

to local settings may involve modifying the recommended clinical actions based on local resources and feasibility.

**Keywords:** knowledge translation, risk-stratification, syncope

#### MP08

##### Using administrative data to explore emergency department management of patients presenting with acute atrial fibrillation/flutter: Is Shock-First a more effective strategy than Drug-Shock?

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**Introduction:** Atrial fibrillation and flutter (AFF) are the most common arrhythmias managed in the emergency department (ED). Equipoise in cardioversion strategies for patients with recent onset AFF contributes to observed practice variation. Using administrative data, the objective of this study was to explore the pattern of practice and the comparative effectiveness (outcomes and costs) between Shock-First and Drug-Shock approaches in AFF. **Methods:** Adult patients >17 years of age with AFF from one academic Canadian hospital ED were eligible. Using administrative data linkage among the National Ambulatory Care Record System, provincial practitioner claims data repository and a local hospital pharmacy database, patients who received treatment with procainamide and/or electrical cardioversion for AFF were identified. Outcomes including disposition, length of stay, revisit within 72 hours and 30-days, and ED costs were analyzed over a seven-year period. Categorical variables are reported as percentages. Continuous variables are reported as median and interquartile range (IQR). Univariate and multivariate logistic regression analyses were completed and reported as odds ratios (OR) and 95% confidence intervals (CI). **Results:** Overall, 5,372 patients were identified with AFF; the median age was 70 years and 55% were male. The majority of patients had chronic or secondary AFF; however, in 1687 (31%) cardioversion options were employed for presumed recent onset AFF. A Shock-First strategy was most common (1379 {82%}); 308 (18%) received a Drug-Shock approach. Discharge time was 33 minutes (95% CI: 4-63) longer in the Drug-Shock approach compared to the Shock-First approach. Hospital admissions were higher (OR = 2.33; 95% CI: 1.68, 3.24) and revisits within 30-days were lower (OR = 0.74; 95% CI: 0.54, 0.95) in the Drug-Shock group. The Shock-First strategy demonstrated marginally higher costs (median = \$106 CND; 95% CI: \$68.89, \$144.40) in adjusted analyses. **Conclusion:** In patients with acute AFF, when cardioversion was attempted, a Shock-First strategy was employed 80% of the time and resulted in shorter ED length of stay and lower hospitalization; however, higher costs and ED revisits within 30-days were observed. Many factors, including physician and/or patient preferences, influence ED decision-making in patients with AFF and understanding the factors influencing these decisions requires further attention.

**Keywords:** atrial fibrillation, cardioversion, decision-making

#### MP09

##### Predictors of return acute asthma visits among patients receiving guideline recommended discharge management in the emergency department

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**Introduction:** Despite improvements in the recognition of asthma among the pediatric population and the use of preventative therapies,

rates of emergency department (ED) visits and hospitalizations remain high, leading one to question how these acute health care visits for asthma can be further avoided. In this study, we aimed to identify predictors of future repeat acute care visits among children and adolescents who had already received 'best practice' discharge treatments and instructions during their first asthma ED visit. **Methods:** We performed a retrospective single center cohort study of all children ages 1-17 years presenting to the ED at the Children's Hospital of Eastern Ontario in Ottawa, Canada for an acute asthma exacerbation during a 1-year time frame between September 1, 2014 – August 31, 2015. Only children with no prior ED asthma visit and documentation of receipt of a prescription for inhaled corticosteroids and/or a written asthma action plan were included. Multivariable logistic regression was performed to identify predictors of repeat future asthma ED visit or hospitalization in the year following the first ED visit. **Results:** We identified 909 children with an eligible ED visit during the study period, of whom 24% had a repeat asthma ED visit or hospitalization within the subsequent 1 year. Predictors of repeat acute asthma visits included having a nut allergy (OR 1.76, 95% CI: 1.15, 2.70), higher severity symptoms at triage (OR 2.04, 95% CI: 1.23, 3.39), a primary care physician (OR 2.23, 95% CI: 1.26, 3.93), or a prior history of asthma (OR 1.53, 95% CI: 1.03, 2.28). **Conclusion:** In children and adolescents with repeat asthma ED visits and hospitalizations despite having received 'best practice' asthma discharge management at their first ED visit, factors such as having an allergy to nuts, higher severity symptoms at presentation, a prior history of asthma, and having a primary care provider may be used to identify these more high-risk children and adolescents. Such parameters can be used practically to target and apply more intensive preventative interventions to those most in need at the first ED visit, in order to prevent future return visits.

**Keywords:** asthma, childhood, emergency department

#### MP10

##### Does arrival pain severity predict stone characteristics or short-term outcomes in emergency department patients with acute renal colic?

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**Introduction:** Renal colic is among the most painful conditions that patients experience. The main outcome determinants for patients with renal colic are stone size, location and hydronephrosis; however, little is known about the association of pain with these parameters. Our objective was to determine whether more severe pain is associated with larger stones, more proximal stones or more severe hydronephrosis, findings that might suggest the need for advanced imaging, hospitalization or early intervention. **Methods:** We used administrative data and structured chart review to study all adult emergency department (ED) patients in two cities with a renal colic diagnosis over one-year. Patients with missing imaging results or pain scores were excluded. Triage nurses recorded numeric rating scale (NRS) pain scores on arrival. We stratified patients into mild (NRS <4), moderate (NRS 4-7) and severe (NRS 8-10) pain groups, as per CTAS guidelines. Stone size (mm) and location (proximal, middle, distal ureter, or renal) were abstracted from imaging reports, while index admissions were determined from hospital discharge abstracts. We used multivariable linear regression to determine the association of arrival pain with stone characteristics and hydronephrosis severity (primary outcome), and we used multivariable logistic regression to