

ERUs allow for a rapid and comprehensive approach to delivery of health care in a disaster, with a longitudinal perspective of population needs.

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(A166) Disaster Risk Reduction - Extreme Heat Preparedness

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Background: South Australia is often referred to as the driest state in the driest continent on earth and the community expects summers to be hot. However since 2007 South Australia has experienced several periods of extreme heat which have challenged and required the emergency services including health to consider a new preparedness approach. Any extreme weather condition can cause disruption to the community and the effects of such events as extreme heat are not always immediately obvious. However these effects can silently cause death and an increase to the health burden of the community.

Discussion: In South Australia the term ‘Extreme Heat’ as opposed to ‘Heatwave’ has been quite deliberately chosen as this describes more accurately an unusual climatic situation characterised by higher temperatures and greater length of time than normally expected. A number of studies have been undertaken to consider the impact on the health of the South Australian community and its health services and specific action plans and communication strategies have been developed to respond to extreme heat and encourage an increasing level of community resilience. This paper will describe recent events, some of the research undertaken and the preparedness, planning and response strategies implemented to reduce and manage the risk.

Conclusion: The response strategies introduced in South Australia have been recognised for their excellence and in 2010 SA Health was the recipient of several awards at both state and national level for this work.

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(A167) Patient Tracking In Disaster Drills

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Introduction: Disaster Drills, the world over, test several aspects of disaster response encompassing inter-agency coordination, institutional response and individual proficiency. This abstract analyzes the efficiency and gaps in patient triage in a large inter-agency disaster drill conducted in Mumbai in December 2010.

Methods: Over eighty simulated patients at the mock disaster site in Mumbai were triaged for transport to two hospitals via prioritized EMS vehicle and other modalities. Each patient was tagged with an identifier and his/her final destination compared to the intended destination to gauge accuracy of triage. Arrival and departure time-stamps at each location helped plot triage efficiency

and variation in inter-group response times. EMS responders were trained in START triage during the preparatory phase.

Results: There was no significant difference in time to transport “red” and “yellow” patients to the triage zone. Patients in the “accident buses” were triaged twice as slowly as those outside in spite of the zone being declared safe to enter, by the controlling authorities. 11% of “red patients” were down-triaged and 30% of yellows were “over-triaged.” A significant bottle-neck developed between field triage zone and transport zones.

Conclusions: Our group has conducted disaster drills in several large cities in Sri Lanka, India and the Dominican Republic. Expanding focus to document time-stamps and triage accuracy highlighted need for more robust triage training, allowing local agencies to prioritize training for EMS responders in the coming months. Demonstrating how inaccurate triage could potentially overwhelm the system helped local agencies recognize the need to train first responders in START triage.

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(A168) Medicine at Sea

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Cruising has become a major part of the tourist industry. In 2010, the total passengers carried worldwide was estimated at 18.4 million, on about 230 cruise ships. Large ships can hold up to 6,000 passengers and > 2,000 crew members. A large cruise ship is rather like an island, with two different communities: the well-trained crew, hopefully prepared for every eventuality and trying to make their guest’s stay as pleasant as possible; and the guests, there to have fun. The guest population varies, with up to 40% under 21 years old during school breaks, and the average age is in the fifties or sixties on longer cruises to scenic places such as Alaska. Most of the time ships cannot be reached by helicopter and the medical teams need to cope with a wide range of emergencies from cardiopulmonary, trauma, and psychiatric issues. There are strict public health measures enforced and a range of legislation reducing the risks of cruising to a minimum. This paper reviews the training of the crew for medical emergencies, the incidence of disease, the incidence of medical disembarkation and major incidents on board, and the role of medical teams.

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(A172a) Development of Emergency Medical System in High Speed Train and Station

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Introduction: High speed train is defined as train which can run at the speed of more than 200Km/h and Korean version of high speed train (Korean Train Express: KTX) runs at 300Km/h on average. Because of high speed, safety is the most important issue of high speed train, so the early detection of technical error and

operational safety have been emphasized. But the research about emergency medical system for patients occurring in the high speed train and stations is insufficient. So author analyzed the project on development of emergency medical system for cardiac arrest in the high speed train and stations.

