Introduction: The objective of the study was to evaluate the acute pain intensity evolution in ED discharged patients using Group-based trajectory modeling (GBTM). This method identified patient groups with similar profiles of change over time without assuming the existence of a particular pattern or number of groups. **Methods**: This was a prospective cohort study of ED patients aged ≥18 years with an acute pain condition (≤ 2 weeks) and discharged with an opioid prescription. Patients completed a 14-day diary assessing daily pain intensity level (0-10 numeric rating scale) and pain medication use. **Results**: Among the 372 included patients, six distinct post-ED pain intensity trajectories were identified: two started with severe levels of pain, one remained with severe pain intensity (12.6% of the sample) and the other ended with moderate pain intensity level (26.3%). Two other trajectories had severe initial pain, one decreased to mild pain (21.7%) and the other to no-pain (13.8%). Another trajectory had moderate initial pain which decreased to a mild level (15.9%) and the last one started with mild pain intensity and had no pain at the end of the 14-day (9.7%). The pain trajectory patterns were significantly associated with age, type of painful conditions, pain intensity at ED discharge, and with opioid consumption. **Conclusion**: Acute pain resolution following an ED visit seems to progress through six different trajectory patterns that are more informative than simple linear models and could be useful to adapt acute pain management in future research.
Keywords: pain, trajectory

P031

Naltrexone initiation for alcohol use disorder in the emergency department: A systematic review

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Introduction: Alcohol use disorder (AUD) is a chronic relapsing and highly comorbid disease. Patients suffering from AUD are frequently seen in the emergency department (ED) presenting intoxicated or in withdrawal. Brief interactions in the ED are often the only portal of entry to the healthcare system for many of these patients. Oral naltrexone and long acting injectable naltrexone are effective treatment options for AUD associated with decreased cravings, shorter length of hospital stay, and lower cost of healthcare utilization. This study's objective was to perform a systematic review of the literature evaluating initiation of naltrexone in the ED. **Methods**: Electronic searches of Medline, EMBASE, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews and CINAHL were conducted and reference lists were hand-searched. Randomized controlled trials (RCTs) comparing initiation of naltrexone in patients (≥18 years) to standard care in the ED were included. Two reviewers independently screened titles and abstracts, reviewed full text articles for inclusion, assessed quality of the studies, and extracted data. **Results**: The search strategy yielded 183 potentially relevant citations. After eliminating duplicate citations and studies that did not meet eligibility criteria, 10 articles were retrieved for full text review. There were no published RCTs that examined naltrexone initiation in the ED. There is one ongoing study being conducted in New York, which aims to assess naltrexone initiation in the ED and measure health outcomes and quality of life of study participants, as well as potential healthcare cost savings. **Conclusion**: The lack of published research in this area demonstrates a significant gap in knowledge. It is clear that well-designed RCTs are needed to evaluate the effectiveness of initiating naltrexone for those with AUD at the ED visit.
Keywords: alcohol use disorder, emergency department, naltrexone

P032

Video-based learning modules as an adjunct for teaching emergency medicine procedural skills

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Innovation Concept: Competence in procedural skills is vital within the emergency department. Challenging procedures such as cricothyroidotomy are difficult to master as they are rare and hard to train for. Additionally, common procedures such as chest tube insertions require practice to become sufficiently competent. Opportunities to hone these skills are essential in residency training. This project aimed to create instructional video modules for specific emergency medicine (EM) procedures and to gauge its utility as an adjunctive resource for procedural learning in the EM residency curriculum. **Methods**: Tutorial videos for clamshell thoracotomy, cricothyroidotomy, and chest tube insertion were filmed within a cadaver lab with step-by-step instructions. The footage was edited and overlaid with a prepared audio narration using Camtasia®/Apple® Video Editing software. These videos were embedded within modules that included foundational knowledge relevant to the procedures including anatomy, physiology and pathophysiology. The modules were peer-edited by licensed EM staff physicians and distributed to EM residents and staff physicians for analysis. Qualitative and quantitative analysis relied upon participants' answers to questions and a Modified Task Value Scale (measures the value of a module for overall learning), respectively. **Curriculum, Tool or Material**: Ten participants were included in the analysis, including EM residents (n = 6) and staff emergency physicians (n = 4). Qualitative feedback suggested that positive aspects of the modules included visuals, content, narration, and review of anatomy. Negative aspects included the lack of indications for procedures, technical details, real patient examples, and a speed up function. Quantitative feedback resulted in scores of 4 and above out of 5 (1 = lowest value, 5 = highest value) on the Motivated Task Value Scale across all aspects for all the modules. Furthermore, analysis revealed an average score of 3.9/5 for inclination to access more modules such as these, and a score of 4.4/5 for overall perception of the modules. **Conclusion**: Participants found the video modules valuable to their learning, both qualitatively and quantitatively. This study was limited by a small sample size of modules and a low number of participants. Furthermore, a more detailed analysis with further measures, including self-efficacy and self-confidence, would yield more comprehensive conclusions. However, video modules provide an effective and easily accessible adjunctive tool to acquire skill and confidence with EM procedures, for medical learners and staff physicians.
Keywords: EM procedural skills, innovations in EM education, video-based learning

P033

Clinical and laboratory characteristics of patients presenting to a tertiary care centre emergency department with invasive Group A Streptococcus infections

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Introduction: According to the Public Health Agency of Canada, the rate of invasive Group A Streptococcus (iGAS) has more than doubled

