

treats 50,000 trauma cases annually. The HemCon Bandage is a hemostatic dressing made of chitosan, a natural substance that adheres when in contact with blood. This is a preliminary report to determine the hemostatic effectiveness of HemCon Bandages used in a civilian EMS system. **Methods:** HemCon Bandages were added to 65 advanced life support (ALS) ambulances in August 2006. Paramedics received written and multimedia instructions for use. The dressing was indicated in all trauma cases of moderate to severe bleeding. Hospital emergency rooms were notified and provided removal instructions. Data collection and analysis was done by the Medical Division. **Results:** HemCon Bandages were used on five males and three females, average age 30 years (ranged 4–75 years). Of the eight cases, three were penetrating injuries and 5 were blunt injuries: gunshot (1), knife stab (1), shrapnel (1), road accidents (4), and falls (1). Three wounds were arterial, four massive venous and one laceration. Location of the bleeding was on the skull (2), neck (1), groin (1) and lower extremities (4).

In all eight cases, HemCon Bandages were effective and provided control of the bleeding within 3–5 minutes. In two cases, direct pressure and tourniquets were used and failed; the HemCon Bandage stopped the bleeding in both cases.

Conclusions: This data indicates that the use of the HemCon Bandage may be a useful tool to stop massive external bleedings by EMS teams.

Keywords: emergency medical services; HemCon® bandage; Israel; prehospital

Prehosp Disast Med 2007;22(2):s50–s51

(88) New Horizons in Ventilatory Support for Disasters

M. Lynn

University of Miami, Miller School of Medicine, Miami, Florida
USA

One of the characteristics of mass-casualty incidents is that an insufficient number of personnel available to provide medical care to a large number of victims. Recommendations of the Society of Critical Care Medicine for mass ventilatory support include the provision of ventilation, cardiac, and pulse oxymetry monitoring, and medical documentation. Plans for mass ventilatory support must be versatile and cost-effective.

“Disaster ventilators” must be promoted for daily use in intensive care units and, at the same time, be portable for use at alternate sites of care, as well as during transport; yet, duplication may be associated with prohibitive costs. Another important feature of a disaster ventilator is its simplicity, so that personnel without critical care training can operate it.

A variety of available ventilators provide adequate ventilatory support. Nevertheless, additional equipment, which must be operated by expert personnel, is required to provide monitoring.

A new ventilator is now available. It is a complete, intensive-care ventilator, but at the same time, it may be operated by non-expert personnel; it is portable and can be used at alternate sites and during transport; it includes pulse oxymetry and capnography, and can therefore, provide continuous patient monitoring. It also provides documentation due to its capability for storing physiologic data.

These features make this ventilator a versatile and cost-effective solution for mass ventilatory support.

Keywords: disaster ventilators; mass-casualty incident; medical documentation; oxymetry monitoring; ventilation

Prehosp Disast Med 2007;22(2):s51

(89) Recent Plane Crashes and Other Mishaps in the Federal Capital Territory

M.A. Oke

Agriculture and Rural Development, Nigeria

Air travel is the fastest means of transportation. However, it also can be dangerous if the necessary precautions and air traffic regulations are not taken into consideration.

The Sosoliso-Airline crash that killed 108 persons resulted into a doomsday in Nigeria. Factors that contributed to the crash included poor visibility, poor airline management, wind shear, and problems resulting from the age of the aircraft.

Sosoliso Airline is planning to phase out its DC-9 aircraft and replace them with MD-805 aircrafts. It also is preparing for an international operating safety audit of aircrafts.

This paper provides the information about the recent plane crashes in the Federal Capital Territory (Nigeria), including: (1) how the events affected the economy of the country; (2) the need for management to access information; and (3) the need for analysis and dissemination, policy development, problem-solving, and commerce development of the various airlines in the country.

Keywords: airlines; disaster; airplane crash; Nigeria; policy

Prehosp Disast Med 2007;22(2):s51

(90) Belgrade Emergency Medical Services Experience with Triage

J.B. Josifovski

Municipal Institute for Emergency Medical Service, Belgrade, Serbia

There are three stages involved in the triage process: (1) call is made to the “9-4” emergency phone line; (2) the call is transferred to the dispatch center; and (3) personnel are sent to the place of the emergency. Good triage parameters established at Belgrade EMS include: (1) response time; (2) intervention time; (3) ratio of the number of definite interventions and the number of patients recovered on-scene; (4) ratio of the number of patients transported to hospital and the number of patients hospitalized; (5) concordance between the initial and final diagnoses; (6) number of interventions performed in response to the diagnosis; and (7) ratio of the number of successful resuscitations to the total number of resuscitations performed.

In comparison with the results from the 2005 Annual Belgrade Emergency Medical Services (EMS) Performance Report, in 2006, the EMS response time is significantly faster and the intervention time is shorter, while the quality of interventions as well as other parameters improved. A larger number of patients were stabilized on-scene and a larger number of patients were hospitalized compared to the total number transported to hospital. There also was a higher degree of concordance between initial and final (hospital) diagnosis. The number of successfully performed resuscitations compared to the total number of commenced resuscitations also was significantly higher in 2006.

In conclusion, it is evident that good triage in all of its operational stages results in an improved quality of prehospital medical care.

