

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

Prehosp Disaster Med 2011;26(Suppl. 1):s165–s166
doi:10.1017/S1049023X11005358

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

D.M. Higgins,¹ R.E. Thaxton²

1. Emergency Services, San Antonio, United States of America
2. Emergency Medicine, San Antonio, United States of America

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.

Prehosp Disaster Med 2011;26(Suppl. 1):s166
doi:10.1017/S1049023X1100536X

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

K.R. Kaufmann,¹ E. Oh,² J. Lin¹

1. Emergency Medicine, Chicago, United States of America
2. International Emergency Medicine, Chicago, United States of America

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.

Prehosp Disaster Med 2011;26(Suppl. 1):s166
doi:10.1017/S1049023X11005371

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

I.L.E. Postma,¹ H. Weel,² M. Heetveld,³ F. Bloemers,² T. Bijlsma,⁴ J.C. Goslings²

1. Trauma Unit, Department of Surgery, Amsterdam, Netherlands
2. Department of Surgery, Amsterdam, Netherlands
3. Department of Surgery, Haarlem, Netherlands
4. Department of Surgery, Hoofddorp, Netherlands

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 ≥ 16 , and 3% met the Baxt criteria for emergency intervention. Forty percent were priority 3, 72% had an ISS score ≤ 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

not be underestimated. Considering spinal immobilization, Not insufficient consideration given the high-energy trauma mechanism.

Prehosp Disaster Med 2011;26(Suppl. 1):s166–s167
doi:10.1017/S1049023X11005383

(P2-94) How One Group of Physicians Helped a Busy Emergency Department

J. Hu,¹ J. Xu,² J. Botler,¹ S. Haydar¹

1. Hospital Medicine, Portland, United States of America
2. Medicine, Zhejiang, China

A pilot admission leadership physician (ALP) program was experimented within a 693-bed, tertiary medical center with a 60-bed emergency department. This trial was intended to investigate whether having a physician triage potential patients would shorten patients' length-of-stay in the emergency department. After a emergency physician evaluated patients, ALP triaged them. The ALP ordered the appropriate bed for the patients if they qualified for the inpatient criteria, choosing among medical, medical telemetry, cardiac telemetry, intermediate care, or intensive care bed. The mean patient door-to-bed order time (time between patients reaching the emergency department to time to bed ordered by ALP) is 330.7 minutes ($n = 234$, $SD = 151.68$, $95\% CI = 310.21–351.28$) with ALP involvement. Compared with the mean door-to-bed order time of 337.8 minutes ($n = 827$, $SD = 149.71$, $95\% CI = 326.98–348.57$) without ALP, ALP shortened the waiting time by 7.09 minutes. During the same period, the door-to-physician time was 41.38 minutes ($SD = 38.87$, $95\% CI = 36.38–46.39$), compared with 39.52 minutes ($SD = 40.32$, $95\% CI = 36.77–42.27$) before ALP. The time for patients waiting in the emergency department for other services such as surgery, psychiatry, and pediatrics also have decreased accordingly. Incorrect medical admissions such as scrambling to get the patient to the intensive care unit right after seeing patients has decreased (data not provided). Identifying physicians as physicians in the emergency department who triage potential admissions also has improved efficiencies within the hospital medicine group and bonding with ER physicians.

Prehosp Disaster Med 2011;26(Suppl. 1):s167
doi:10.1017/S1049023X11005395

(P2-95) Pre-Decontamination Triage for Hazmat Casualties Involving an Unknown Chemical

K.C. Chan

Emergency Medicine, Singapore, Singapore

Pre-decontamination triage aims to prioritize the use of decontamination facilities for casualties based on their severity of injuries. Pre-decontamination triage aims to: (1) ensure severe casualties undergo early decontamination, in order for them to receive early definitive medical treatment post-decontamination; (2) provide basic life support measures, e.g., stopping external hemorrhage, use of bag valve mask ventilation, even before decontamination; (3) early administration of antidotes for organophosphate poisoning (if present). Triage during the pre-

decontamination takes place in the warm zone. Triage personnel must don personnel protective equipment (PPE) of level C or above. Donning PPE will decrease the visual, aural and tactile senses of triage personnel, adversely affecting their ability to carry out effective triage. With these limitations in mind, a pre-decontamination triage system was devised, modified from the Simple Triage and Rapid Treatment (START) protocol. Assessment will be based on the presence of airway, breathing, or circulatory compromises, or changes in mental status, similar to the START protocol. Recognition of organophosphate poisoning prior to decontamination is emphasized, as the toxidrome is recognizable and specific. Once organophosphate poisoning is diagnosed, the severity of the poisoning is graded and antidote administration is carried out using the Mark I Kits. The need to be certain of the diagnosis of organophosphate poisoning before administration of Mark I Kits is emphasized. The diagnosis may not be apparent initially to the triage personnel till a spectrum of patients with toxidromes suggestive of organophosphate poisoning has been seen.

Keywords: decontamination; organophosphate poisoning; pre-decontamination; toxidrome; triage

Prehosp Disaster Med 2011;26(Suppl. 1):s167
doi:10.1017/S1049023X11005401

(P2-96) A Single, Simple Triage Method

M. Raviolo,¹ M. Bortolin,² M. Vivalda,³ D. Bono²

1. Sc Maxi Emergenza, Saluzzo, Italy
2. Servizio Emergenza Territoriale 118 - Torino, Grugliasco, Italy
3. Neonatologia Ospedaliera, Torino, Italy

Introduction: At this time, no triage method is considered better than another in comparison to the outcome of the casualties. It is important and useful to identify a triage method that can be used for both adults and children at the same time. It should consider the anatomical and physiological differences between adults, children, and infants.

Objectives: To revise and adapt the current triage system in use in the Piemonte Emergency Medical Services for the first triage in a validated method that is effective for adults, children, and babies in order to unify and simplify the triage system.

Methods: In accordance with pediatricians, the "Triage Sieve" procedure and parameters were revised into a single method.

Results: Setting the height of the casualty was considered to be both quick and easy. In this revised method, all the casualties are classified with the sieve methods, but some changes have been introduced. Casualties with a stature < 59 cm are classified as infants, and are therefore priority T1 (red) in every case. Casualties > 60 cm but < 120 cm in stature are classified as children. Children with a respiratory rate < 15 or > 40 breaths per minute and a heart rate < 80 or > 160 beats per minute are classified as T1.

Conclusions: Children will probably be over-triaged in this method, but the authors do not consider that a substantial problem. This first triage system is simple and effective. But, it has not yet been tested effectively during an actual mass-casualty incident or disaster.

Prehosp Disaster Med 2011;26(Suppl. 1):s167
doi:10.1017/S1049023X11005413