

phase. Strategies are required to manage demand, increase turn-around and educate the public on appropriate use of prehospital emergency services.

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### Emergency Medical Service Facilitated Geriatric Emergency Department Visits in Hamilton, Ontario, Canada During the COVID-19 Pandemic

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**Introduction:** To determine if lockdown measures related to the COVID-19 pandemic changed the frequency and epidemiology of geriatric patient emergency medical service (EMS) facilitated visits to the emergency department (ED) in Hamilton, Ontario, Canada.

**Method:** A retrospective chart review was conducted comparing ED presentations of patients over 65 years of age presenting to two academic hospitals in Hamilton, Ontario via EMS between March 17, 2020, and July 15, 2020 (the first wave of the COVID-19 pandemic) to March 17, 2019, and July 15, 2019 (pre-pandemic).

**Results:** Total EMS facilitated geriatric ED number of visits decreased by 17.3% during the first wave of COVID-19 in 2020, relative to the same seasonal time frame in 2019 (March 17– July 15). Visits were more dramatically decreased in the first 8 weeks after the pandemic was declared but then recovered to pre-pandemic levels thereafter. More geriatric patients visiting the ED via EMS were admitted during the initial stages of the COVID-19 pandemic, relative to 2019. However, the acuity and epidemiology of visits remained the same during the first wave of the COVID-19 pandemic, relative to 2019.

**Conclusion:** Lockdown measures during the first wave of the COVID-19 pandemic coincided with decreased geriatric EMS ED visits in the initial two months after the pandemic was declared. Visit numbers recovered as the first wave ended. The epidemiology, as well as the overall acuity, did not change.

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### Festina Lente: Bradycardia as a Presenting Feature of Life-Threatening Intra-Abdominal Hemorrhage

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**Introduction:** Trauma is one of the leading causes of death in patients under 40 years of age. The Advanced Trauma Life Support (ATLS) Guidelines are widely accepted as the standardized approach to trauma and classify hemorrhagic shock according to heart rate (HR), blood pressure (BP), urinary output, and mental status. Paradoxical bradycardia (defined as HR <60 bpm) in hemorrhagic shock is an uncommon presenting feature and presents a diagnostic challenge to the physician; its true incidence is unknown.

**Method:** A case of paradoxical bradycardia was examined as a presenting feature in hemorrhagic shock.

**Results:** A 17-year-old male patient presented to our Emergency Department (ED) with collapse and abdominal pain following a collision with another player during a sports match.

The patient was hypotensive (BP 92/42) and bradycardic at triage, with a heart rate of 50. He was pale and diaphoretic with a Glasgow Coma Scale of 13/15, thready pulses, and localized peritonitis in the left upper quadrant of his abdomen.

An increase in blood pressure was observed following initial fluid resuscitation; however, this was transient and preceded the onset of profound hypotension (BP 64/30). Bradycardia with a heart rate between 50–60bpm was persistent despite resuscitative efforts.

Abdominal ultrasound demonstrated intraperitoneal free-fluid, and Computerized Tomography confirmed the presence of a grade V splenic laceration. He was taken to the operating theater for emergency laparotomy and underwent splenectomy. A 2.3 liter hemoperitoneum was found intraoperatively. There were no further complications post-operatively, and he made a full recovery.

**Conclusion:** Tachycardia is a potentially unreliable marker of blood loss, especially in young, healthy patients. A high index of suspicion is necessary to prevent this uncommon but life-threatening feature of hemorrhagic shock from being overlooked.

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### Case Report of an Irish NGO Providing Educational Support in Establishing a Major Trauma Center in a Low-Middle-Income Country

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**Introduction:** St. Joseph's Mission Hospital, Nyabonda, Kenya is the site chosen for a new Trauma Response Center as part of a

new national highway development scheme. This highway will significantly increase in traffic volume expected in the region. With increased traffic volume, there will be an expected increase in trauma presentations as well as medical presentations due to increased populations in the area. This center is expected to serve a population of four million people. To date, the majority of nurses, medical officers and doctors in the pre-existing facility received no formal post graduate training in medical and surgical emergencies.

