) with a control group that did not receive PoCUS. Scans were performed by PoCUS-trained physicians. 4 North American, and 3 South African sites participated in the study. Resuscitation outcomes analyzed included volume of fluid administered in the ED, changes in shock index (SI), modified early warning score (MEWS), venous acid-base balance, and lactate, at one and four hours. Comparisons utilized a T-test as well as stratified binomial log-regression to assess for any significant improvement in resuscitation amount the outcomes. Our sample size was powered at 0.80 (α:0.05) for a moderate effect size. **Results:** 258 patients were enrolled with follow-up fully completed. Baseline comparisons confirmed effective randomization. There was no significant difference in mean total volume of fluid received between the control (1658 ml; 95% CI 1365-1950) and PoCUS groups (1609 ml; 1385-1832; $p = 0.79$). Significant improvements were seen in SI, MEWS, lactate and bicarbonate with resuscitation in both the PoCUS and control groups, however there was no difference between groups. **Conclusion:** SHOC-ED1 is the first RCT to compare PoCUS to standard of care in hypotensive ED patients. No significant difference in fluid used, or markers of resuscitation was found when comparing the use of a PoCUS protocol to that of standard of care in the resuscitation of patients with undifferentiated hypotension.
Keywords: point of care ultrasound (PoCUS), hypotension, emergency medicine

LO44

Initial validation of the core components in the SHoC-Hypotension Protocol. What rates of ultrasound findings are reported in emergency department patients with undifferentiated hypotension? Results from the first Sonography in Hypotension and Cardiac Arrest in the Emergency Department (SHOC-ED1) Study; an international randomized controlled trial

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https://doi.org/10.1017/cem.2017.106 Published online by Cambridge University Press

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Introduction: Point of care ultrasound (PoCUS) has become an established tool in the initial management of patients with undifferentiated hypotension in the emergency department (ED). Current established protocols (e.g. RUSH and ACES) were developed by expert user opinion, rather than objective, prospective data. Recently the SHoC Protocol was published, recommending 3 core scans; cardiac, lung, and IVC; plus other scans when indicated clinically. We report the abnormal ultrasound findings from our international multicenter randomized controlled trial, to assess if the recommended 3 core SHoC protocol scans were chosen appropriately for this population. **Methods:** Recruitment occurred at seven centres in North America (4) and South Africa (3). Screening at triage identified patients (SBP < 100 or shock index > 1) who were randomized to PoCUS or control (standard care with no PoCUS) groups. All scans were performed by PoCUS-trained physicians within one hour of arrival in the ED. Demographics, clinical details and study findings were collected prospectively. A threshold incidence for positive findings of 10% was established as significant for the purposes of assessing the appropriateness of the core recommendations. **Results:** 138 patients had a PoCUS screen completed. All patients had cardiac, lung, IVC, aorta, abdominal, and pelvic scans. Reported abnormal findings included hyperdynamic LV function (59; 43%); small collapsing IVC (46; 33%); pericardial effusion (24; 17%); pleural fluid (19; 14%); hypodynamic LV function (15; 11%); large poorly collapsing IVC (13; 9%); peritoneal fluid (13; 9%); and aortic aneurysm (5; 4%). **Conclusion:** The 3 core SHoC Protocol recommendations included appropriate scans to detect all pathologies recorded at a rate of greater than 10 percent. The 3 most frequent findings were cardiac and IVC abnormalities, followed by lung. It is noted that peritoneal fluid was seen at a rate of 9%. Aortic aneurysms were rare. This data from the first RCT to compare PoCUS to standard care for undifferentiated hypotensive ED patients, supports the use of the prioritized SHoC protocol, though a larger study is required to confirm these findings.

Keywords: point of care ultrasound (PoCUS), hypotension, emergency medicine

LO45

Does the use of point of care ultrasonography improve survival in emergency department patients with undifferentiated hypotension? The first Sonography in Hypotension and Cardiac Arrest in the Emergency Department (SHOC-ED1) Study; an international randomized controlled trial

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Introduction: Point of care ultrasound (PoCUS) is an established tool in the initial management of patients with undifferentiated hypotension in the emergency department (ED). While PoCUS protocols have been shown to improve early diagnostic accuracy, there is little published evidence for any mortality benefit. We report the findings from our international multicenter randomized controlled trial, assessing the impact of a PoCUS protocol on survival and key clinical outcomes. **Methods:** Recruitment occurred at 7 centres in North America (4) and South Africa (3). Scans were performed by PoCUS-trained physicians. Screening at triage identified patients (SBP < 100 or shock index > 1), randomized to PoCUS or control (standard care and no PoCUS) groups. Demographics, clinical details and study findings were collected prospectively. Initial and secondary diagnoses were recorded at 0 and 60 minutes, with ultrasound performed in the PoCUS group prior to secondary assessment. The primary outcome measure was 30-day/discharge mortality. Secondary outcome measures included diagnostic accuracy, changes in vital signs, acid-base status, and length of stay. Categorical data was analyzed using Fishers test, and continuous data by Student T test and multi-level log-regression testing. (GraphPad/SPSS) Final chart review was blinded to initial impressions and PoCUS findings. **Results:** 258 patients were enrolled with follow-up fully completed. Baseline comparisons confirmed effective randomization. There was no difference between groups for the primary outcome of mortality; PoCUS 32/129 (24.8%; 95% CI 14.3-35.3%) vs. Control 32/129 (24.8%; 95% CI 14.3-35.3%); RR 1.00 (95% CI 0.869 to 1.15; p = 1.00). There were no differences in the secondary outcomes; ICU and total length of stay. Our sample size has a power of 0.80 (α:0.05) for a moderate effect size. Other secondary outcomes are reported separately. **Conclusion:** This is the first RCT to compare PoCUS to standard care for undifferentiated hypotensive ED patients. We did not find any mortality or length of stay benefits with the use of a PoCUS protocol, though a larger study is required to confirm these findings. While PoCUS may have diagnostic benefits, these may not translate into a survival benefit effect.

Keywords: point of care ultrasound (PoCUS), hypotension, emergency medicine

LO46

The impact of rapid antigen detection testing on antibiotic prescription for acute pharyngitis: a systematic review and meta analysis

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Introduction: Acute pharyngitis is a common reason for primary care or emergency department visits, often resulting in antibiotic prescription. Rapid antigen detection tests (RADT) are routinely used to diagnose Group A Streptococcus (GAS) pharyngitis. However, due to its low sensitivity, patient pressures and conflicting guidelines, the RADT often complicates management decisions. Our aim was to assess the impact of RADT in patients presenting with acute GAS pharyngitis on the antibiotic prescription rate and appropriateness of antibiotic management. **Methods:** We systematically searched Medline, Embase, and Cochrane databases from 1980 to June 2016. Studies were selected according to a predefined PRISMA protocol and data extracted by two independent reviewers. Prospective and retrospective studies that evaluated the impact of RADT on antibiotic prescription for pharyngitis were included. Study quality was assessed using Cochrane Risk of Bias Tool and the Newcastle-Ottawa Scale. Our main outcome was a dichotomous measure of antibiotic prescription, with or without RADT availability. Studies were combined if there was low clinical and statistical heterogeneity ($I^2 < 30\%$). Bivariate Mantel-Haenszel random effects model was used to perform meta analyses using SPSS 22 and Revman 5. **Results:** We identified 4003 studies: 139 were selected for full text review; 10 met our inclusion criteria (N = 10859 participants,

https://doi.org/10.1017/cem.2017.106 Published online by Cambridge University Press