patient intake. The remaining 4 hours are in the emergency department where students collaborate with a nurse on a number of tasks including preparing and administering medications, starting intravenous lines, and inserting Foley catheters. **Conclusion:** Healthcare systems are shifting to a more collaborative team oriented approach, and IPE has been shown to prepare students for this changing workplace. We seek to understand third year medical students' experience of the nursing shift, and to evaluate any changes in attitudes towards inter-professional collaboration after engaging in this intervention. Evaluation of this novel implementation will enable us to assess and optimize the nursing shift, and if it is well received, encourage widespread adoption.
Keywords: inter-professional education, undergraduate medical education, emergency medicine

P042

Are we ready for a gunman in the emergency department? A qualitative study of staff perceptions of personal health risks, workplace safety, and individual and institutional readiness to respond to "code silver"

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Introduction: Hospital-based gun violence is devastatingly traumatic for everyone present and quite tragically on the rise. The Ontario Hospital Association (OHA) has recently designated active shooter situations as "Code Silver" and advised member hospitals to develop policies and train health care workers on how best to respond. Given that emergency departments (ED) are particularly susceptible to opportunistic breach by an active shooter and staff members are likely to be called upon as first responders, the impact of a Code Silver on ED functioning and staff members may be particularly severe. We hypothesized that there may not be a simple, one-size-fits-all-hospital-staff solution about how best to prepare ED physicians and staff to respond to a Code Silver situation. **Methods:** In order to inform and support future staff training initiatives related to Code Silver and other disaster situations in hospitals, we conducted a robust qualitative study to investigate perspectives and behaviour related to personal safety at work and Code Silver in particular among the multi-disciplinary ED staff at a single tertiary care centre in Toronto, Ontario. Participants for in-depth interviews and focus groups were recruited using a combination of stakeholder and maximum variation sampling strategies. Data analysis occurred in conjunction with data collection and standard thematic analysis techniques were employed. **Results:** Initial data analysis has revealed the following thematic concepts: the ubiquitous banality of personal health risk as an expected, acceptable feature of everyday life at work for ED staff, the perception of active shooters as a transgressive threat that violates the boundaries of professional responsibility, and the perceived fallacy of "readiness" to respond to disastrous situations. A fulsome analysis will be ready for presentation in June. **Conclusion:** Knowledge from this study indicates that ED staff members have unique and specific training needs in relation to an active shooter situation, and gives us deeper insight into potential areas of focus for training and opportunities for knowledge translation on the topic of Code Silver for EDs across the country.
Keywords: workplace violence, code silver, policy

P043

Outcomes associated with prehospital refractory ventricular fibrillation

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Introduction: When ventricular fibrillation (VF) cannot be terminated with conventional external defibrillation, it is classified as refractory VF (RVF). There is a paucity of information regarding prehospital or patient factors that may be associated with RVF. The objectives of this study were to determine factors that may be associated with RVF, the initial ED rhythm for patients with prehospital RVF, and the incidence of survival in patients who had RVF and were transported to hospital. **Methods:** Ambulance Call Records (ACRs) of patients with out of hospital cardiac arrest between Mar. 1 2012 and Apr. 1 2016 were reviewed. Cases of RVF (≥5 consecutive shocks delivered) were determined by manual review of the ACR. ED and hospital records were analyzed to determine outcomes of patients who were in RVF and transported to hospital. Descriptive statistics were calculated and all variables were tested for an association with initial ED rhythm, survival to admission, and survival to discharge. **Results:** Eighty-five cases of RVF were identified. A history of coronary artery disease (47.10%) and hypertension (50.60%) were the most common comorbidities in patients transported to the ED with RVF. Upon arrival to the ED, 24 (28.2%) remained in RVF, 38 (44.7%) had a non-shockable rhythm, and 23 (27.1%) had return of spontaneous circulation. Thirty-four (40%) survived to admission, while only 18 (21.2%) survived to discharge. Pre-existing comorbidities, time to first shock, time on scene, and transport time were not statistically associated with initial ED rhythm, survival to admission or discharge. Patient age was statistically associated with improved rhythm on ED arrival ($p = 0.013$) and survival to discharge (58.24 yrs vs 67.40 yrs, Δ9.17, 95% CI 1.82 to 16.52, $p = 0.015$). **Conclusion:** The majority of patients with prehospital RVF have a rhythm deterioration by the time care is transferred to the ED. Of these patients with a rhythm deterioration, few survive to hospital discharge. Younger patients are more likely to remain in RVF and survive to discharge. Further research is required to determine prehospital treatment strategies for RVF, as well as patient populations that may benefit from those treatments.
Keywords: ventricular fibrillation, prehospital, return of spontaneous circulation

P044

Factors influencing laboratory test ordering by physicians and nurses in the emergency department