**Method:** Global Emergency Medical Skills (GECS) is a registered charity, with an aim to provide medical education for the management of both trauma and medical emergencies for both adults and children. GECS was invited to attend St. Joseph's Missionary Hospital to provide education to nurses, medical officers and doctors. A curriculum encompassing the management of medical and surgical emergencies through both didactic lectures, practical skills training and simulation based workshops was composed and delivered by a group of 11 faculty, crossing Emergency Medicine, Intensive Care, Anesthesia and General Medicine. This curriculum had 28 participants and was conducted over a five day period. A "train the trainer" model was employed to ensure the strongest candidates were chosen for further training on how to deliver course material and organized simulations for future colleagues in St. Josephs Trauma Center.

**Results:** Questionnaires of both staff and students have highlighted the utility of GECS and its curriculum in preparing staff for the opening of this new trauma center.

**Conclusion:** This program was the first of its kind undertaken in St. Joseph's Hospital and has provided valuable education to the staff of this new trauma center. This project has enabled the continuity of this knowledge through chosen trainers.

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### Emergency Medical Team Deployment Modalities: A Delphi Study

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**Introduction:** The COVID-19 pandemic presented obstacles to Emergency Medical Teams (EMT) deployment, including concern of exposure to COVID-19 and travel restriction in many areas of the world. Recognizing these challenges, EMTs sought alternatives to physical deployment, such as virtual deployment. However, concerns have been raised regarding access to internet in aid recipient countries, as well as patient privacy and data leakage in general due to insecure internet connections and intentional data hacking. There is limited literature, and no internationally agreed set of criteria, on the evaluation of deployment including the recipient countries' ministries of health's opinion on the deployments. In order to compare alternative deployment modalities, a set of criteria to evaluate an EMT deployment must be established.

**Method:** The research will identify a set of criteria that can be used to evaluate a deployment; to identify the possible

alternative modalities to traditional physical deployment; and to explore perceptions of acceptability and ability to meet the goals of international humanitarian assistance. A stakeholder analysis will be conducted to identify the key informants and relevant stakeholders, and the Delphi Approach will be utilized to seek experts' opinions and reach consensus.

**Results:** This research will help to establish a set of criteria for evaluating deployments, and to identify the alternative deployment modalities, the advantages, and disadvantages, and to evaluate each alternative modality, with the hopes of guiding EMTs to plan their future deployments, as well as to provide alternatives should there be further restrictions in the future.

**Conclusion:** At this moment, this research is at the planning stage and ethical approval has not yet been sought. Should this abstract be accepted, ethical approval will have been obtained, and data collection will have just started in May. The presentation will include a summary of relevant literature, the methods, and any preliminary results.

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### The Utility of a Hospital System-Specific Emergency Medicine Residency Orientation

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**Introduction:** The transition to residency is a challenging time in the medical trainee's career. In addition to learning and implementing knowledge specific to emergency medicine, logistics and system nuances can initially impede a learner's ability to begin the process of mastering their profession. In an attempt to ameliorate this transition to residency an orientation was created to introduce concepts of local ultrasound documentation, resuscitation protocols, EMR navigation, and procedural kits.

**Method:** Interns were given a pre-workshop survey on comfort level (1-5 Likert) of ultrasound documentation, resuscitation protocols, EMR navigation, and procedural kits. They rotated through four workshop stations in small groups. The first was an ultrasound workshop showcasing our commonly used ultrasound and how we capture images and videos into our medical system for review. The next was institution specific protocols for medical and trauma resuscitation using simulation. Third was a workshop on how to navigate our electronic medical record with simple overviews of documentation and order entry. Lastly, they went through arterial and central line kits to familiarize themselves with the contents. A post-workshop survey was given.

**Results:** Comfort with ultrasound documentation pre-workshop mean was 4.0 with a post-workshop mean of 4.45 ( $p=0.068$ ). Comfort with resuscitation pre-workshop mean of 2.91 increased to 3.91 ( $p=0.008$ ). Electronic medical record documentation comfort rose from a mean of 3.5 to 4.27 ( $p=0.007$ ). Comfort navigating procedural kits increased to a mean of 4.09 from 3 ( $p=0.002$ ).

**Conclusion:** There was a statistically significant increase in comfort level with ultrasound documentation, resuscitation protocols, EMR navigation, and procedural kits after