

ambulance were 10.2 x higher for patients admitted to the ICU (OR = 10.2, 95%CI: 7.9 to 13.3) vs. those discharged home. The odds of arriving by ambulance was 64.2 x (OR = 64.2, 95% CI: 48.6 to 84.7) higher for patients CTAS 1 patients vs. CTAS 5 patients. The top 3 complaints among ambulance patients were respiratory (22.7%), orthopedic (14.7%), and general/minor (10.3%). Among self-presenting patients, the top three were general/minor (22.5%), respiratory (18.0%), and gastrointestinal (15.7%). **Conclusion:** Children presenting to the ED via ambulance are at higher risk for admission to the ward and critical care unit. It is important that EMS staff responsible for transporting children be well trained in managing critically ill children. Given the low proportion of pediatric transports, consideration must be given to how best to train EMS services in managing these children.

Keywords: emergency medical services, paediatrics, prehospital

P017

Impact of the use of a checklist for transcutaneous cardiac pacing on competency of junior residents undergoing an advanced cardiac life support course

K. Chabot, MD, J. Morris, MD, MSc, R. Perron, C. Ranger, MD, M. Paradis, MD, P. Drolet, MD, J. Cliche, MD, L. Londei-Leduc, MD, A. Robitaille, MD, Université de Montréal, Montreal, QC

Introduction: Transcutaneous cardiac pacing (TCP) is recommended for the treatment of symptomatic bradycardia, a life-threatening condition. Although TCP is taught in ACLS (advanced cardiac life support) courses, it is a difficult skill to master for junior residents. The main objective of this study is to measure the impact of having access to a checklist on successful TCP implementation. Our hypothesis was that the availability of a CL would improve performance of junior residents in the management of symptomatic bradycardia by facilitating TCP. **Methods:** We conducted a prospective, randomized, single-site study. First-year residents entering post-graduate programs and taking a mandatory ACLS course were enrolled. Students had didactic sessions on the management of symptomatic bradycardia followed by hands-on teaching on a low-fidelity manikin (ALS® simulator, Laerdal) using a CL conceived for this project as a teaching tool. Study participants were then assessed with a simulation scenario requiring TCP. Participants were randomly assigned to groups with and without CL accessibility. Performances were graded on six critical tasks. The primary outcome was the successful use of TCP, defined as having completed all tasks. Participants then completed a post-test questionnaire. Sample size estimation was based on a previous project (Ranger et al., 2018). Accepting an alpha error of 0.05 and a power of 80%, 45 participants in each group would permit the detection of 26.5% in performance gain. **Results:** Of 250 residents completing the ACLS course in 2017, 85 voluntary participants were randomized to a control group (no CL available during testing, n = 42) or an experimental group (CL available during testing, n = 43). Six participants in the experimental group adequately used TCP compared to five participants in the control group (p = 0.81, chi-squared test). Out of the 43 participants who had access to the CL, only 2 (5%) used it. Reasons why the CL was infrequently used were stated as the following: 24 participants (56%) mentioned not realizing it was available, 8 (19%) considered it was of little to no utility and 5 (19%) forgot a CL existed. **Conclusion:** Availability of a checklist previously used during simulation teaching did not increase junior residents' capacity to correctly apply TCP. Non-recognition of CL availability and decreased

perceived need for it were the main reasons for marginal use. Our results suggest that there are many limiting factors to CL effectiveness.

Keywords: bradycardia, checklist, simulation

P018

How to get your departmental web content to work for you: one department's experience with free open access medical education

