

Keywords: cardiac arrest, pulse check, ultrasound

P027

Development of a physician assistant lead stroke protocol to provide timely and equitable access to hyperacute stroke care in a telestroke community hospital

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Background: The Brant Community Healthcare System (BCHS) has consistently been well above the recommended 30 minute benchmark for door-to-needle (DTN) for eligible acute stroke patients. As a large community hospital with no neurologists, and like many other hospitals internationally, we rely on telestroke support for every stroke case. This is a time-consuming process that requires a multitude of phone calls, and pulls physicians from other acutely ill patients. We sought to develop a system that would streamline our approach and care for hyperacute stroke patients by targeting improvements in DTN. **Aim Statement:** We will decrease the door-to-needle (DTN) time for stroke patients arriving at the BCHS Emergency Department (ED) who are eligible for tissue plasminogen activator (tPA) by 25% from a median of 87 minutes to 50 minutes by March 31, 2018 and maintain that standard. **Measures & Design:** Outcome Measures: Door-to-needle time for acute stroke patients receiving tPA Process Measures: Door-to-triage time, Door-to-CT time, Door-to-CTA time; INR collection-to-verification time, telestroke callback time Balancing Measures: Number of stroke protocol patients per month Model Design: We simultaneously designed and implemented a robust program to train physician assistants in hyperacute stroke care. **Evaluation/Results:** Through vast stakeholder engagement and implementing a multitude of change ideas, by March of 2018 we had achieved an average DTN of 53 minutes. Our door-to-triage time went from an average of 7 minutes to 3 minutes. Our door-to-CT time decreased from 17 minutes to 7 minutes and our time between CT and CTA from an average of 13 minutes to 3 minutes. One and a half years later, our average DTN is maintained at 55 minutes and physician assistants continue to effectively lead and liaise with telestroke neurologists and stroke patients. **Discussion/Impact:** Prior to this program, acute stroke care was a very contentious topic at our local community hospital. Creating a program that streamlined the care and standardized the work has proven successful, and not only allowed for improved DTN times but also freed up physicians to better simultaneously care for other acutely ill patients.

Keywords: door-to-needle time, quality improvement and patient safety, stroke

P028

Antibiotic prescribing and use of corticosteroids for the emergency department management of acute pharyngitis

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Introduction: Acute pharyngitis is a common emergency department (ED) presentation. The Centor (Modified/McIsaac) score uses five criteria (age, tonsillar exudates, swollen tender anterior cervical nodes, absence of a cough, and history of fever) to predict Group A Streptococcus (GAS) infection. The recommendation is patients with a Centor score of 0-1 should not undergo testing and should

not be given antibiotics, patients with a score of 2-3 may warrant throat cultures, and for patients with a score ≥ 4 , empiric antibiotics may be appropriate. Associated pain is often first managed with acetaminophen or non-steroidal anti-inflammatory drugs, however recent evidence suggests a short course of low-to-moderate dose corticosteroids as adjunctive therapy may reduce inflammation and provide pain relief. The objective of this study was to describe the ED management of acute pharyngitis for adult patients presenting to an academic ED over a two-year study period. **Methods:** This was a retrospective chart review of all adult (> 17 years) patients presenting to Mount Sinai Hospital ED with a discharge diagnosis of acute pharyngitis (ICD-10 code J02.9) from January 1st 2016 to December 31st 2018. Trained research personnel reviewed medical records and extracted data using a computerized, data abstraction form. **Results:** Of the 638 patients included in the study, 286 (44.8%) had a Centor score of 0-1, 328 (51.4%) had a score of 2-3, and 24 (3.8%) had a score of ≥ 4 . Of those with a Centor score of 0-1, 83 (29.0%) had a throat culture, 88 (30.8%) were prescribed antibiotics, 15 (5.2%) were positive for GAS and 74 (25.9%) were given corticosteroids in the ED or at discharge. Of those with a Centor score of 2-3, 156 (47.6%) had a throat culture, 220 (67.1%) were prescribed antibiotics, 44 (13.4%) were positive for GAS, and 145 (44.2%) were given corticosteroids. Of those with a Centor score ≥ 4 , 14 (58.3%) had a throat culture, 18 (75.0%) were prescribed antibiotics, 7 (29.2%) were positive for GAS and 12 (50.0%) were given corticosteroids. **Conclusion:** As predicted, a higher Centor score was associated with higher risk of GAS infection, increased antibiotic prescribing and use of corticosteroids. Many patients with low Centor scores were prescribed antibiotics and also had throat cultures. Further work is required to understand clinical decision making for the management of acute pharyngitis.

Keywords: antibiotic, corticosteroids, pharyngitis

P029

Requesting prescriptions in the emergency department: the patient, the request and the response

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Introduction: Patients presenting to the Emergency Department (ED) for the sole purpose of requesting prescriptions are problematic. Problematic for the patient, who may have a long wait to be seen and may leave dissatisfied. Problematic for the ED physician, who is in the business of episodic not comprehensive care and is diligently trying to avoid the misappropriation of medications. The primary objective of this study was to determine the characteristics of patients who present to the ED or Urgent Care Centre (UCC) requesting a prescription, the nature of these requests and the resulting action by the attending physician. The secondary objective was to determine the proportion of medication requests and responses that have potential street value. With this knowledge we may be better positioned to serve these patients and support physician decision-making. **Methods:** This was a single-centre, retrospective electronic chart review looking at all adult patients with a presenting complaint of medication request who attended a two-site tertiary ED or an Urgent Care Centre (UCC) in London, Ontario between April 1, 2014 and June 30, 2017. Data was tested for normality and analyzed using descriptive statistics. **Results:** A total of 1923 cases met the inclusion criteria. Cases were removed ($n = 421$) if it was unclear which prescription was requested or if a non-medication prescription or injection was requested. The patient median (IQR) age was 44 (32-54) with 58% being male and

