

with the condition). The risk of recurrent PE is well managed with long term anticoagulation. Past literature suggests that patients who are diagnosed with PE can go on to experience existential anxiety and symptoms suggestive of post-traumatic stress disorder (PTSD). This study aimed to evaluate the mental and emotional experiences of PE patients through the lens of PTSD, and the factors involved in psychological distress following a PE diagnosis. **Methods:** Semi-structured interviews were conducted with PE patients at the Jura-vinski Hospital thrombosis clinic in Hamilton, Ontario. Interview questions were based on DSM-5 criteria of PTSD and relevant existing literature. The transcripts were analyzed by two researchers based on an approach that considers both the content of patients' accounts as well as the way that patients choose to interpret and deliver those accounts, to develop major themes associated with psychological distress. **Results:** A total of 37 patients, ranging from 28 to 85 years of age, were interviewed. The patients' accounts suggested that the manner in which a PE diagnosis was delivered by an emergency physician was a significant factor in the degree to which they experienced psychological distress. For example, patients reported focusing on words suggesting that they were 'a ticking time-bomb' or that 'a lot of people don't get through this,' which introduced a degree of panic. A number of patients continued to focus on these words, months or years after their diagnosis. Some feared that they could have recurrent PE which could lead to death. Diagnoses that were delivered calmly with thorough explanations of why a patient experienced PE-related symptoms and how they will be treated, helped to minimize any subsequent anxiety. Patients initially misdiagnosed with an alternative condition in the ED also expressed feelings of anxiety and distress. The presence of physically and mentally distressing symptoms was also a factor which contributed to mental distress and anxiety regarding a PE recurrence. **Conclusion:** Caution should be taken in the delivery of PE diagnosis in the emergency department. Over-emphasis on the severity and life-threatening nature of PE should be avoided to reduce psychological distress.

**Keywords:** diagnosis, embolism, psychology

#### MP41

##### **Feeling the flow: an evaluation of the GridlockED workshop experience**

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**Introduction:** GridlockED is an educational (or "serious") game recently developed by a team at McMaster to teach medical learners about patient flow in the emergency department (ED). Beyond patient flow, we were cognizant that the game could provide additional learning opportunities for learners. The goal of this program evaluation project was to investigate workshop attendees' experiences and identify what areas they found most educational. **Methods:** A GridlockED board game workshop was developed and delivered in several locations over the fall of 2018. Workshops targeted medical learners and were organized by local emergency medicine interest groups. After a standardized video-based introduction to the game concept and rules, the learners played GridlockED for approximately 90 minutes. After the play session, learners completed an anonymous survey consisting of 7-point Likert scale questions about their experience. They were also asked to identify the learning domains for which GridlockED was developed (Patient Flow, Communication and Teamwork, and ED Basics), and were asked via free-text to identify learning objectives from their experience. We received an exemption

for this study from our institutional review board. **Results:** We had 25 respondents (24 medical students and 1 resident). Trainees rated GridlockED as both enjoyable to play and as a meaningful educational experience, with an average rating of 6.56 (SD 0.94) for enjoyability and 6.44 (0.92) for education. When asked what targeted learning domain was most helpful, 45% of students identified patient flow, 37% teamwork and communication, and only 18% ED basics. When asked to identify their top three areas of learning in open-ended responses, students actually identified resource management most frequently (48%), with improved communication skills (40%) as the second most prominent learning objective. Other interesting self-identified learning points were: a greater appreciation of the role of various providers (24%), the unpredictability of ED care (12%), and how things can go wrong (12%). **Conclusion:** Medical learners find GridlockED to be both enjoyable and educational. In our targeted areas of learning they found patient flow to be the most educational, but self-identified multiple other areas for learning. Students identified resource management and communication as key areas of learning, suggesting that future workshops might be designed specifically to teach these skills.

**Keywords:** medical education, program evaluation, serious games

#### MP42

##### **Program assessment: taking stock of the current state of Canadian undergraduate medical education in procedural skills curricula**

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**Introduction:** In order to better characterize procedural skills curricula in Canada, a national survey was conducted. The objectives of the survey were: (i) to characterize procedural skills education currently employed in pre-clerkship and clerkship curricula; (ii) to determine what skills physician-educators think medical students should know upon graduation; and (iii) to identify physician-educator perceptions regarding the development of pre-clerkship procedural curriculum. **Methods:** A web-based survey was distributed to 201 clinician-educators across Canada's 17 medical schools. Respondents were directed to an individualized survey based on their self-identified roles at their institution. Respondents were asked demographic questions, what procedural skills are being taught and in what setting at their institution, and their opinions on the value of a pre-clerkship procedural curriculum. **Results:** From the 17 school's surveyed, 12 schools responded, with 8 schools responding "yes" that they had a clerkship procedural curriculum. For a pre-clerkship procedural curriculum, only 4 schools responded "yes". The 5 of the top 10 procedural skills identified that medical students should know upon graduation, in order, are: IV Access, Airway Management/Ventilator Management, Local anesthesia/field block, Casting, Spontaneous Vaginal Delivery. On a Likert scale, clinician-educators strongly supported a pre-clerkship procedural curriculum (median = 4.00/5.00, mode = 5.00/5.00), and they believed it would decrease anxiety (median = 4.00/5.00), increase confidence (median = 4.00/5.00), and increase technical ability (median = 3.00/5.00) in incoming clerks. **Conclusion:** Across Canada, the state of undergraduate medical education procedural skills education is inconsistent. With the identification of the Top 10 procedural skills medical students should know upon graduation, the learning objectives of a formal curriculum can

be developed. With overwhelming support from physician-educators, a formal pre-clerkship procedural curriculum is poised to redefine the landscape of procedural care for a whole new generation of physicians.  
**Keywords:** pre-clerkship, procedural curriculum, survey

