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Introduction: Casualties need to be triaged, stabilized and treated before they can be evacuated to the hospital. However, when Field Medical Teams (FMTs) arrive at the First Aid Post (FAP), the staff has to perform outside of their usual settings. There are also differences in the conception of medical operations, organization of the FAP, availability of medical equipment and supply, as well as means of communication, command, and control which can affect their performance and eventually the optimal survival of casualties during a mass casualty incident.
Method: Guided by Kern's model for curriculum development, Disaster Medical Responder's Course (DMRC) was developed. The curriculum focused on disaster response operations and processes; roles and responsibilities; command, control and communication; as well as supplies and resources. The content was taught through interactive lectures and skill stations. Course evaluation was based on the Kirkpatrick Model. A feedback form evaluated the reaction of the participants as to whether the course was relevant, if they learnt new knowledge and skills, and if they could apply these to their roles as FMTs. A tabletop exercise evaluated learning with participants working collaboratively.
Results: DMRC has been sustainable since 2013 with six to eight courses per year. There had been numerous revisions of the content and delivery to keep up-to-date with the latest concept of operations, best practices from the literature, as well as educational methodologies. The last update was in 2020 in response to the COVID-19 pandemic where course schedule and mode of delivery were adjusted to comply with the safe management measures.
Conclusion: FMTs will require training so they can function to their maximum capacity and capability. In Singapore, DMRC is the course for this unique and important training of FMTs. DMRC plays a pivotal role in ensuring the preparedness and operational readiness of FMTs for mass casualty incidents.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s182–s183
doi:10.1017/S1049023X23004727

Hypothermia Management, an Evaluation of a Novel Lightweight System.

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Introduction: Accidental hypothermia remains an important contributory factor to the mortality of trauma patients in both civilian and military environments. As a component of the 'lethal triad' it poses a significant problem in patients at risk of hemorrhage from traumatic injuries. Systems used to mitigate hypothermia in the prehospital environment must strike a balance between weight: size ratio and optimal performance.
Method: This study compared three hypothermia mitigation systems; two leading products and the novel Xtract™SR Heatsaver, over a three-day trial period. Seven subjects were placed in a closed system, held at around 0°C, to promote the onset of mild hypothermia. Individuals with a tympanic temperature recording of < or = 35°C were placed into one of the three systems. Recordings of aural temperature and a numerical perceived comfort score were made every 15-20 minutes to assess rate of rewarming and subject's perceptions of the process. An additional study was carried out by an experienced consultant in military and civilian emergency medicine, on day three of the trial, to determine the ease of clinical assessment of individuals placed inside the Xtract™SR Heatsaver prototype.
Results: On all three days, subjects placed in the Xtract™SR Heatsaver recovered from their hypothermic state faster than those placed in the other systems. Clinical assessment could easily be performed on a patient placed in the Xtract™SR Heatsaver system.
Conclusion: Results demonstrate that the new Xtract™SR Heatsaver system is superior with regards to reducing heat loss, increasing patient comfort and allowing for clinical assessment. The study also highlights the importance of the use of adjuncts such as heat cell blankets and insulation matts alongside hypothermia mitigation systems deployed in the prehospital environment. Furthermore, data gathered provides scope for future research into nuances surrounding the effects and onset of hypothermia.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s183
doi:10.1017/S1049023X23004739

Using Ambulatory Care Sensitive Conditions to Assess Primary Health Care Performance during Disasters

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Introduction: Ambulatory care sensitive conditions (ACSCs) are health conditions for which appropriate primary care intervention could prevent hospital admission. ACSC hospitalization rates are a well established parameter for assessing the performance of primary health care (PHC). Although this indicator has been extensively used to monitor the performance of PHC systems in peacetime, its consideration during disasters has been neglected. The World Health Organization (WHO) has acknowledged the importance of PHC in

guaranteeing continuity of care during and after a disaster for avoiding negative health outcomes.
Method: A systematic review was conducted to evaluate the extent and nature of research activity on the use of ACSCs during disasters, with an eye toward finding innovative ways to assess the level of PHC function at times of crisis. Online databases were searched to identify papers.
Results: A final list of nine publications was retrieved. The analysis of the reviewed articles confirmed that ACSCs can serve as a useful indicator of PHC performance during disasters, with several caveats that must be considered.
Conclusion: The reviewed articles cover several disaster scenarios and a wide variety of methodologies showing the connection between ACSCs and health system performance. The strengths and weaknesses of using different methodologies are explored and recommendations are given for using ACSCs to assess PHC performance during disasters.
Prehosp. Disaster Med. 2023;38(Suppl. S1):s183–s184
doi:10.1017/S1049023X23004740

