

modalities, such as textbooks. **Conclusion:** Knowledge gleaned from the interviews of EPs with lived experience gives us a deeper insight into the sensory aspects of performing a BAC in clinical practice. We expect that using these experientially derived cues to inform the development of a MP script will increase its validity and applicability to learners and for skill maintenance. Future work includes evaluating the utility of the developed script in acquiring and maintaining competence performing the BAC.

Keywords: mental practice, script

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Characterizing use of next-day ultrasound from the emergency department

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Introduction: Formal ultrasound imaging, with use of ultrasound technicians and radiologists, provides a valuable diagnostic component to patient care in the Emergency Department (ED). Outside of regular weekday hours, ordering formal ultrasounds can produce logistical difficulties. EDs have developed protocols for next-day ultrasounds, where the patient returns the following day for imaging and reassessment by an ED physician. This creates additional stress on ED resources – personnel, bed space, finances – that are already strained. There is a dearth of literature regarding the use of next-day ultrasounds or guidelines to direct efficient use. This study sought to accumulate data on the use of ED next-day ultrasounds and patient oriented clinical outcomes. **Methods:** This study was a retrospective chart review of 150 patients, 75 from each of two different tertiary care hospitals in Saskatoon, Saskatchewan. After a predetermined start date, convenience samples were collected of all patients who had undergone a next-day ultrasound ordered from the ED until the quota was satisfied. Patients were identified by an electronic medical record search for specific triage note phrases indicating use of next-day ultrasounds. Different demographic, clinical, and administrative parameters were collected and analyzed. **Results:** Of the 150 patients, the mean age was 35.9 years and 75.3% were female. Median length of stay for the first visit was 4.1 hours, and 2.2 hours for the return visit. Most common ultrasound scans performed were abdomen and pelvis/gyne (34.7%), complete abdomen (30.0%), duplex extremity venous (10.0%). Most common indications on the ultrasound requisition were nonspecific abdominal pain (18.7%), vaginal bleeding with or without pregnancy (17.3%), and hepatobiliary pathology (15.3%). Ultrasounds results reported a relevant finding 56% of the time, and 34% were completely normal. After the next-day ultrasound 5.3% of patients had a CT scan, 10.7% had specialist consultation, 8.2% were admitted, and 7.3% underwent surgery. **Conclusion:** Information was gathered to close gaps in knowledge about the use of next-day ultrasounds from the ED. A large proportion of patients are discharged home without further interventions. Additional research and the development of next-day ultrasound guidelines or outpatient pathways may improve patient care and ED resource utilization.

Keywords: emergency department, next-day ultrasound, ultrasound

P109

A retrospective cohort comparing symptom management of breathlessness and pain in cancer versus non-cancer conditions

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Introduction: In Nova Scotia, under the Paramedics Providing Palliative Care program, paramedics can now manage symptom crises in patients with palliative care goals and often at home without the need to transport to hospital. Growing recognition that non-cancer conditions benefit from a palliative approach is expanding the program. Our team previously found treatment of pain and breathlessness is not optimized, pain scores are underutilized, and paramedics were more comfortable (pre-launch) with a palliative approach in cancer versus non-cancer conditions. Our objective was to compare symptom management in cancer versus non-cancer subgroup. **Methods:** We conducted a retrospective cohort study. The Electronic Patient Care Record and Special Patient Program were queried for patients with palliative goals from July 1, 2015 to July 1, 2016. Descriptive analysis was conducted and results were compared with a t-test and Bonferroni correction ($\alpha = p < 0.007$). **Results:** 1909 unique patients; 765/1909 (40.1%) cancer and 1144/1909 (59.9%) non-cancer. Female sex: cancer 357/765 (46.7%), non-cancer 538/1144 (47.0%). Mean age cancer: 73.3 (11.65), non-cancer 77.7 (12.80). Top non-cancer conditions: COPD (495/1144, 43.3%), CHF (322/1144, 28.1%), stroke (172/1144, 15.0%) and dementia (149/1144, 13.0%). Comorbidities for cancer patients (range): 0 to 3; non-cancer 0 to 5. Most common chief complaint (CC) for cancer and non-cancer: respiratory distress, 10.8% vs 21.5%. Overall, no difference in proportion treated cancer vs non-cancer, 11.5% vs 10.1%, $p = 0.35$. Some difference in individual therapies: morphine 83/765 (10.8%) vs 55/1144 (4.8%), $p < 0.001$, hydromorphone 9/765 (1.2%) vs 2/1144 (0.2%), $p = 0.014$, salbutamol 38/765 (5.0%) vs 5/1144 (0.4%), $p < 0.001$ and ipratropium 27/765 (3.5%) vs 134/1144 (11.7%), $p < 0.001$, in addition to any support with home medication which is not queriable. Pre-treatment pain scores were documented more often than post-treatment in both groups (58.7% vs 25.6% ($p < 0.001$), 57.4% vs 26.9% ($p < 0.001$)). **Conclusion:** Non-cancer patients represent an important proportion of palliative care calls for paramedics. Cancer and non-cancer patients had very similar CC and received similar treatment, although low proportions, despite pre-launch findings that non-cancer conditions were likely to be under-treated. Pain scores remain underutilized. Further research into the underlying reason(s) is required to improve the support of non-cancer patients by paramedics.

Keywords: non-cancer, palliative care, paramedics

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Are there differences in student academic and clinical performance after rotations at tertiary or community care Emergency Medicine teaching sites?

