

(P2-77) The Unique Role of Emergency Medical Services (EMS) in an Earthquake – A Community Based ApproachE. Jaffe,¹ S. Ben-zvi²

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Introduction: Timely actions can facilitate the efficacy of Emergency Medical Services (EMS) response in disaster by understanding the scale of event and shifting of traditional tasks. A simple scaling system of earthquakes/disasters by ABC is proposed: Level A treated by the local EMS. One or more Multi Casualty Incident's (MCI) in a defined geographical area that can easily be Level B hours, by reinforcement of regional and national aid coordinated by automatic autonomic response. An earthquake/disaster where the EMS and medical community can complete their task within 48 Level C - An earthquake/disaster that even joint national forces cannot eliminate within 48 hours.

Methods: Information from medical systems around the world was gathered to help develop strategies to minimize the weaknesses whilst achieving the objectives of the EMS via adapting to shifting conditions.

Results: EMS goal is to provide treatment to those in need of urgent medical care and arrange for timely transfer of the patient to definitive care. EMS are not qualified or equipped to delay victims in the field for hours or days. However, many patients in earthquakes do not require definitive treatment or have an immediate lifethreatening.

Conclusion: By scaling the event by the ABC - a timely coordinated autonomic regional / national response can begin immediately. An area defined as level A will automatically back-up a level B/C area, in an event that the standard communication and activation systems collapse. Moreover, a clear shift in EMS roles will take place in a level B or C events. Available-Hours Busy-48-Hours Catastrophe-weeks Types of Levels area for delaying evacuation. Prioritizing, sorting and sending patients that require immediate attention to definitive care whilst considering availability of destination facilities and transportation resources. Patients that do not require immediate attention or cannot be saved shall await evacuation.

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(P2-78) Creating Alternate Care Sites and Community-Based Care Centers for the Delivery of Medical Care During Public Health Emergencies

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Introduction: Developing alternative systems to deliver emergency health services during a pandemic or public health emergency is essential to preserving the operation of acute care hospitals and the overall health care infrastructure. Alternate care sites or community-based care centers which can serve as areas for primary screening and triage or short-term medical treatment can assist in diverting non-acute patients from hospital emergency departments and manage non-life threatening illnesses in a systematic and efficient manner. Additionally, if planned for correctly these facilities can also be used to decant

less critical patients from inpatient wards thereby increasing the surge capacity of acute care hospitals.

Methods: A model concept of operations plan for alternate care sites to be used during pandemics and large-scale public health emergencies was developed over a 3 year period, 2007–2010. Subject matter experts were convened and best-practice methods were used to design operational plans, clinical protocols, modified standards of care, and checklists for facilities appropriate to locate such a facility. This model plan was designed to allow the mild to moderately ill patient to be managed in a non-acute care hospital or community-based care setting and then ultimately return to their homes for convalescence, following a public health emergency where regional surge capacity had been exceeded.

Results: Over three years of interagency, comprehensive planning, training and review was conducted to create the model alternate care site/community-based care center concept of operations plan. Accomplishments and milestones included: Creating stakeholders, engaging community partners, site selection, staffing issues, detailed medical protocols and clinical pathways, functional role development, equipment and supplies, site security, media and communications plans, designing training programs and conducting drills and exercises.

Conclusion: The key tenets of the concept, planning, operation and demobilization of an alternate care site or community-based care center will be discussed in this session. Participants will learn what has worked based on our planning experience. Lessons learned and best-practices developed in our program will be presented to assist attendees in beginning or continuing the process of creating surge capacity in the out-of-hospital setting, by planning to operate alternate care sites in their local areas.

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(P2-78a) Feasibility and Safety of Ultrasonography-Guided Nerve Blocks Performed by Emergency Physicians in the Emergency DepartmentS. Bhoi,¹ T.P. Sinha,² M. Rodha,² A. Bhasin³

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Background: Emergency physicians often encounter patients who require procedural sedation and analgesia (PSA) for the treatment of acute traumatic injuries like fracture reduction, joint dislocation reduction, wound care, and pain relief. Its complications include airway or circulatory compromise. Ultrasound (US) guided peripheral nerve block is a safe alternative that utilizes minimal amounts of local anesthetic and does not require hemodynamic monitoring or prolonged post-procedure observation.

Objective: The objective of this study is to determine the feasibility and safety of ultrasonography-guided nerve blocks, performed by emergency physicians.

