Results: 186 patients (115 males, 72 females) with an average age of 2.00 (range 0.2-3.9) were included in the study. The mean number of clinic visits including initial consultation in the emergency department was 2.00 (±1.0). The mean number of radiology department appointments was 2.76 (±1.1) where patients received a mean number of 5.86 (±2.6) radiographs. Complications were minimal and no patient developed a non-union nor re-fractured. All patients achieved clinical and radiographic union. To date, no patient has returned to clinic or undergone surgery for concerns regarding leg length inequality or malalignment. **Conclusion:** Our series supports reduced clinical follow-up of patients with a toddler's fracture of the tibia. If the diagnosis can be made on the initial radiographs, emergency room physicians or primary care providers can definitively manage these patients with appropriate immobilization that can be removed by the parents between 3-4 weeks after the injury. A fracture clinic follow-up is only necessary if the diagnosis cannot be made on the initial radiographs. Our toddler's fracture pathway will reduce patient radiation exposure and reduce costs incurred by the healthcare system and patients' families without jeopardizing patient outcomes.

Keywords: toddlers fracture, clinical care pathway

P002

Do 5th metatarsal fractures need to be managed by orthopaedic surgeons?

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Introduction: There is increasing evidence that emergency room physicians or primary care physicians can definitively manage many uncomplicated paediatric fractures without orthopaedic follow-up. This strategy leads to a reduction in radiation exposure and decreased costs to patient families and the healthcare system without impacting patient outcomes. The aim of this study was to determine whether patients who sustained an isolated 5th metatarsal fractures require orthopaedic surgeon follow-up. **Methods:** A retrospective analysis including patients who presented to the Hospital for Sick Children (SickKids) for management of metatarsal fractures from 2009-2014 was performed**. Results:** 124 patients (66 males, 58 females) with mean age of 11.3 (SD = 2.9) years old were included in the study. Complications were minimal with no patients requiring operative management. There were zero non-unions and 3 delayed unions. Despite zero instances of surgical correction and a low complication rate, fracture clinic resource utilization was substantial. Fractures were managed with a mean number of 3.1 (SD = 0.98) clinic visits, including initial evaluation in the emergency department. A mean number of 2.8 (SD = 1.1) radiology department visits were conducted, with a mean of 8.1 (SD = 3.8) x-rays total per patient. **Conclusion:** Our series supports reduced clinical follow-up of patients with isolated 5th metatarsal fractures. If the diagnosis can be made on the initial radiographs, ER physicians or primary care providers can definitively manage these patients with appropriate immobilization. A fracture clinic follow-up is only necessary if the diagnosis cannot be made on the initial radiographs. Our clinical care pathway will reduce radiation exposure and reduce costs incurred by the healthcare system and patients' families without jeopardizing patient outcomes.

Keywords: metatarsal, fracture, clinical care pathway

P003

Emergency department quality assurance sepsis project: why are more people dying in southwestern Ontario?

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Introduction: London Health Sciences Centre (LHSC) includes two academic, urban hospitals in London, Canada. The hospital-standardized mortality ratio (HSMR) is consistently higher than provincial and national averages. Unpublished data reveals that sepsis contributes the largest number of statistically unexpected deaths to LHSC's HSMR calculation. Factors contributing to in-hospital sepsis mortality are hypothesized to include demography, emergency department (ED) flow or sepsis treatment. **Methods:** Retrospective chart review of patients aged >=18 years, presenting to an LHSC ED between 01 Nov 2014 and 31 Oct 2015, with >=2 SIRS criteria and/or ED suspicion of infection and/or ED or hospital discharge sepsis diagnosis (ICD-10 diagnostic codes A4xx and R65). Data were abstracted from electronic health records. Regional, provincial and national data was retrieved from CIHI and Statistics Canada. **Results:** Median age and sex in London and across Canada are similar (48.2 years vs 48.9 years; 48% male vs 49% male). Baseline prevalences of diabetes, hypertension, COPD and mood disorders were similar in the Local Health Integration Network and Ontario (6% vs 7%, 19% vs 19%, 3% vs 4%, and 10% vs 8%). Median "Physician Initial Assessment," (PIA) times for sepsis patients at LHSC were faster than median Canadian PIA times for CTAS I and II patients (CTAS I: 7 min vs 11 min, CTAS II: 34 min vs 54 min), and slower for CTAS III-V patients (CTAS III: 98 min vs 79 min, CTAS IV: 99 min vs 66 min, CTAS V: 132 min vs 53 min). Median ED length of stay for admitted, high acuity (CTAS I-III) patients was 6 h at LHSC versus 10 h across Canada.Median [IQR] time to intravenous fluid resuscitation was 60.5 min [29.8-101.2] for septic shock patients and 77.0 min [36.0-127.0] for expired patients. Median [IQR] time to antibiotics was 130 min [73.0-229.0] for sepsis patients, 106 min [60.0-189.0] for severe sepsis patients, and 82 min [42.2-142] for septic shock patients. **Conclusion:** Excess sepsis-related mortality at LHSC is not convincingly related to patient demographics or ED flow. Gains may be made by improving time to antibiotics and IV fluids.