55% having a family doctor. There were a total of 2261 prescriptions requested by 1502 patients. The top 3 most commonly requested classes of medications were opioids 433/1502 (28.8%), antidepressants/antipsychotics 371/1502 (24.7%) and benzodiazepines 252/1502 (16.8%). The median (IQR) wait time was 73 minutes (35-128). 298/1502 (19.8%) of patients received their requested prescription (opioids 12.7%; antidepressant/antipsychotic 55.3% and benzodiazepines 16.3%). 740/1502 (49.3%) of patients requested a medication that had street value. Of those, 118/740 (15.9%) received the requested medication. **Conclusion:** There is no "one size fits all" solution for the patient who presents to the ED requesting a prescription. The large number of requests for psychiatric medications suggests a service gap for mental health patients in the community. This data supports the need for comprehensive electronic medication records to guide physicians' decisions.

Keywords: prescription requests

P030

Assessment of lab results on emergency department patients that leave without seeing a physician

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Background: Most emergency departments (ED) utilize medical directives to initiate lab investigations for patients prior to physician assessment. This practice facilitates expedited patient care in the ED, resulting in safer and efficient care. However, some patients choose to leave the ED prior to seeing a physician due to prolonged waiting. Previously, at our hospital there was no defined process for identifying and following up on abnormal test results on patients that leave without being seen (LWBS), resulting in lab results often not being reviewed by a nurse or physician. **Aim Statement:** By April 2020, we aim to have 90% of ED LWBS patients with abnormal results identified and followed up. **Measures & Design:** A series of consultations and information gathering occurred that included an environmental scan of other EDs and discussions with emergency nurses, emergency physicians, Risk Management, Legal Department, College of Nurses of Ontario and Canadian Medical Protective Association. A process map was developed collaboratively to standardize the process to identify and follow up on abnormal investigations of LWBS patients and a new hospital policy was developed to officially outline this process. The following are the family of measures: Outcome measure – % LWBS patients with abnormal tests that had follow-up documented in chart Process measure – Number LWBS patients with investigations initiated by medical directive, Number LWBS patients, % LWBS patients Balancing measure – Satisfaction of nurses with new process for LWBS patients **Evaluation/Results:** At baseline, 29% of LWBS patients with abnormal lab results had follow up documented in the chart. After implementation of the new standardized process and policy, the follow up rate of LWBS patients with abnormal results in August, September and October 2019 was 47%, 28% and 29% respectively. **Discussion/Impact:** These results indicate that standardization and new policy implementation is insufficient to change practice, even one that aims to provide safer patient care. Nevertheless, these interventions are important first steps to improving the safety for ED LWBS patients. We plan to implement an audit and feedback approach to encourage nursing staff to routinely check lab results on LWBS patients.

Keywords: follow up, left without being seen, quality improvement and patient safety

P031

Multidisciplinary healthcare and first aid provider training for in-flight medical emergencies: a crowdsourcing session followed by an airplane simulation

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Innovation Concept: Is there a healthcare provider on board? Healthcare providers may be less confident for in-flight medical emergencies (IFME), as these situations are not part of usual curriculum or practice contexts (e.g. hospitals). For example, the literature reveals that medical students and physicians lack IFME basic knowledge and preparedness. The goal is to pilot a training session for healthcare providers to improve their confidence in navigating IFME. **Methods:** This training innovation involved: i) a session to crowdsourcing insights from multidisciplinary healthcare and first aid providers, followed by reviewing considerations of a CMAJ 2018 article on airplane emergencies, and ii) 2 airplane simulations (syncope and cardiac arrest). During crowdsourcing, 7 IFME learning objectives were explored: i) challenges, ii) solutions, iii) equipment, iv) taking vitals, v) general approach, vi) cardiac arrest approach, and vii) human resources / role-delegation. Knowledge and approaches extracted were then applied in simulations. Participants provided scores out of 7.00 for: i) satisfaction of crowdsourcing session and simulation and ii) self-rated confidence on learning objectives at baseline, post-crowdsourcing session, and post-simulation. Results were analyzed with repeated measures ANOVA with post-hoc Tukey. **Curriculum, Tool, or Material:** The workshop curriculum was a crowdsourcing session and simulation to mentally rehearse and practice clinical skills in airplane settings to improve IFME preparedness. **Conclusion:** Participants rated the crowdsourcing activity (6.70/7.00, n = 11) and simulation (6.50/7.00, n = 11) positively. Confidence in the 7 topics improved from baseline (2.49/7.00) to post-crowdsourcing (5.23/7.00) to post-simulation (5.94/7.00). Significant differences ($p < 0.01$) between baseline and post-crowdsourcing, and between baseline and post-simulation were observed. There was no significant difference between post-crowdsourcing and post-simulation. One simulation limitation was not all could be rescuers; therefore, debriefing is important to meet learning objectives. Second, the simulation was not within an airplane; housing simulations inside an airplane with flight attendants is a potential next step. Overall, self-confidence in topics of IFME may improve after just one crowdsourcing session, facilitated through group discussions and mental rehearsal. Added simulations may maintain self-confidence on these topics, by promoting memory retention through active learning and repetition.

Keywords: in-flight medical emergencies, innovations in EM education, simulation

P032

Perceived versus actual cricothyroid membrane landmarking accuracy by emergency medicine residents and staff physicians

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Introduction: Cricothyrotomy is an intervention performed to salvage "can't intubate, can't ventilate" situations. Studies have shown poor accuracy landmarking the cricothyroid membrane, particularly in female patients by surgeons and anesthesiologists. There is less data available about emergency physician performance. This study