Methods: The project on development of emergency medical system for cardiac arrest in the high speed train and stations was analyzed retrospectively and the real situation was confirmed by interviewing the staffs and visiting the high speed train and stations. The education on both basic life support and PAD (public access defibrillation) for staff of the high speed train and stations was analyzed. Simulation was performed for adequate distribution and arrangement of AEDs (automatic external defibrillators) in the high speed train and stations.

Results: The education on both basic life support and PAD (public access defibrillation) for staff of the high speed train and stations was performed to 1323 persons from October 2008 to June 2009. Total 51 AEDs were arranged in 6 stations and 87 AEDs were arranged in the high speed train. One AEDs were arranged for successive 6 passenger car in a train. Public education by repeated video playing in the high speed train was started.

Conclusions: The emergency medical system for cardiac arrest in the high speed train and stations was developed by training staffs and arranging AEDs initially. The next step will be developing the disaster medical system in the high speed train.

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(A174) Epidemiology, Seasonality, and Geo-Distribution of Trap Gun Injuries in Anuradhapura Area

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A trap gun (TG) is a locally manufactured, illegal barreled weapon with a simple trigger mechanism. Trap guns are frequent in agricultural areas of the country. Once the gun is set, it bursts automatically upon the triggering. Since there is no present person selecting the target, the gun injures both animals and humans. A retrospective study was carried out to identify geo-spatial distribution, seasonal variation and injury patterns of TG injuries brought to Teaching Hospital Anuradhapura during 2007 to 2009. A prospective study will identify those in a more detailed manner. The abstract discusses some findings of this ongoing study and the retrospective study. In 2007 there were 107 TG injuries, and 68 in 2008. In 2009 the number increased to 126. Of the victims, 97.5% were males. The mean age was 36.98 years (SD = 11.36), with an age range of 13–69 years and an Inter Quartile Range (IQR) of 29–43 years. The majority of the injuries were lower limb injuries. A significant percentage showed compound fractures and soft tissue injuries. Amputations due to vascular injuries were low (1.5%). Of the cases, 99.5% were from peripheral rural villages. Tap gun injuries are less common during the “Yala” farming season extending from May to September, during which Anuradhapura gets less rain. Yet number of TG victims steadily increases as the “Yala” progresses. This trend continues during the initial half of “Maha” season. It gradually decreases in the latter part of “Maha”. Trap gun injuries remain below average from February

to July with the lowest number in April. The incidence of TG injuries is higher in Northwesterly administrative areas throughout the year, which share a common border with the “Wilpattu” game reserve. Further studies should be carried out to identify behavioral and socio-economical risks and economics of TG injuries.

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(A175) Traffic Injury Severity Prediction by Algorithm of Automatic Crash Notification System

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Introduction: Since 2009 automatic crash notification system (ACNS) using event data recorder (EDR) and mobile communication have been developed for early detection of traffic accident and prediction of physical injury of victims for increase of survival rate via early medical treatment. For adequate prediction of injury, authors developed the guideline and algorithm from parameters related to accident and medical situation. **Methods:** Expert survey was done about the adequate parameters related to accident and medical situation. Medical record of traffic accident admission was analyzed in a trauma center of a university hospital in Seoul, Korea. Additionally epidemiology of traffic accident death in a region was done. Afterwards data of medical record was linked to data of traffic accident insurance companies.

Results: The important parameters for prediction of physical injury of victims were as follows: Intercept, Δv , belt, age, intrus, sex, multiple, roll, ejection, narrow, height, weight, steering defect, track loc.

Conclusions: Prediction of physical injury severity of victims on traffic accident spot and immediate transfer of related information to adequate medical institution by automatic mobile communication can help the traffic accident victims and upgrade the trauma care system of traffic accident.

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(A176) Mechanical Ventilation in Disasters: “To Intubate or Not to Intubate – That is the Question!”

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The provision of mechanical ventilatory support for large numbers of casualties in disasters is a complex, controversial issue. Some experts consider this modality unsuitable for large disasters and a waste of resources better devoted to eminently salvageable victims. However, the reality has usually been that rescue teams bring with them some ventilatory capability, even if only for perioperative support. Also, there are many instances when the environment, the existing and potential capacities, allow for significant numbers of victims to be saved by providing artificial ventilation, that would otherwise have likely died. It is therefore important to discuss the issue, with all its complexity, so that the disaster preparedness and relief community fully understands its implications and makes informed, locally relevant decisions before and after disasters strike. The purpose of this presentation