Methods: A prospective study involving 28 patients > 12 years of age presenting to an emergency department (ED) were recruited after informed consent. Ultrasonography-guided nerve blocks were performed by emergency physicians who underwent a

minimal training of 10 supervised nerve blocks. Brachial plexus, forearm, and lower-limb nerve blocks were performed as deemed necessary. Verbal analogue scale (VAS) was used to quantify pain, before and five minutes after the procedure. The outcomes for feasibility and safety were the percentage of cases in which no further anesthesia was required, the median reduction in VAS score, median time to completion of procedure and the complication rate noted during the procedure.

Results: All procedures were completed without additional anesthesia. The different nerve blocks performed were brachial plexus (20 cases, 71.4%), forearm (3 cases, 10.7%), femoral (2 cases, 7.1%), combined femoral and sciatic (2 cases, 7.1%) and tibial (1 case, 3.6%). Median reduction in VAS score was 7.0 points (interquartile range 6.0, 8.0; $p < 0.001$). The median time to completion of nerve blocks was 5 minutes per patient (interquartile range 2 minutes 25 seconds, 10 minutes 0 seconds). There were no immediate complications noted after the procedure.

Conclusions: Emergency physicians with minimal training can perform ultrasonography-guided nerve blocks safely, quickly and without the need for additional anesthesia in the ED.

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Introduction: The goal of most EMS is to provide treatment to those in need of urgent medical care, with the purpose of satisfactorily treating the problem, or arranging for timely removal of the patient to the next point of definitive care. Earthquakes are among the most destructive types of natural disasters, striking suddenly with no accurate method of prediction or warning, thereby taking a heavy toll on life, injury and property. The damage created affects all aspects of the community - transportation, telecommunication, and infrastructure and can easily overwhelm local health services, damage clinics, hospitals and render them useless.

Aim: To review the pertinent literature and to analyze the information in order to set practical guidelines for EMS work in earthquakes with a community-based approach.

Results: Survival of casualties extricated from under the rubble depends upon early medical interventions by emergency teams on site. EMS needs to strive for: • early arrival • early qualified treatment • Earthquakes differ from other disasters, where the system is intact.: early transport and definitive care. • They present a vast number of patients • problems concerning availability of medical personnel, • accessibility to patients, means of transportation & communication.

Conclusions: A routine national community-based approach will strengthen the ability to provide early response in both daily and disastrous events, improving both morbidity and mortality rates. Possibly no immediate definitive care.

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(P2-79) Retrospective Review of Mortality in Patients with Traumatic Brain Injury from Rural India

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Objective: Trauma is one of the leading causes of morbidity and mortality across the world with traumatic brain injury (TBI) being an important cause of trauma related deaths. The aim of our study was to review the medical charts of patients who died within 24 hours of presentation to our Hospital after head injury.

Methods: We received approval from the institutional review board to conduct a retrospective review of patient charts at Acharaya Vinoba Bhave Rural Hospital, in Sawangi (M), Maharashtra (India). All patients who died within 24 hours of the presentation to the emergency department (ED) and had been diagnosed with TBI were included in the study. We collected data from 113 charts between January 2007 and December 2009.

Results: During this three year period, 113 patients died within 24 Hours of admission to the hospital. Of these, 37% (42/113) were diagnosed with (TBI). We conducted a chart review of these 42 patients. All our patients were brought to the ED by relatives or bystanders in non-ambulance vehicles. At the time of presentation to the ED, nearly all patients were normotensive, with only one patient with hypotension. The Majority of our patients had a Glasgow Coma Scale of less than 5.

Conclusion: Our study brings to light various deficiencies in rural India, trauma care which include immediate rescue and transportation. Although patients were provided the optimum care in the ED, however it was not associated with favorable outcome. This highlights the need of a Trauma Registry to record real-time data which will help to improve care and systems.

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(P2-81) A Survey of the Health Effects of Bushfire Smoke on Patients Attending Two Sydney Emergency Departments

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The objective of this survey was to investigate the incidence of respiratory symptoms reported by emergency department patients during the Christmas 2001–2002 Sydney bushfire disaster. Two hundred and thirty patients attending two Sydney emergency departments for any reason completed questionnaires regarding respiratory symptoms. The symptoms investigated were cough, shortness of breath, chest tightness and wheeze. The same questionnaire was subsequently administered to a similar control group who were not exposed to bushfire smoke. 51% of those surveyed during the bushfires reported one or more of the respiratory symptoms investigated compared to 31% of the control group. This difference was statistically significant ($p < 0.01$). A significantly higher proportion of respiratory patients in the study group reported an exacerbation of their condition and increased medication use during the bushfires ($p < 0.01$). The results are consistent with other research on the subject and