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Introduction: Understanding factors that influence laboratory test ordering in emergency departments (EDs) can help to improve current laboratory test ordering practices. The aim of this study is to compare patterns and influences in laboratory test ordering between emergency physicians and nurses at two ED sites, Halifax Infirmary (HI) and Dartmouth General (DG). **Methods:** A mixed-methods approach involving administrative data and telephone interviews was employed. Data from 211,279 patients at HI and DG EDs were analyzed. Chi-square analysis and binary logistic regression were used to determine significant factors influencing whether a test was ordered, as well as significant factors predicting likelihood of a nurse or a physician ordering a test. All significant associations had a p-value of <0.0001. Interviews were conducted ($n = 25$) with doctors and nurses in order to explore areas of potential influence in a clinician's decision-making process, and discuss what makes decision making difficult or inconsistent in the ED. These interviews were analyzed according to the Theoretical Domains Framework. The interviews were coded by two individuals using a consensus methodology in order to ensure accuracy of coding. **Results:** Overall, laboratory tests were more likely to be

ordered at DG than at HI (OR = 1.52, 95% CI: [1.48, 1.55]). Laboratory tests were more likely to be ordered by nurses at DG than at HI (OR = 1.58, 95% CI: [1.54, 1.62]). Laboratory tests were more likely to be ordered if the ED was not busy, if the patient was over 65, had a high acuity, had a long stay in the ED, required consults, or was admitted to hospital. Doctors were more likely to order a laboratory test in patients over 65, requiring consults or hospital admission, whereas nurses were more likely to order laboratory tests in patients with high acuity or long stays in the ED. Data from the interviews suggested differing influences on decision making between nurses and doctors, especially in the areas of social influence and knowledge. **Conclusion:** Currently, there is limited research that investigates behaviour of both emergency physicians and nurses. By determining barriers that are most amenable to behaviour change in emergency physicians and nurses, findings from this work may be used to update practice guidelines, ensuring more consistency and efficiency in laboratory test ordering in the ED.

Keywords: clinical assessment, laboratory testing, clinical decision making

P045

Human trafficking awareness, a learning module for improved recognition of victims in the emergency room

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Introduction / Innovation Concept: Estimates suggest that up to eighty-seven percent of human trafficking victims have come into contact with a healthcare provider during their exploitation and yet less than ten percent of emergency medicine (EM) physicians feel confident in identifying a victim. When provided with the relevant tools, medical personnel can aid in the recognition of victims and take the necessary steps in providing appropriate care when they present to the emergency department. Identifying this need for increased awareness in the urgent care setting, a module on human trafficking was implemented into the undergraduate medical education and departmental grand rounds. **Methods:** After identifying gaps in current medical education regarding screening for victims of human trafficking, a literature review was completed on the topic in medical education and utilized in constructing a list of objectives. These were then reviewed by community organizations that aid victims of trafficking and the Canadian Alliance of Medical Students Against Human Trafficking. Undergraduate medical students completed surveys prior to and following the learning module, in order to evaluate improvement in acquired knowledge. **Curriculum, Tool, or Material:** A one-hour lecture from ACT Alberta was given to undergraduate medical students as well as to residents and staff in departmental grand rounds. The session met the following objectives: defining human trafficking, recognition of victims, and identification of next steps in providing care. Additionally, an online module from Fraser Health was made available as an additional resource with case studies specific to emergency departments. The surveys consisted of 13 questions evaluating students' knowledge on human trafficking and its prevalence in emergency medicine. The questions were a combination of a Likert scale, multiple choice, and short answer. There was a large amount of positive feedback from the students and comparison of the surveys showed that their knowledge in identifying victims had significantly improved. **Conclusion:** Medical students, residents, and staff may come into contact with victims of trafficking in the emergency department and yet less than three percent of emergency physicians have had training on how to recognize a victim. Implementing human trafficking awareness will impact EM medical education by providing victims a greater chance of being recognized and offered help when they present to the emergency room.

Keywords: human trafficking, innovations in emergency medicine education, medical education

P046

The development of a validated checklist for bougie-assisted cricothyroidotomy

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Introduction: A cricothyroidotomy is a life-saving procedure and essential skill for EM physicians. The bougie-assisted cricothyroidotomy (BAC) is a newly describe technique that is both simple and reliable. There remains no consensus for the essential steps and ideal training strategy for the procedure. Using a modified Delphi process, we created an expert-derived checklist as a transferable educational tool for BAC instruction. **Methods:** A literature search was conducted to identify relevant articles describing the steps for BAC performance. These steps formed the first-iteration checklist for the modified Delphi process. Fourteen experts from general surgery, emergency medicine, otolaryngology, and anesthesia were recruited as participants for the Delphi process which consisted of three iterations. In the first two rounds, experts ranked each checklist step on a scale of 1-7, suggested additions, and provided comments. After each round the comments and rankings were integrated and steps with an average ranking of $\leq$3.0 were removed from the checklist for the next round. In the final round, consensus was sought by asking experts to indicate if this checklist was acceptable for teaching BAC to a novice learner. **Results:** A 22-item checklist was developed from a literature review. Following a modified Delphi methodology, the final BAC checklist contained 17 items. Internal consistency of the checklist was very good ($\alpha = 0.855$). In the third and final round, 86% of the participants agreed that the final iteration of the checklist. There was disagreement regarding "bougie hold up" as an appropriate method to confirm bougie position within the tracheal lumen. The checklist was modified, replacing "hold up" with digital palpation in the trachea as confirmation of successful bougie placement. With these modifications, consensus was achieved. **Conclusion:** Using a modified Delphi process, derived from existing literature and expert opinion, a 17-item BAC checklist was developed for novice instruction. This BAC checklist represents the first consensus-based set of steps for the procedure which may serve as a useful tool for trainee instruction and evaluation. Future research is required to test the validity of this checklist in training for a BAC and its applicability within competency-based medical education.

Keywords: airway, checklist, cricothyroidotomy

P047

Test characteristics of point of care ultrasound for the diagnosis of retinal detachment in the emergency department

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Introduction: The acute onset of flashes and floaters is a common presentation to the emergency department (ED). The most emergent etiology is retinal detachment (RD), which requires prompt ophthalmologic assessment. Previous studies of point of care ultrasound (POCUS) have reported high sensitivity and specificity for RD, but are

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