Keywords: sepsis, risk stratification, comorbidity

P004

Hair cannabinoid concentrations in hyperemesis cannabis: a case-control study

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Introduction: Emergency physicians increasingly encounter young patients with protracted, forceful hyperemesis associated with heavy cannabis use, previously termed "cyclic vomiting." The national discourse on liberalization of cannabis has largely ignored this poorly understood condition. We wondered to what degree hyperemesis cannabis is an idiosyncratic reaction, like motion sickness or migraine, versus a more predictable dose-response effect of heavy, prolonged use. **Methods:** As part of a larger case-control study using structured interviews, we measured cannabinoid concentrations in scalp hair of both cases and controls. Cases were required to have an emergency visit for vomiting, 2+ episodes of severe vomiting in the previous year, history of near-daily use of cannabis for 6+ months, positive urine Δ9-tetrahydrocannabinol (THC) and age 16-55 years; exclusion criteria were chronic opioid use, synthetic cannabinoid use, or established alternative diagnosis. Age- and sex-matched chronic cannabis-using controls without vomiting were identified via social referral primarily from the cases themselves. Scalp hair was analyzed for THC, cannabinol (CBN), cannabidiol (CBD) and 11-*nor*-9-carboxy-THC (THC-COOH) by LC-MS/MS (limit of quantification ~15 pg/mg hair; accuracy <5%) in an independent laboratory blinded to subject

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classification. **Results:** We obtained satisfactory hair and urine samples from 18 cases (median [IQR] age 27 [20,31] years; 12 male) and 13 controls. THC and CBN concentrations were higher in cases than controls (THC 240 [120,820] vs 99 [73, 290] pg/mg; CBN 63 [33, 260] vs 15 [negative, 76] pg/mg; each $P < 0.05$). CBD and THC-COOH were often unquantifiable to undetectable in both cases and controls. **Conclusion:** Hyperemesis cannabis patients have substantially higher hair cannabinoid concentrations than their peers without vomiting, although there is some overlap. The association cannot demonstrate a direct dose-response with THC–confounding (e.g. other cannabinoids, external smoke deposition), altered metabolism and reverse causation (e.g. seeking temporary symptom relief by using more cannabis) could also yield a positive association. Nevertheless, these findings support counselling patients with hyperemesis to reduce or discontinue using cannabis. They also support national regulatory initiatives including education, labelling, and progressive taxation based on potency intended to discourage excessive use.

