

emergency management database system. Additionally, areas of non-consensus have been identified where further work is required.

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### (P2-91) EMS Trauma Triage: Does the Red-Blue Criteria Enable Overtriage?

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**Introduction:** With the current need for effective trauma center utilization, understanding how current trauma triage criteria may promote overtriage will enable both field and hospital teams to provide the most appropriate patient care. It is hypothesized that current Southwest Texas trauma criteria promote overtriage by prehospital emergency medical services (EMS) of patients in favor of a Level 1 trauma facility when compared to physician assessment and Injury Severity Score (ISS).

**Methods:** This prospective, observational study at a Southwest Texas military Level 1 trauma center compared adult trauma patients' prehospital status noted by EMS personnel with the triage criteria documented by the treating emergency physician. The patients were divided into four groups: Prehospital Criteria Met or Not Met; Arrival Criteria Met or Not Met. Each patient's ISS and mechanism of injury were also collected and compared to initial assessment for predictive value. Descriptive statistics were used.

**Results:** The study enrolled 278 adult trauma patients. EMS reported Level 1 trauma status similar to physician assessment (60.1% vs. 59.7%, respectively). The rates patients met Level 1 trauma status corresponded with trauma severity when compared to the ISS. Assessment between EMS and physicians for ISSs were similar among the four groups. Comparisons using multivariate analysis of the four groups found similar ISSs, except for the Prehospital Criteria Met/Arrival Criteria Not Met group. Seventy-five percent of these patients were assigned an ISS in the Minor (ISS < 9) category ( $p = 0.013$ ).

**Conclusion:** Trauma triage criteria assessment skills were similar between EMS personnel and emergency physicians except for identifying minor trauma patients. While the criteria generally led to overtriage, EMS crews appear to overtriage minor trauma patients at a much higher rate.

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### (P2-92) Hueh Emergency Medicine Triage: Lessons in Crowd Control

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**Background:** On 12 January 2010 Port-au-Prince, Haiti was struck by a 7.0 Mw earthquake that devastated the city and destroyed much of the Haiti University and Educational

Hospital. In the following weeks, a tent hospital was erected at the site and hundreds of patients were seen daily by expatriate healthcare volunteers. The high volumes of patients, disorganized hospital grounds, and high levels of stress among patients led to issues of crowd control.

**Discussion:** To improve security a new triage system was designed and implemented based on current emergency medicine models. This design addressed patient flow, triage, environmental conditions, and differentiation of emergency services. The results of this system were a streamlined triage system as well as improved safety.

**Conclusions:** During the chaos following the Haiti earthquake, a triage design was implemented at the HUEH that led to improved Emergency Department patient flow and hospital safety.

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### (P2-93) Triage During a Mass Casualty Incident: The 2009 Turkish Airlines Crash in Amsterdam

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**Introduction:** Triage is an important aspect of the management of mass-casualty incidents (MCIs). This study evaluates triage after the Turkish Airlines aircraft crash near Amsterdam in 2009. What were the results of triage? What were the injuries of priority 3, and of "walking" casualties? Did the mechanism of trauma have a factor in this mass-casualty triage? How does this affect spinal immobilization rate during transport?

**Methods:** A retrospective analysis of investigational reports, ambulance forms, and medical charts of survivors of the crash was performed. Outcomes included triage classification, type of injury, Abbreviated Injury Scale (AIS) score, Injury Severity Scale (ISS) score, need for emergency intervention according to the "Baxt criteria", and spinal immobilization during transport.

**Results:** There was minimal documentation of prehospital triage. According to the in-hospital triage, 28% of patients were priority 1, 10% had an ISS score  $\geq 16$ , and 3% met the Baxt criteria for emergency intervention. Forty percent were priority 3, 72% had an ISS score  $\leq 8$ , and 63% were discharged from the emergency department. Approximately 83% were over-triaged, and the critical mortality rate was 0%. Nine percent of priority 3 casualties, and 17% of "walking" casualties had serious injuries. Twenty-five percent of all casualties were transported with spinal immobilization; 22% of patients with diagnosed spinal injury were not transported with spinal immobilization.

**Conclusions:** After the Turkish Airlines crash, documentation of triage was minimal. According to the Baxt criteria, there was a great amount of over-triage. Possible injuries sustained by plane crash survivors that seem minimally harmed (P3) must