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since it first became a notifiable disease in 2000. Our objectives were to describe the clinical and laboratory characteristics of iGAS in a geographic area that sees a relatively high volume of cases annually. **Methods**: We conducted a retrospective chart review of all adult and pediatric patients presenting to the Thunder Bay Regional Health Sciences Centre Emergency Department from January 2016 to December 2017 with a hospital discharge diagnosis of iGAS infection using ICD-10 codes. Patient demographics, host characteristics, triage vital signs, laboratory values, culture sites, and disposition were analyzed using univariate and bivariate statistics. **Results**: Forty-five cases of iGAS were identified over 2 years, with a mean age of 45 years (SD 18). The most prevalent associations were male sex (69%), diabetes mellitus (44%), current or previous alcohol abuse (38%), and current or previous intravenous drug use (33%). Prevalence of iGAS was roughly two times the national average in 2016 (11.5 per 100,000) and four times the national average in 2017 (25.5 per 100,000). Mean triage vital signs included a systolic blood pressure of 126 mmHg (SD 24), diastolic blood pressure of 73 mmHg (SD 16), temperature of 37.3°C (SD 1.4), oxygen saturation of 97% (SD 2), heart rate of 113 beats per minute (SD 22), and respiratory rate of 22 breaths per minute (SD 7). Mean laboratory values revealed a white blood cell count of 17,500 cells/μL (SD 9,800) and C-reactive protein of 243 mg/L (SD 144). A higher Laboratory Risk Indicator for Necrotizing Fasciitis (LRINEC) score was positively correlated with longer hospital length of stay ($r = 0.46$, $p < 0.01$). **Conclusion**: Despite its morbidity and mortality, iGAS infections often present insidiously with only mild abnormalities in triage vital signs, and require a high index of suspicion by the emergency physician for a prompt diagnosis, particularly in at-risk populations such as patients with diabetes mellitus or those who misuse alcohol or drugs.

Keywords: Streptococcal infections, Streptococcus pyogenes, vital signs

P034

Identifying unmet palliative care needs in the emergency department

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Introduction: The goal of palliative care (PC) is to improve quality of life for both patients and families facing a life-limiting illness. Many individuals in need of PC present to the Emergency Department (ED) with symptomatic complaints. Therefore, the ED may be a good place to connect patients with PC teams. Unfortunately, a lack of communication between patients and medical teams may result in admission to hospital even if this no longer aligns with the goals of care. The aims of this study were to identify the proportion of ED patients with unmet PC needs and to determine if access to rapid outpatient PC follow-up could reduce unnecessary admissions. **Methods**: University Health Network (UHN) is an urban academic centre with EDs at two sites, Toronto General Hospital (TGH) and Toronto Western Hospital (TWH). A consecutively enrolled sample of 417 patients that presented to these EDs between July 1-August 14, 2018 was taken. ED nurses and physicians were asked to complete a content validated PC screening tool on all eligible patients. Patients were eligible for screening if they (1) were >18 years of age, (2) had been designated a level 2-5 according to the Canadian Triage and Acuity Score, and (3) had been triaged to the subacute or acute areas of the department. **Results**: Across both sites, 45% of patients screened had a life-limiting illness and 30% had unmet PC needs. Among those with unmet PC needs, 79% had no identifiable involvement with a PC team. TWH had fewer patients with a life-limiting illness compared to TGH (31% vs 57%), but higher rates of unmet PC needs (81% vs 59%, confidence interval for the difference: 8%-34%, $p = .003$) and less PC involvement (6% vs 24%, confidence interval for the difference: 4%-30%, $p < .01$). 73% of patients at UHN with unmet PC needs were likely to be admitted to hospital. In 14% ($n = 17$) of these cases, admissions were felt by physicians to have potentially been avoided if rapid PC follow-up was available. **Conclusion**: A high percentage of patients presenting to the EDs at UHN have life-limiting illnesses with unmet PC needs. A rapid access outpatient PC clinic, available for referral from the ED, may help to both connect patients with the resources they need and avoid admission to hospital.

Keywords: emergency, palliative, unmet

P035

Impact of EMS direct referral to community care on emergency department utilization

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Introduction: The Community Referral by Emergency Medical Services (CREMS) program was implemented in January 2015 in Southwestern Ontario. The program allows Paramedics interacting with a patient to directly refer those in need of home care support to their local Community Care Access Centre (CCAC) for needs assessment. If indicated, subsequent referrals are made to specific services (e.g. nursing, physiotherapy and geriatrics) by CCAC. Ideally, CREMS connects patients with appropriate, timely care, supporting individual needs. Previous literature has indicated CREMS results in an increase of home care services provided to patients. **Methods**: The primary objective of this project is to evaluate the impact of the CREMS program on Emergency Department utilization. Data for all CCAC referrals from London-Middlesex EMS was collected for a thirteen month period (February 2015-February 2016). For all patients receiving a new or increased service from CCAC the number of Emergency Department visits 2 years before referral and 2 years after referral were calculated. A related samples Wilcoxon Signed Rank Test was performed to examine the difference in ED visits pre and post referral to CCAC. **Results**: There were 213 individuals who received a new or increased service during the study timeframe. Median [IQR] patient age was 77 [70-85.5]. 113/213 (53%) of patients were female. The majority of patients 135/213 (63.4%) were a new referral to CCAC. The median [IQR] number of hospital visits before referral was 3 [1-5] and after referral was 2 [0-4]. There was no significant difference in the overall number of ED visits before versus after referral (955 vs 756 visits, $p = 0.051$). **Conclusion**: Community based care can improve patient experience and health outcomes. Paramedics are in a unique position to assess patients in their home to determine who might benefit from home care services. CREMS referrals for this patient group showed a trend towards decreased ED visits after referral but the trend was not statistically significant.

Keywords: community care, emergency medical service

P036

Digoxin immune fab treatment for digoxin and non-digoxin cardioactive steroid toxicity: a scoping review

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