

**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 ( $\pm 1.0$ ). The mean number of radiology department appointments was 2.76 ( $\pm 1.1$ ) where patients received a mean number of 5.86 ( $\pm 2.6$ ) 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 5<sup>th</sup> 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 5<sup>th</sup> 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 5<sup>th</sup> 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  $\geq 18$  years, presenting to an LHSC ED between 01 Nov 2014 and 31 Oct 2015, with  $\geq 2$  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 6h at LHSC versus 10h 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  $\Delta 9$ -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, cannabidiol (CBN), cannabidiol (CBD) and 11-nor-9-carboxy-THC (THC-COOH) by LC-MS/MS (limit of quantification  $\sim 15$  pg/mg hair; accuracy  $< 5\%$ ) in an independent laboratory blinded to subject