Keywords: cannabis, hyperemesis, drug abuse

P005

Consultations in the emergency department: a systematic review

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Introduction: Consultation in the emergency department (ED) is a common component of emergency health care. Consultation is defined as a case in which an ED physician (EP) requests the services of another physician (consultant) for an ED patient to assist, advise, and/or transfer care when the care required is beyond the expertise of the EP's practice. While consultation is generally considered required and beneficial for patient care, consultation can also have a negative impact by incurring delays in patient flow and disposition. These delays contribute to ED crowding, patient dissatisfaction and, in some cases, worse health outcomes. Using an a priori protocol and accepted methodology, the aim of this systematic review was to update a previous review on the same topic and determine the proportion of 1) ED visits that involve consultation and 2) consultation cases that result in admission. PROPSPERO registration number: CRD42017054054. **Methods:** Literature search involved multiple electronic databases (e.g., MEDLINE and EMBASE) and grey literature (e.g., Google Scholar and conference abstracts). Study selection was conducted independently by two reviewers and determined by consensus among the two reviewers with disagreements resolved by a third party. Data extraction was conducted independently by two reviewers and determined by consensus among the two reviewers with disagreements resolved by a third party. A descriptive analysis was conducted. Outcome measure data were aggregated and reported with suitable descriptive statistics such as raw or weighted mean, median, or proportion with 95% confidence interval. **Results:** Literature search yielded 1,584 studies, of which 65 were included. Two-thirds of studies were conducted in USA or Canada. Of the 65, 54 were focused on a particular patient group or consulting specialty (e.g., psychiatry) while 11 considered the general ED population. Of these 11, the median proportion of ED visits involving consultation was 26%. The median proportion of cases with consultation that resulted in admission was 60%. **Conclusion:** Consultations in the ED are quite common and many of these cases result in admission. Given their frequency of occurrence and increasing ED crowding, efforts to reduce consult delays and expedite disposition appear warranted.

Keywords: consultation, admission

P006

Characterizing patients with newly-diagnosed diabetes mellitus in the emergency department: A one-year health records review

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Introduction: Diabetes mellitus is an increasingly prevalent chronic condition that is usually managed in an outpatient setting. However, the emergency department (ED) plays a crucial role in the management of diabetic patients, particularly for those who are presenting with newly diagnosed diabetes. Little research has been done to characterize the population of patients presenting to the ED with hyperglycemia with no previous diagnosis of diabetes. The objective of this study was to describe the epidemiology, treatment, and outcomes of patients who were newly diagnosed with diabetes in the ED and to compare those with newly diagnosed type I versus type II diabetes. **Methods:** A one-year health records review of newly diagnosed diabetes patients ≥18 years presenting to one of four tertiary care EDs was conducted. All patients with a discharge diagnosis of hyperglycemia, diabetic ketoacidosis or hyperosmolar hyperglycemic syndrome were screened, but only those who did not have a previous history of diabetes were included. Trained research personnel collected data on patient characteristics, management, disposition, and outcome. Descriptive statistics were used to summarize the data where appropriate. **Results:** Of 645 patients presenting with hyperglycemia in the study period, 112 (17.4%) were newly diagnosed diabetes patients. Of these patients, 30 (26.8%) were later diagnosed with type I diabetes and 82 (73.2%) were diagnosed with type II diabetes. For the newly diagnosed type I patients the mean (SD) age was 27.6 (9.9) and the mean (SD) age for type II patients was 52.4 (14.1). Of all the new onset patients, 26.8% were diagnosed with diabetic ketoacidosis. The percentage of patients diagnosed with diabetic ketoacidosis was higher in type I than type II (63.3% vs 13.4%; $P < 0.01$). A total of 49 (43.8%) patients were admitted to the hospital, and more patients with type I were admitted compared to those with type II (66.7% vs 35.4 %; $P < 0.01$). **Conclusion:** Limited research has been done to describe patients newly diagnosed with diabetes in the ED. Patients with type I were found to be more likely to present to the ED with serious symptoms requiring admission to hospital. Our findings demonstrate that the ED may have a strong potential role for improving diabetic care, by providing future opportunities for education and follow-up in the ED to reduce complications, particularly in type I.

Keywords: diabetes, hyperglycemia

P007

A comparative analysis of qSOFA, SIRS and Early Warning Scores Criteria to identify sepsis in the prehospital setting

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Introduction: Early recognition of sepsis is key in delivering timely life-saving interventions. The role of paramedics in recognition of these patients is understudied. It is not known if the usual prehospital information gathered is sufficient for severe sepsis recognition. We sought to: 1) evaluate the paramedic medical records (PMRs) of severe sepsis patients to describe epidemiologic characteristics; 2) determine which severe sepsis recognition and prediction scores are routinely captured by paramedics; and 3) determine how these scores perform in the prehospital setting. **Methods:** We performed a retrospective review of patients ≥18 years who met the definition of severe sepsis in one of two urban Emergency Departments (ED) and had arrived by ambulance over

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