K. Chandra, BSc, MD, D. Lewis, MBChB, BS, P. Atkinson, MBChB, MA, Dalhousie University, Saint John, NB

Innovation Concept: Free open access medical education (FOAM) is a quickly growing field. While there is an abundance of resources online, and on social media, the quality of those resources should always be questioned and reviewed. Furthermore, as medical learners progress in their training, they become lead consumers and producers of FOAM. Our educational innovation concept was the introduction of two FOAM streams into our residency program to assist learners to produce their own content with mentorship from our emergency medicine faculty. **Methods:** Medical students and residents training in the emergency department were encouraged to submit content to either our department website in the form of a clinical PEARL, or a research paper to the departmental Cureus online journal. All website content was reviewed by an attending physician and all Cureus content was submitted for further peer review and publication if approved. All published content was shared on social media through our department's Twitter account. A select number of residents were also mentored in reviewing and editing FOAM content and publishing it to our departmental website. **Curriculum, Tool or Material:** sjrhem.ca is the Saint John Regional Hospital Department of Emergency Medicine's website. A portion of the website is dedicated to posts arising from departmental rounds, case reviews as well as posts from learners in the form of clinical PEARLS. They are designed as succinct and informative clinical summaries and allow learners to share their content to a wider audience online. Cureus.com is an online journal of medical science, with a dedicated Dalhousie Emergency Medicine Channel. The editors are local emergency medicine faculty and senior residents, while reviewers are independent. In the last year, the clinical pearls received 5672 views, and the Cureus channel received 1143 content views. **Conclusion:** Feedback from learners regarding publication of their own FOAM has been positive and has allowed them to share their content to a much wider audience through our Departmental Website, Cureus Channel and Twitter stream. Furthermore, we are helping to prepare residents to produce their own high quality content, allowing our FOAM program to grow.

Keywords: free open access medical education (FOAM), innovations in EM education

P019

Examining non-suicidal self injury at a Canadian pediatric emergency department

J. Cherry, MD, MSc, K. Hurley, MD, MHI, D. Lovas, MD, A. LeBouthillier, BScN, N. Williams, K. Kennedy, E. Fitzpatrick, BSc, MN, IWK Health Centre/Dalhousie University, Halifax, NS

Introduction: Adolescents who present to emergency departments (ED) following intentional injuries present a challenge in terms of ascertaining their intent and risk for future self-injurious or suicidal behaviour. Our ED has seen an 80% increase in visits for mental

health issues over the past ten years. As usage of our Emergency Mental Health and Addictions Services (EMHAS) team continues to rise, it is increasingly important to understand the incidence of NSSI among our youth, explore if NSSI is reported at triage and identify characteristics that may distinguish these adolescents from others presenting for mental health assessment. **Methods:** This is an exploratory research study using retrospective data. Patients who had an Emergency Mental Health Triage (EMHT) form on their health record from an ED visit between June 1, 2017 and May 31, 2018 were eligible. Trained research assistants, using a structured data collection form in REDCap, abstracted data from the EMHT form, the EMHAS Assessment form, the Assessment of Suicide Risk Inventory and our CHIRPP (Canadian Hospitals Injury Reporting and Prevention Program) database. We calculated kappa values and 95% confidence intervals to describe the extent to which the forms agree with respect to identifying NSSI. We will compare the cohort who reports NSSI with the cohort who does not report NSSI using chi-square statistics depending. We will use descriptive statistics to characterize the NSSI patients. **Results:** During the one-year study period 955 patients had an EMHT form completed. In preliminary analysis 558 (58.4%) reported a history of NSSI. Patients reported NSSI on both the EMHT form and the EMHAS assessment form 64.7% of the time (kappa 0.56) indicating moderate agreement. In patients with NSSI, 9.5% of patients reported it only at triage and 25.8% of patients reported it only during their EMHAS assessment. Between group comparisons and descriptive analysis is underway. **Conclusion:** More than half of youth triaged with an emergency mental health complaint in our ED reported a history of NSSI. Screening at triage was moderately effective in identifying adolescents with NSSI compared to an in-depth assessment by the mental health team. Further research is needed to clarify how NSSI relates to risk for suicide.