#### MP43

##### Evaluation of undergraduate point of care ultrasound instruction in a rural Canadian medical school

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**Introduction:** Point of care ultrasound is a burgeoning tool in clinical medicine and its utility has been demonstrated in a variety of contexts. It may be especially useful in rural areas where access to other imaging equipment (such as CT) is limited. However, there exists debate about the utility of teaching ultrasound theory and technique to medical undergraduates, particularly those in their first two years of study. This study evaluated the efficacy of teaching undergraduate-tailored ultrasound training sessions to first and second-year medical students at the Northern Ontario School of Medicine (NOSM), a rural-focused medical institution. **Methods:** Sixty students participated in tailored ultrasound teaching sessions that involved both lecture and hands-on components. Participating students were assessed following each session, as well as at study completion, in terms of ultrasound knowledge, anatomy, pathology, orientation, and interpretation of computerized tomography (CT) scans (transferability). Participants' performance was measured against a control group of their peers. Program evaluation was completed using Likert-type scales to determine participant comfort with ultrasound before and after the training, and areas of strength and improvement. **Results:** Participating students showed statistically significant improvement in ultrasound interpretation and anatomical orientation with trends toward improved anatomy and pathology knowledge, and ability to interpret computerized tomography (CT) scans compared to controls. Students participating in the course expressed improved comfort with ultrasound techniques and desire for future integration of ultrasound into their training, but noted that increasing frequency of training sessions might have improved retention and confidence. **Conclusion:** Results suggest that using an undergraduate-focused and system-specific ultrasound training course yields retention in ultrasound interpretation ability and objective improvement in relational anatomy knowledge. Trends toward improvement in general anatomy, pathology and CT interpretation suggest areas of future study.

**Keywords:** medical education, rural innovation, ultrasound

#### MP44

##### Emergency department perceptions of routine in-situ simulation

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**Introduction:** Emergency Department (ED) health care professionals are responsible for providing team-based care to critically ill patients. Given this complex responsibility, simulation training is paramount. In situ simulation (ISS) has many cited benefits as a training strategy that targets on-duty staff and occurs in the actual patient environment. Several evidence-based frameworks identify staff buy-in

as essential for successful ISS implementation, however, the attitudes of interdisciplinary front-line ED staff in this regard are unknown. The purpose of this study is to identify contextual trends in interdisciplinary opinions on routine ISS in the ED. **Methods:** Qualitative and quantitative review, exploring the self-reported attitudes of interdisciplinary ED staff: before, during and after the implementation of a routine ISS pilot program (5 sessions in 5 months) at the Charles V Keating Emergency and Trauma Center in Halifax from Feb–Nov, 2018. **Results:** 149 surveys were received. Baseline support for ISS was high; 83% of respondents believed that the advantages of ISS outweigh the challenges and 47% favoured simulation in the ED, relative the sim bay (26%) and 28% were indifferent. The attitudes of direct participants in ISS were very positive, with 88% believing that the benefits outweighed the challenges after participation and 91% believing that they personally benefited from participating. A department wide post-ISS pilot survey suggested a slight decrease in support. Support for ISS dropped from 83% to 67%, a statistically insignificant reduction ( $p=0.098$ ) but a sizeable change that warrants further investigation. Most notably respondents reported increased support for simulation training in a simulation bay relative to ISS in the ED. Respondents still regarded simulation highly overall. Interestingly, when the results were stratified by position, staff physicians were the least positive. **Conclusion:** Pre-pilot or baseline opinions of ISS were very positive, and participants all responded positively to the simulations. This study generates valuable insight into the perceptions of interdisciplinary ED staff regarding the implementation and perceived impact of routine ISS. This evidence can be used to inform future programming, though further investigation is warranted into why opinions post-intervention may have changed at the department level.

**Keywords:** emergency department, in situ simulation, interdisciplinary

#### MP45

##### Rate control management of rapid atrial fibrillation in the emergency department

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**Introduction:** The Canadian Association of Emergency Physicians (CAEP) Atrial Fibrillation (AF) Guidelines prioritizes early cardioversion and discharge home in the management of rapid AF, however not all patients can be safely cardioverted in the emergency department (ED). Given limited ED-based evidence on rate control, we sought to better understand the burden of disease in AF patients not managed by rhythm control and identify opportunities for improved care. **Methods:** We conducted a health records review of consecutive AF patient visits at two Canadian academic hospital EDs over a 12-month period. We included all patients  $\geq 18$  years with AF on electrocardiogram, a heart rate  $\geq 100$  beats per minute (bpm), and who did not receive cardioversion. Outcomes included: (1) incidence of patients managed by rate control; (2) specific rate control management practices including choice of agent, route of administration, dosing, and timing; (3) adverse events; (4) compliance with CAEP AF Guidelines; and (5) disposition and outcomes. **Results:** Of 972 rapid AF patient visits, 307 were excluded and 665 were included, with mean age 77.2, female 51.6%. Of those included, 43.0% were given rate control medications, most common being metoprolol (72.0%). Admission to hospital occurred in 61.4% of visits, and 77.9% of AF cases were secondary to another medical condition. In