

Methods: A first-person case study analysis of a 2005, Greyhound bus accident, which occurred near Edmonton, Alberta, Canada, was analyzed.

Results: Achieving success and organization of a catastrophic event or natural disaster requires the recognition of the importance of scene control and command, accurate triage and the assurance of destination resource capacity. Multi casualty events are rare, and due to sparse exposure, first responders have limited experience to manage these events effectively. Mass casualty exercises are generally used, although no standardized method exists to evaluate their function and effectiveness. Accurate and timely information are essential in successful multi-casualty events; however, inexperience and limitations often lead to ineffective and inaccurate triage, treatment and transportation of patients.

Conclusion: To ensure efficient and effective mass casualty response, future research should focus on adequate professional development programs for first responders. In addition, tools and instruments to aid in successful multi-casualty events would be an asset in achieving success.

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Comparison of the Predictive Value of Four Burn Scores for Death Risk in Burns Patients in Emergency Departments

Hai Hu, Yan Bai

Emergency Department, West-China Hospital, Sichuan University, Chengdu/China

Study/Objective: To evaluate the predictive value of Modified Burn Score (MBS), Abbreviated Burn Severity Index (ABSI), Belgian Outcome in Burn Injury (BOBI), and Injury Severity Score (ISS) for death risk in adult patients with severe thermal burns.

Background: Severe burn patients have high mortality. Accurate prediction of the risk of death in patients with severe burn, contributed to objectively assess the disease, to help clinicians with better clinical decision-making and rational allocation of medical resources. At present, there is a variety of scores on the risk of mortality in burn patients. However there are still, few studies on the prediction of the risk of death in adults with severe thermal burns.

Methods: Retrospectively analyzed data of patients in West China Hospital from 2012 to 2014. The patient's name, gender, age, burn area, and whether complicated with inhalation injury were recorded; and the ISS, MBS, ABSI and BOBI score were calculated. Through drawing Receiver Operating Characteristic curve (ROC curve), the area under the curve of the four scores Area Under Curve (AUC), and the sensitivity and specificity for death prediction were obtained. Based on the sensitivity and specificity for death risk prediction, the Youden index was calculated, the best cutoff value was found, and the best score of death risk prediction for adult patients with severe thermal burn was selected.

Results: There were 85 adult patients with severe thermal burn that were included, with 49 males and 36 females. The AUC of ABSI, MBS, BOBI and ISS were 0.925, 0.825, 0.813, 0.715.

Conclusion: ABSI has the best value for the death risk in severe thermal burns adult patients.

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New Triage System: Using Digitized Information Entered via a Digital Pen

Shinya Yaguchi, Katsubiro Itoh, Hitoshi Yamamura
Hiroasaki University Hospital, Hiroasaki, Aomori/Japan

Study/Objective: We examined the capability of this new triage system, using digitized information entered via a digital pen, as an information tool in times of disaster.

Background: Triage is important in deciding the priority of treatment for many patients injured by disaster. Because the patient's information entered on triage tags and the chronologic list made in each section are done by hand, the process is complicated and accuracy and rapidity cannot be guaranteed. We have created a new triage tag using the Anoto Live Digital Pen (Anoto K.K., Tokyo, Japan).

Methods: The new triage tag uses a check box form as much as possible to reduce readout errors. Furthermore, we developed the system to collect digitized triage information and format the collected data as a chronologic list. We divided the triage data into three categories: check box, numerical characters, and letter characters. We demonstrated this new system during disaster training with simulated patients and assessed whether each category was exactly recognized as digital data.

Results: We were able to collect data from 22 simulated patients. The simulated patient information entered on the handwritten triage tag was quickly digitized, and a chronologic list could be made. Assessment of the accuracy of the digitized data for each category was as follows: check box, 100.0% (correct number/total number = 127/127); numerical characters, 71.8% (102/142); and letter characters 51.1% (47/92). The errors in the letter characters were almost exclusively confined to content written in Chinese characters.

Conclusion: This new triage system using digitized information entered via digital pen has some problems with the recognition of letter and numerical characters. However, this system, almost exactly, digitized the data and may be a useful device during times of disaster in the future.

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Computer Versus Manual Triage in a Live Disaster Simulation

Nisreen Maghraby¹, Patrick Fok², The Minh Luong²,
Claudie Bolduc², Valerie Homier³

1. Emergency Medicine, Trauma & Disaster Management, McGill University, Montreal/QC/Canada
2. Emergency Medicine, McGill University Health Center, Montreal/Canada
3. Emergency Medicine, Code Orange Committee, McGill University Health Center, Montreal/QC/Canada

Study/Objective: To compare the use of computerized versus paper-based "Simple Triage and Rapid Treatment" triage in disaster simulations.

Background: Efficient and accurate triage during mass casualty incidents is a critical step of disaster response. Traditionally, triage