

responsive to communication skills training. We surveyed ED staff perception of need and efficacy before and after an intervention using an established conflict resolution methodology. **Methods:** ED physicians, nurses and support staff were surveyed at two regional hospitals using the Maslach Burnout Inventory (MBI) and a communications questionnaire to establish the perceived need for communication skill training. Participants from one center were provided with a communications intervention (Crucial Conversations®, VitalSmarts®), and a refresher course 6-15 months later. The survey was then repeated at both sites and course participant feedback was elicited. **Results:** MBI results were high (mean EE = 25.25 (high > 25), 95% CI = 22.5-28; DP = 11.6 (high > 8), 95% CI = 10.1-13.2; PA = 35.85 (low < 34), 95% CI = 34.3-37.4). Initially 82% of intervention and 77% of control site participants responded that "attending an educational session about ways to communicate better would help the participants at work". Post intervention group responses to "The program will be helpful to me in communicating more effectively in my work environment" were: 75% "strongly agree" and 25% "agree". No rating below "agree" was assigned by any of the participants. Participants preferred facilitated small group simulations and advocated for earlier career implementation. **Conclusion:** There was a perceived need for and impact from communication skills training for ED staff with high measured burnout. Training may be best implemented in small group simulated encounters and in health professional education curriculum or as part of work orientation.

Keywords: burnout, communication training, emergency department

P066

Ultrasound localization to resuscitate in arrest (ULTRA)

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Introduction: There is increasing evidence supporting ultrasonography for the determination of optimal chest compression location during cardiac arrest. Radiological studies have demonstrated that in up to 1/3 of patients the aortic root or outflow tract is being compressed during standard CPR. Out-of-hospital-cardiac-arrests (OHCA) could benefit from cardiac localization, undertaken with scaled-down ultrasound equipment by which the largest fluid filled structure in the chest (the heart) is identified to guide optimal compression location. We intend to evaluate 1) where the left ventricle is in supine patients, 2) the accuracy and precision as well as 3) the feasibility and reliability of cardiac localization with a scaled down ultrasound device (bladder scanners). **Methods:** We are recruiting men and women over the age of 40. The scanning protocol involves using a bladder scanner on a 15-point grid over the subject's left chest and parasternal, midclavicular, and anterior axillary intercostal spaces 3-7. Detected volumes will be recorded, with the presumption that the intercostal space with the largest measured volume is centered over the heart. Echocardiography will then be used to confirm the bladder scanner accuracy and to better describe the patient's internal chest anatomy. Having assessed procedural feasibility on 3 pilot subjects, we are now recruiting 100 participants, with planned interim analysis at 50 participants for sample size reassessment. Maximal volume location frequencies from the echocardiograms will be described and assessed for variation utilizing the goodness-of-fit test. The proportion of agreement across the two modalities regarding the maximal

volume location will also be examined. **Results:** Amongst the 3 volunteers (pilot study), the scanner identified fluid in 4-8 of 15 intercostal spaces. In each of the three pilot study patients, the maximal volume identified by the bladder scanner was found to be at the parasternal location of the 6th intercostal space. This was also the location of the mid left ventricular diameter on echocardiography. **Conclusion:** Our literature review and pilot study data support the premise that lay persons and emergency medical personnel may improve compressions (and thus outcomes) during OHCA by using a scaled-down ultrasound to identify the location of optimal compression. We are currently enrolling patients in our study.

Keywords: pre-hospital, resuscitation, ultrasound

P067

The number and types of procedural skill acquired by family medicine/emergency medicine (CCFP-EM) residents at different teaching sites

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Introduction: During the one-year CCFP-EM program, residents rotate through different teaching sites. The purpose of this project is to investigate differences in procedural skills acquisition between these sites, which will help identify the effectiveness of each setting for teaching procedural skills amongst EM trainees. **Methods:** Over a two year period, residents enrolled in a CCFP-EM residency training program were asked to log their procedures and the sites where they were performed. The cumulative data was analyzed to show the number and types of procedures performed at each site. **Results:** A total of 477 procedures were logged over two years, with 198 procedures performed at urban tertiary emergency departments (EDs), 116 at community EDs, 87 at intensive care units (ICUs), 37 at urgent care centre, 24 in clinics, and 15 at other settings. Overall, 48 point of care ultrasounds, 75 vascular access procedures, 99 reduction/casting, 48 lumbar punctures, 29 procedural sedations, 125 minor surgical procedures, and 32 other procedures were performed. The majority of procedures were performed at the tertiary care urban ED, followed closely by community ED setting. The only exception was vascular access, which was performed most commonly in ICU settings. **Conclusion:** Our urban tertiary care ED setting provided the most learning opportunity for procedural skill acquisition, suggesting that having maximized time allocated in this setting is essential for EM learners to acquire procedural skills. One exception is that EM learners gain more vascular access training in ICUs.