Emergency and Disaster Preparedness Amongst Emergency Medicine Residents in Singapore

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Introduction: Emergency Medicine (EM) physicians are crucial members of the disaster medical response. In Singapore, the EM residency program spans five years, with junior residents (JRs) progressing to senior residents (SRs) in three years after passing the MRCEM exam or its local equivalent. This study aims to assess the knowledge, attitudes and perceptions toward disaster medicine among EM residents in Singapore.
Method: A cross-sectional study was performed for 90 EM residents for the academic year 2020/2021. A self-administered, 44-item online questionnaire based on the Emergency Preparedness Information Questionnaire (EPIQ) was delivered via GoogleForms™. This assessed familiarity through 10 dimensions, with a minimal score of one and a maximal score of five. The survey also included questions on attitudes towards emergency preparedness and preferred learning methods. Data was collected from May 2020 to November 2020, and analyzed with SPSS.
Results: The response rate was 41%. Of these, 75% were JRs and 25% SRs. The overall mean familiarity with disaster preparedness was 2.43 ± 0.90. There was no statistically significant difference of overall mean familiarity between JRs and SRs. Overall, they fared best in the dimension on isolation & quarantine with a mean score of 2.91 ±1.05 and worst in the dimension on psychological issues with a mean score of 2.34 ±0.95.

Residents felt that disaster medicine was relevant to their practice with a mean score of 4.22 ± 0.98. They also felt that it was necessary to learn more about it, with a mean score of 4.16 ±0.90. The highest ranked preferred learning method was workshop/simulation training (45.5%), followed by lectures (23.4%).

Conclusion: EM Residents have a poor overall familiarity with emergency preparedness, however, they recognized its importance and relevance. The preferred formats of learning were simulation/workshop training. More must be done to improve the overall competency of EM residents in disaster medical response.
Prehosp. Disaster Med. 2023;38(Suppl. S1):s184
doi:10.1017/S1049023X23004752

Physical Trauma Following Rocket Warning Sirens in Israel

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Introduction: Civilians constitute a significant wartime target, and trauma accounts for most of their injuries. Air raid sirens have long been used to alert civilians of incoming attacks and have since expanded to warn of natural disasters. Sirens are known to cause significant emotional distress and physiological changes. Injuries inflicted from trauma during a run for shelter have yet to be described in the medical literature.
Method: During the recent Israel-Gaza conflict of May 2021, most of Israel's population experienced rocket warning sirens. We collected all adult patients arriving at a major tertiary medical center emergency department (ED), attesting to having suffered their injury while running for shelter. Clinical and demographic data were retrieved and analyzed.
Results: A total of 48 patients were identified, with a mean age of 59.6±20.0. Ten (21%) patients were admitted, and their mean length of stay was 4.4±3.7 days. Women had a higher probability of being hospitalized (42.9% vs. 5.9%, p=0.04), and those hospitalized tended to be older (68.8±16.4 vs. 54.8 ±20.8, p=0.06). Extremity injuries were most common (50%), before head trauma (29%), and torso injuries (25%). Most patients (38/48, 79.2%) were discharged from the ED, and the rest were hospitalized for observation or surgery. One patient died from a head injury.
Conclusion: This study implies that injuries while running for shelter were the most significant cause of physical injury to Israeli civilians during the Israel-Gaza 2021 conflict. Warning siren injuries should be given appropriate attention from prevention by directed media campaigns to post-conflict reimbursement.
Prehosp. Disaster Med. 2023;38(Suppl. S1):s184
doi:10.1017/S1049023X23004764

The Impact of Hurricane Ida on Emergency Medical Services Operations in New Orleans

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