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Introduction: Canadian undergraduate medical Emergency Medicine (EM) rotations are often completed at either tertiary care centres or regional community hospitals. While the latter offer students exposure to different practice settings and population needs, many students perceive that teaching at tertiary care EM departments is superior to that in community hospitals. At our institution, third year undergraduate medical students complete three-week EM rotation at either a tertiary centre or a community hospital. We compared academic and clinical performance between students trained in tertiary care centres and students trained in community hospitals. **Methods:** Academic and clinical performance in EM was evaluated based on the results of an EM-specific multiple choice examination

(MCQE) and an annual Objective Structured Clinical Exam (OSCE) assessing competency in a broad range of clinical scenarios commonly addressed in EM. The 40-question MCQE is administered quarterly and a mix of old and new questions are used to ensure consistency. The OSCE is administered annually and relies on the same principal to remain consistent. OSCE scores are binary: pass or fail. We reviewed MCQE and OSCE scores from three consecutive cohorts of students. Students were pooled into two groups, tertiary and community, based on the site of their EM rotation. Mean MCQE and OSCE performance were compared between the two groups of students using two-tailed unpaired T tests. Chi squared tests were used to identify significant differences in scores between cohorts. **Results:** MCQE and OSCE scores from 312 students over three consecutive cohorts were analyzed. Cohorts included 104, 100, and 108 students with 61% trained in tertiary centres (N = 191). Students trained in tertiary centres had a mean MCQE score of 77%. Students from community centres had a mean score of 78%. There was no significant difference in MCQE scores between tertiary- and community-trained students ($p = 0.6099$). The OSCE pass rate was 97% for students trained in tertiary centres and 98% for students trained in community centres. OSCE pass rates were not significantly different between the two groups ($p = 0.8145$). **Conclusion:** Despite student perceptions that training in tertiary care EM centres was superior, objective analysis showed that academic and clinical performance were similar regardless of training site.

Keywords: clinical clerk, emergency medicine, performance evaluation

P111

Introduction of an ECPR protocol to paramedics in Atlantic Canada; a pilot knowledge translation project

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Introduction: There is currently no protocol for the initiation of extra corporeal cardiopulmonary resuscitation (ECPR) in out of hospital cardiac arrest (OHCA) in Atlantic Canada. Advanced care paramedics (ACPs) perform advanced cardiac life support in the pre-hospital setting often completing the entire resuscitation on-scene. Implementation of ECPR will present a novel intervention that is only available at the receiving hospital, altering how ACPs manage selected patients. Our objective is to determine if an educational program can improve paramedic identification of ECPR candidates. **Methods:** An educational program was delivered to paramedics including a short seminar and pocket card coupled with simulations of OHCA cases. A before and after study design using a case-based survey was employed. Paramedics were scored on their ability to correctly identify OHCA patients who met the inclusion criteria for our ECPR protocol. Scores before and after the education delivery were compared using a two tailed t-test. A 6-month follow-up is planned to assess knowledge retention. Qualitative data was also collected from paramedics during simulation to help identify potential barriers to implementation of our protocol in the prehospital setting. **Results:** Nine advanced care paramedics participated in our educational program. Mean score pre-education was 9.7/16 (61.1%) compared to

14/16 (87.5%) after education delivery. The mean difference between groups was 4.22 (CI = 2.65-5.80, $p = 0.0003$). There was a significant improvement in the paramedics' ability to correctly identify ECPR candidates after completing our educational program. **Conclusion:** Paramedic training through a didactic session coupled with a pocket card and simulation appears to be a feasible method of knowledge translation. 6-month retention data will help ensure knowledge retention is achieved. If successful, this pilot will be expanded to train all paramedics in our prehospital system as we seek to implement an ECPR protocol at our centre.

Keywords: cardiac arrest, education research, simulation

P112

In situ simulation: A team sport?

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Introduction: Identification of latent safety threats (LSTs) in the emergency department is an important aspect of quality improvement that can lead to improved patient care. In situ simulation (ISS) takes place in the real clinical environment and multidisciplinary teams can participate in diverse high acuity scenarios to identify LSTs. The purpose of this study is to examine the influence that the profession of the participant (i.e. physician, registered nurse, or respiratory therapist) has on the identification of LSTs during ISS. **Methods:** Six resuscitation- based adult and pediatric simulated scenarios were developed and delivered to multidisciplinary teams in the Kingston General Hospital ED. Each ISS session consisted of a 10- minute scenario, followed by 3-minutes of individual survey completion and a 7- minute group debrief led by ISS facilitators. An objective assessor recorded LSTs identified during each debrief. Surveys were completed prior to debrief to reduce response bias. Data was collected on participant demographics and perceived LSTs classified in the following categories: medication; equipment; resources and staffing; teamwork and communication; or other. Two reviewers evaluated survey responses and debrief notes to formulate a list of unique LSTs across scenarios and professions. The overall number and type of LSTs from surveys was identified and stratified by health care provider. **Results:** Thirteen ISS sessions were conducted with a total of 59 participants. Thirty- four unique LSTs (8 medication, 15 equipment, 5 resource, 4 communication, and 2 miscellaneous issues) were identified from surveys and debrief notes. Overall, MDs ($n = 12$) reported 19 LSTs ($n = 41$) reported 77 LSTs, and RTs ($n = 6$) reported 4 LSTs based on individual survey data. The most commonly identified category of LSTs reported by MDs (36.8%) and RTs (75%) was equipment issues while RNs most commonly identified medication issues (36.4%). Participants with ≤ 5 years of experience in their profession, on average identified more LSTs in surveys than participants with >5 years experience (1.9 LSTs vs 1.5 LSTs respectively). **Conclusion:** Nursing staff identified the highest number of LSTs across all categories. There was fairly unanimous identification of major LSTs across professions, however each profession did identify unique perspectives on LSTs in survey responses. ISS programs with the purpose of LST identification would benefit from multidisciplinary participation.

Keywords: in situ simulation, latent safety threats, patient safety