Keywords: non-suicidal self injury

P020

Impact of dexamethasone dose on return visits at a tertiary pediatric emergency department

J. Cherry, MD, MSc, E. Fitzpatrick, BSc, MN, E. Slaunwhite, MD, K. Hurley, MD, MHI, IWK Health Centre/Dalhousie University, Halifax, NS

Introduction: Croup is a common viral upper airway infection in children aged 6 months to 6 years. Although a single dose of dexamethasone decreases return visits, the prescribed dose varies from 0.15mg/kg to 0.6mg/kg. Our objective was to examine the effect of varied dexamethasone dosing on unplanned return ED visits for croup. **Methods:** This was a retrospective chart review of IWK ED patient treatment records from September 1, 2014 – August 31, 2016 of children aged 6 months to 6 years with an ICD-10 discharge diagnosis code of croup. Data were abstracted by trained research assistants using a structured data collection form in REDCap. A sample of 5% of charts had double data abstraction to test for agreement. Our primary outcome was return visits to the ED within 7 days. Secondary outcomes were ED length of stay (LOS), admission to hospital and admission to the pediatric intensive care unit (PICU). Data were analyzed using descriptive statistics and chi-square for between group comparisons. **Results:** The dataset included 1595 patient visits for croup. Data analysis is in progress. Triage acuity as per CTAS included: resuscitation n = 5; emergent n = 351; urgent n = 558; less urgent n = 605; and, non-urgent n = 2. Most patients had no co-morbid conditions (n = 1548). Dexamethasone dosing varied:

0.15 mg/kg n = 64; 0.3 mg/kg n = 838; and, 0.6 mg/kg n = 493. ED LOS was under 1 hour in 483 patients, 1-3 hours in 805, 3-6 hours in 225 and 6-12 hours in 9 patients. Few patients were admitted to hospital (n = 22) and no patients were admitted to PICU. Within 7 days of the index visit, 78 patients had an unplanned return visit to the ED for croup. **Conclusion:** The data analysis is in progress. This study will inform our future research on a practice change in our ED to comply with the dose of dexamethasone recommended by the Canadian Pediatric Society for the treatment of croup in 2017. **Keywords:** croup, return visits, steroid

P021

Interventions to reduce emergency department door-to-ECG times: a systematic review

S. Chhabra, MD, D. Eagles, MD, MSc, E. Kwok, MD, MSc, MHA, J. Perry, MD, MSc, University of Ottawa, Department of Emergency Medicine, Ottawa, ON

Introduction: We wished to identify emergency department interventions that lead to improvement in door-to-ECG times for adults presenting with symptoms suggestive of acute coronary syndrome (ACS). **Methods:** Two reviewers searched Medline, Embase, CINAHL and Cochrane CENTRAL from inception to April 2018 for studies in adult emergency departments with an identifiable intervention to reduce median door-to-ECG times when compared to the institution's baseline. Quality was assessed using the 'Quality Improvement Minimum Quality Criteria Set' (QI-MQCS) critical appraisal tool. The primary outcome was the absolute median reduction in door-to-ECG times as calculated by the difference between the post-intervention time and pre-intervention time. **Results:** Two reviewers identified 809 unique articles, yielding 11 before-after quality improvement studies that met eligibility criteria (N = 15,622 patients). The majority of studies (10/11) reported bundled interventions and most (10/11) showed statistical improvement in door-to-ECG times. The most common interventions were: having a dedicated ECG machine and technician in triage (5/11); improved triage education (4/11); improved triage disposition (2/11); and data feedback mechanisms (1/11). **Conclusion:** There are multiple interventions that show promise for reducing emergency department door-to-ECG times. Effective bundled interventions include having a dedicated ECG technician, triage education and better triage disposition. These changes, bundled together, can help intuitions attain best practice guidelines. Emergency departments must first understand their local context before adopting any single or group of interventions.

Keywords: door-to-ECG, quality improvement

P022

A multimodal evaluation of an emergency department (ED) electronic tracking board utility designed to improve throughput by optimizing stretcher utilization

D. Chisholm, BSc, D. Wang, MSc, K. Sherlock, MD, T. Rich, MD, M. Grabove, MD, E. Lang, MD, University of Alberta, Edmonton, AB

Introduction: Access block is a pervasive problem, even during times of minimal boarding in the ED, suggesting suboptimal use of ED stretchers can contribute. A tracking board utility was embedded into the electronic health record in Calgary, AB, allowing MDs and RNs to consider patients who could be relocated from a stretcher to