Keywords: procedural skills, residency training, teaching sites

P068

Significance of asymptomatic oxygen desaturation in elderly ED patients: A pilot study

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Introduction: Pulse oximetry is a standard component of Emergency Department (ED) patient monitoring. Pulse oximetry measures peripheral capillary oxygen saturation (SpO₂) levels and can be used to monitor cardiorespiratory conditions. The normal SpO₂ level for adults is approximately 96%. Oxygen saturations of <92% are considered problematic and levels <90% may indicate cardiorespiratory disease. However, low oxygen saturations are often seen in elderly patients with comorbidities. This research investigated the

significance of hypoxia in asymptomatic older ED patients with no apparent acute illness. **Methods:** ED patients >75 years with a documented room air pulse oximetry reading <92% were eligible. Exclusion criteria included dyspnea, chest pain, SBP <100mmHg, HR >120 or <50; sustained tachypnea (RR >20); acute cardiopulmonary conditions, delirium or acutely altered mentation. Eligible patients were separated into two groups: 1) Sustained hypoxia: two or more SpO₂ readings <92% 2) Unsustained hypoxia: one SpO₂ reading <92%. 30-day adverse events were tracked using a Sunrise Emergency Care record review. Adverse outcomes investigated included death, MI, CHF, PE, cardioversion, ICU admission, intubation, ED revisit or re-hospitalization. Patient characteristics studied were age, sex, arrival mode, triage complaint, CTAS level, pulse, BP, RR, weight, residence (independent, assisted living, facility), comorbidities, PHN, referral, disposition, and test results (CXR, troponin, ECG, CT). Follow-up phone calls were completed after 30 days to assess patient status and confirm ED revisit. **Results:** A total of 876 ED patients >75 years were screened and 30-day follow-up data was analyzed for 34 enrolled patients. The sustained hypoxia group (n = 23) showed higher rates of 30-day adverse outcomes of death, ED re-visitation, MI, CHF, a severe episode of COPD, PE and ICU stays compared to the unsustained hypoxia group (n = 11). Administrative data of 31,095 patients >75 years from four Calgary EDs in 2017 was also analyzed and 7,771 (20%) were hypoxic at triage (SpO₂ <92%). Adverse outcomes and mortality were significant in discharged hypoxic patients (especially if SpO₂ <90%). **Conclusion:** ED re-visits, cardiorespiratory complications, and mortality were significant in discharged sustained hypoxic patients, especially if O₂ sat <90%. Pulse oximetry assessment of oxygen saturation in seniors' care facilities and physicians' offices may be important in screening for future adverse health outcomes in elderly patients.

Keywords: geriatrics, hypoxia, pulse oximetry

P069

Does specialist referral influence emergency department return rate for patients with renal colic? A retrospective cohort study

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Introduction: Renal colic is a common presentation which exerts a significant burden on healthcare infrastructure. A significant proportion of patients managed with observation may return to the Emergency Department (ED) prior to spontaneous passage due to inadequate analgesia. It is unclear whether early urologist consultation would limit the burden of renal stones by reducing returns to the ED. We wished to determine whether urologist referral from the ED department is associated with fewer returns to the ED with renal colic. **Methods:** We conducted a retrospective chart review using RECORD methodology of consecutive patients diagnosed with CT-confirmed, ureteric or renal calculi in our ED over a two-year period. Disposition was categorized as either hospital admission, outpatient urologist referral, follow up with primary care, or no follow up. The primary outcome was the 30-day ED re-presentation for renal colic. Multivariate logistic regression was used to identify predictors for ED-return. **Results:** In total, 232 patients met our inclusion criteria. Urgent or outpatient urologist referral was not associated with a significantly lower ED return rate when compared to patients with no follow-up. Surprisingly, urologic intervention and stent placement were both independent predictors for ED return (OR: 2.03; 95% CI:

(1.06-3.88); p:0.03) and (OR:2.08; 95% CI: (1.07-4.05)). **Conclusion:** A significant proportion of patients who underwent urologist-led intervention returned to the ED with renal colic. Further study may help clarify the role of early urologist referral for renal calculi, as this may not reduce ED return rates when compared to conservative management.

Keywords: emergency department, renal colic, specialist referral

P070

Mental health consultations for emergency department patients in crisis: Insights into quality improvement opportunities from a multicenter analysis

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Introduction: Mental health and addiction presentations are on the increase in Canadian Emergency Departments (EDs) and are placing strains on existing resources. The purpose of this study is to examine practice variations and opportunities for improved mental health (MH) consultation practices across four adult EDs. **Methods:** We conducted a retrospective analysis of administrative data from Alberta Health Services (AHS) at urban Calgary Zone EDs from 2015 to 2018 regarding MH consults requested and patients admitted to inpatient psych. Individual MD and overall referral rates as well as admission rates for patients consulted to MH were considered. Time of day and patient ETOH level were also examined as potential influencing factors. CEDIS codes were used to identify MH complaints. **Results:** 73,536 MH related visits were included, 29,228 received a MH consult with 10,648 admitted to an inpatient MH unit (36.4%). The admission rate among consults requested varied considerably among the 200 MDs who evaluated more than 50 patients with MH complaints; median 35.9%, IQR – 25.0 to 47.5. The average consultation rate for ETOH positive patients was 28.4% median 26.35%, IQR – 21.2 to 35.0%. During regular working hours (08:00-17:00), there were 33,599 MH visits, 15,035 received a psych consult with 5,976 admitted to an inpatient MH unit. The admission rate among consults was 39.8%. For the remaining hours (17:01-07:59) there were 39,939 MH visits, 14,191 received a psych consult with 4,672 admitted to an inpatient MH unit. The admission rate among consults was 32.9%. **Conclusion:** Varying MD thresholds for MH consultation are reflected in a wide range of admission rates among patients consulted for MH evaluation in the ED. ETOH and timing of presentation are factors which modulate the likelihood of admission. There may be opportunities to improve MH referrals from the ED by providing consultation feedback to providers.

Keywords: quality improvement and patient safety

P071

A three-year analysis of adult protection patients in the emergency department

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Introduction: While boarding of patients in the emergency department (ED) has been well documented and is carefully monitored, the time spent in emergency beds by patients waiting for Adult Protection (AP) placement is often relatively unnoticed, as they are not flagged as 'admitted'. These patients have no emergency needs, yet consume considerable ED resources, often in excess of patients requiring emergency care. Staff familiarity with this issue may also