

**Results:** The most frequently identified people who first cared for the victims were the police (22.4%), passerbyers (21.7%), accompanying persons (18.9%), and the accused (5.6%). The police were involved at some point in 71.3% of the cases and were the first to notify the family in 89.7% of the cases. Of those interviewed, 52.6% of cases received no first aid at all, and 41.5% received elementary first aid. Casualties reached the trauma center by taxi in 24.8% of cases, government ambulance in 21.4% of cases, private ambulance in 19.3% of cases, and by police pick up van in 19.3% of cases. Additionally, 2.1% arrived on foot, and 5% of the cases traveled from more than 300kms away.

**Discussion:** There are poor guidelines and weak licensing requirements for ambulances. No one waits for the EMS to arrive, as there is none. Contrary to popular belief, the police usually were present.

**Conclusions:** Prehospital services in India are inequitable, with different services provided to urban versus rural, and paying versus non-paying patients. However, the lack of an EMS system in India did not significantly delay arrival of patients to the hospital. With this in mind, though, the responsibility for prehospital care should not fall on uninvolved citizens.

**Keywords:** ambulances; Emergency Medical Services; first aid; India; prehospital care

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### (85) Implementation of Automated External Defibrillation in the Belgian Emergency Medical Services System and Introduction of Public Access Defibrillation

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**Introduction:** Every year, 10,000 people die due to sudden cardiac arrest. This is the major cause of death in prehospital care. Ventricular Fibrillation (VF) and Pulseless Ventricular Tachycardia (VT) are the most frequent initial rhythms documented in witnessed cardiac arrest. Defibrillation is the most effective treatment for VF/Pulseless VT. If performed in time, this is an intervention with a high rate of success.

**Mission–Organization–Training:** In 2003 and 2005, the government of Belgium interviewed all prehospital EMS. With this enquiry, the number and type of Automatic Electronic Defibrillators (AEDs) in use, their frequency of application, and the percentage of ambulance people familiar with the use of AEDs could be identified.

During 2003 and 2004, instructor sessions (ERC Guidelines) were organized to implement uniform AED use. One hundred sixty instructors were trained by a pyramid system of teaching 9,000 ambulance men in the EMS system. Practical problems were discussed, such as uniformity and compatibility of AED devices and training equipment for education.

The total cost of equipping the ambulances that did not have an AED was estimated at 1,000,000 euros. In the 2006, the government distributed semi-automatic defibrillators to equip all ambulances in the EMS system. A change in the law in 2006 allowed PAD (Public Access

Defibrillation) for everybody. The Red Cross is now starting to train lay people.

**Conclusion:** Much progress has been made; however, Basic Life Support Defibrillation should be promoted because cerebral damage after ROSC is a major problem.

**Keywords:** automated external defibrillators; Belgium; costs; efficacy; emergency medical services; public access defibrillation; research training

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### (86) Ruptured Ectopic Pregnancy: Risk Factors for a Life-Threatening Condition

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**Objective:** To determine the risk factors for the rupture of an ectopic pregnancy in order to help physicians identify women who are at greatest risk.

**Methods:** The total of number of cases of ectopic pregnancy that were treated in the Gynecology Department of the General Hospital George Genimatas in Athens, Greece, between January 1988 and December 2006 was identified. The following parameters were examined retrospectively: (1) rupture status; (2) past history of pelvic infection or ectopic pregnancy; (3) use of intrauterine contraceptive device (IUCD); (4) operations for infertility treatment/tubal surgery; (5) parity; and (6) gestational age. The study group was assigned into two subgroups: (1) ruptured ectopic pregnancies (Group A); and (2) unruptured ectopic pregnancies (Group B). Where appropriate, Pearson's Chi-Square test was applied. Statistical analysis was performed using STATA 8.0 statistical software.

**Results:** Two-hundred and twenty-three cases of ectopic pregnancy were retrieved for the studied period. Of these, 144 (65%) were ruptured ectopic pregnancies (Group A) and 79 (35%) were unruptured ectopic pregnancies (Group B). Past history of ectopic pregnancy was present in 55 patients from Group A and 18 patients from Group B (38% vs 23% respectively,  $p = 0.019$ ). Moreover, there was a statistically significant positive association between rupture and parity. No statistical significance was found concerning past history of pelvic infection, use of IUCD, operations for infertility treatment or tubal surgery, and gestational age.

**Conclusions:** Previous history of ectopic pregnancy and parity seem to be significant risk factors for the rupture of an ectopic pregnancy.

**Keywords:** ectopic pregnancy; gynecology; parity; pelvic infection; rupture

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### (87) Prehospital Use of the HemCon Bandage by Paramedics of Magen David Adom, the Israeli National Emergency Medical Services System

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**Introduction:** Magen David Adom (MDA) is the Israeli national emergency medical services (EMS) system that

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

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### (88) New Horizons in Ventilatory Support for Disasters

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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

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

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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

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### (90) Belgrade Emergency Medical Services Experience with Triage

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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.