Keywords: triage, emergency; parameters; ratio; prehospital

Prehosp Disast Med 2007;22(2):s51–s52

(91) Outcome after Out-of-Hospital Cardiac Arrest in a Physician-Staffed Emergency Medical System According to the Utstein Style

H.L. Estner,¹ C. Guenzel,² F. William,³ D. Blaumeiser,² M.A. Weber,⁴ K. Wilhelm,² A. Schomig¹

1. German Heart Center Munich, Munich, Germany
2. Medizinisches Versorgungszentrum Dachau, Dachau, Germany
3. Iltalklinikum Pfaffenhofen, Pfaffenhofen, Germany
4. Klinikum Dachau, Amperkliniken AG, Dachau, Germany

Introduction: Despite a large amount of data focusing on the outcome of out-of-hospital cardiac arrests (OHCA), little information is available about physician-staffed emergency medical service (EMS) systems. The aim of this study was to test the effects of a physician's presence on patient outcomes following OHCA.

Methods: In this January 2000–2006 observational study, all consecutive patients with OHCA in the community of Dachau in which resuscitation was attempted were included and followed-up to discharge from hospital, using the Utstein style.

Results: Of 135,000 inhabitants, in 539 patients (63.9 ±19.1 years, 349 males) cardiopulmonary resuscitation attempts were initiated. Of 412 patients with cardiac etiology, 180 (43.7%) were admitted to a hospital and 47 (11.4%) were discharged alive. In 105 patients with bystander-witnessed OHCA of cardiac origin with shockable rhythm, the discharged-alive rate was 32.4% (n = 34). Resuscitation was started by a physician in 117 (28.4%), by laymen in 118 (28.6%), or by EMS personnel in 177 (43.0%) patients. Eighteen patients (18.6%) treated by physicians, 13 patients (8.0%) treated by EMS personnel ($p = 0.02$), and 16 patients (16.5%) resuscitated by laymen were discharged from the hospital ($p = 0.8$; versus treatment by physician). In a multivariate analysis, the unit of first resuscitation attempt did not appear to be an independent predictor of survival.

Conclusion: The present data suggest that ventricular fibrillation for first ECG, observed OHCA and short response time intervals reduces mortality in patients suffering from an OHCA of cardiac etiology. The fact that a physician is on board of the ALS unit could not be identified as an independent determinant for improved survival rates.

Keywords: out-of-hospital cardiac arrest; physician-staffed EMS system; resuscitation; survival rate; ventricular fibrillation

Prehosp Disast Med 2007;22(2):s52

(92) Emergency Transport of Burn Injuries: The Case of Athens, Greece

T.N. Theodoros Sergeantanis,¹ D. Ntourakis,² A.N. Togia,¹ M.A. Sindos,¹ I.N. Sergeantanis,¹ A. Kabagiannis,³ I.P. Chatziralli,⁴ D. Pyrros¹

1. Hellenic National Centre for Emergency Care, Athens, Greece
2. Red Cross Hospital, Athens, Greece
3. Athens General Hospital "G.Gennimatas", Athens, Greece
4. Vostanion General Hospital, Mytilini, Greece

Introduction: This study analyzed the burn-related calls received by the Operational Center of the Hellenic National Centre for Emergency Care (EKAB) in the capital area of Athens, Greece.

Methods: All of the burn-related calls managed in 2005 by the Athens Dispatch Center of EKAB were abstracted. Statistical analysis was performed with STATA 8.0 statistical software.

Results: 461 emergency burn-related calls were recorded during 2005. Nearly 20% of the cases came from regions outside the metropolitan area of Athens. Another 10% corresponded to inter-hospital transports. The male patients (58%) comprised a majority. A significant 14% of cases were financial immigrants. The peak incidence occurred in July (13% of all cases). The 12:00–18:00 hour time interval was particularly aggravated; 37.8% of burn-related calls occurred therein, and the observed within-day variability was significant statistically ($p < 0.001$). The median time for arrival of the ambulance at the scene was 20 minutes; the median time at the scene was 10 minutes, and the median time for transport to the hospital was 15 minutes. Of the total number of cases, 17.6% were transported to the tertiary pediatric hospitals. The majority of cases was transported by BLS ambulances (80%), followed by mobile intensive care units (20%). The observed cancellation rate was 18.7%.

Conclusions: There is a significant burden on the Greek Province due to lack of specialized burn centers. The peak of cases in July might reflect the well-established role of light clothing in summer. The significant proportion of financial immigrants and children points to the need for prevention strategies focusing on these subpopulations.

Keywords: ambulance arrival time; Athens; burn victims; dispatch; emergency transport

Prehosp Disast Med 2007;22(2):s52

(93) Distribution of Competencies within Prehospital Emergency Care in The Netherlands

J.L. van Schuppen,¹ J.J.L.M. Bierens²

1. Soest, The Netherlands
2. VU University Medical Centre, Amsterdam, The Netherlands

Objectives: Prehospital emergency care in The Netherlands consists of two systems: (1) ambulances with highly qualified registered nurses (RN); and (2) mobile medical teams (MMT) with an anesthesiologist or trauma surgeon and a RN. In case of severe trauma or otherwise severely compromised patients, the MMT provides specialist, medical care in addition to ambulance care. The objective of this study is to provide information on the distribution of applied competencies when both systems collaborate. This