

2012 to March 2014. The primary outcome measure was emergency department LOS; secondary outcomes included reduction success rates, adverse events and unscheduled return visits. **Results:** Two-hundred and seventy-four patients were included for analysis; 109 treated with BB, 165 underwent PS. Overall, mean LOS was 82 min shorter for patients treated in the BB group (279 min vs. 361 min,  $p < 0.05$ ). Sub-analysis revealed a reduced LOS among patients treated with BB for fractures involving a single bone (286 min vs. 388 min,  $p < 0.001$ ) and both-bones of the forearm (259 min vs. 321 min,  $p < 0.05$ ). Both BB and PS resulted in comparable rates of successful reduction (98.2% vs. 97.6%,  $p = 0.74$ ). There were no major adverse events in either group. Patients who received BB experienced significantly fewer minor adverse events (2.7% vs. 14.5%,  $p < 0.05$ ). Return visit rates were similar in the BB and PS groups (17.6% vs. 17.1%,  $p < 0.05$ ). **Conclusion:** Compared to PS, forearm fracture reduction performed with BB was associated with a reduced emergency department LOS and fewer adverse events, with no difference in reduction success or return visits.

**Keywords:** ketamine, lidocaine, sedation

#### LO066

##### H1-antihistamine administration is associated with a lower likelihood of progression to anaphylaxis among emergency department patients with allergic reactions

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**Introduction:** H1-antihistamines are often used to treat allergic reactions, however, the influence of H1-antihistamines on progression to anaphylaxis remains unclear. Among patients initially presenting with allergic reactions, we investigated whether H1-antihistamines were associated with a lower proportion of patients progressing to anaphylaxis during observation. **Methods:** This was a retrospective cohort study conducted at two urban EDs from 2007 to 2012. We included adult patients with allergy and excluded those who met criteria of anaphylaxis at first evaluation by medical professionals and/or received antihistamines before the evaluation. Primary outcomes of interest were the number of patients who developed anaphylaxis during observation at ED and/or transportation by EMS. Secondary outcomes were the number of biphasic reactions and severe anaphylaxis (defined as sBP  $< 90$ ; SpO<sub>2</sub>  $< 92\%$ ; and/or confusion, collapse, loss of conscious, or incontinence). Logistic regression was performed comparing primary and secondary outcomes between H1-antihistamine treated and non-treated groups with propensity score adjustment of the baseline covariates. Number needed to treat (NNT) was calculated by adjusted absolute risk reduction of H1-antihistamine compared to non H1-antihistamine use on primary outcome. **Results:** This study included 1717 patients with allergic reactions, of whom 1228 were treated with H1-antihistamines. In the H1-antihistamine group 1.0% and 0.2% developed anaphylaxis and severe anaphylaxis, respectively; in the non-H1-antihistamine group 2.6% and 0.6% developed anaphylaxis and severe anaphylaxis, respectively. There were no biphasic reactions (0%, 95% confidence interval [CI] 0 to 0.17%). Administration of H1-antihistamines was associated with a lower incidence of subsequent anaphylaxis (adjusted odds ratio [OR] 0.23, 95% CI 0.10 to 0.53; NNT to benefit 49.1, 95% CI 41.6 to 83.3). There were no significant associations between H1-histamines administration and secondary outcomes. **Conclusion:** Among ED patient with allergic reactions, H1-antihistamine administration was associated with a lower likelihood of progression to anaphylaxis. These findings suggest that H1-antihistamines should be administered early in the care of patients with allergic reactions.

**Keywords:** anaphylaxis

#### LO067

##### Emergency department management of diabetic ketoacidosis and hyperosmolar hyperglycemic state: national survey of attitudes and practice

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**Introduction:** The 2011 Canadian Diabetes Association (CDA) Clinical Practice Guidelines were developed in order to help physicians manage hyperglycemic emergencies in the emergency department (ED), including diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS). The goal of this study was to determine physician attitudes towards these guidelines and to identify potential barriers to their implementation in the ED. **Methods:** We distributed an online, cross sectional survey to 500 randomly selected members of the Canadian Association of Emergency Physicians (CAEP) who were currently practicing physicians. A total of 3 email notifications were distributed on days 1, 7 and 14. The survey consisted of 23 questions relating to physician management of DKA and HHS in the ED. The primary outcome was overall physician familiarity and usage of the guidelines using a 7-point Likert scale. Secondary outcomes included physician attitudes towards the guidelines as well as any perceived barriers to their implementation in the ED. Simple descriptive statistics were used to illustrate the survey results. **Results:** The survey response rate was 62.2% (311/500) with the following participant characteristics: male (62.6%), CCFP(EM) training (46.1%) and working in major academic centers (50.5%). The overall awareness rate of the CDA guidelines was 22.9% (95% CI = 18.3%, 27.5%). 58.9% (95% CI = 53.3%, 64.3%) reported the CDA guidelines being useful. The most frequently reported barriers to CDA guideline implementation were concerns about education issues (56.0%), lack of time and disruption of flow (23.9%), staffing and human resource issues (26.7%) and poor policy adherence (25.5%). Physician's ideal changes to optimize the management of these patients included improved coordination for follow-up with family physicians (79.9%), increased diabetes education for patients (73.9%) and increased availability to diabetes specialists (47.5%). **Conclusion:** In this study, although Canadian ED physicians were generally supportive of the CDA guidelines, many were unaware that these guidelines existed and barriers to their implementation were reported. Future research should focus on strategies to standardize DKA and HHS management by ensuring physician awareness and education to ensure the highest quality of patient care.

**Keywords:** clinical guidelines, diabetic ketoacidosis, hyperosmolar hyperglycemic state

#### LO068

##### Physician adherence to Antimicrobial Guidelines for Community Acquired Pneumonia in the St. Michael's Hospital Emergency Department

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**Introduction:** The Toronto Central Local Health Integration Network released new antimicrobial guidelines for the treatment of community acquired pneumonia (CAP) in August 2013. These deemphasized antimicrobial coverage for atypical organisms and use amoxicillin-clavulanic acid (AMC) as first-line for low risk CAP. The purpose of this study was to assess physician adherence to these guidelines in St. Michael's Hospital (SMH) Emergency Department (ED). **Methods:** A retrospective chart review was conducted from April 1 to May 31 in