significant improvement from theoretical to practical training was demonstrated, this benefit is lost under conditions causing physical stress. Interestingly, the best performance occurred under the conditions of combined physical/psychological stress.

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Keywords: cardiopulmonary resuscitation; carotid-pulse-check; emergency medical services; soldiers; stress; training
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(58) Survey of Local Emergency Medical Services Missions in Kashan during the Six-Month Period from 21 March–22 September 2006

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Introduction: Kashan is a city located in the province of Esfahan, Iran located between the city of Esfahan and Tehran, the capital. It has an area of 9,617 km2, and a population of 270,000 persons. The 115 emergency medical services (EMS) systems in Kashan have three urban (six ambulances) and six road (seven ambulances) stations. Ambulances are staffed by two crew members trained in rescue, stabilization, transport, and basic care of traumatic and medical emergencies.

Objective: The objective of this study was to describe the current state of EMS in Kashan.

Methods: In a retrospective descriptive study, patients treated by the 115 EMS during a six-month period were surveyed using a review of command center records. Data included: (1) total missions performed (urban and road); (2) type of mission (trauma or medical emergency); and (3) response time (RT), interval between call receipt and arrival on-scene. Descriptive statistics were used to analyze the results.

Results: Of the 5,616 missions during the study period, 4,619 (82.2%) were urban and 997(17.8%) were road missions. Among urban missions, 2,603 cases (56.3%) were due to trauma, and 2,016 (43.7) were medical emergencies. A total of 57.1% of urban trauma emergencies and 86.7% of road missions were due to motor vehicle crashes. The mean RT for urban and road missions were 4.412.16 min and 10.446.37 min respectively.

Conclusions: The results of this study indicate motor vehicle crashes are a major problem in Kashan. The EMS response time is acceptable in urban and road area but unfortunately we have no any rural services and must improve our services in rural area.

Keywords: emergency medical services (EMS); Iran
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(59) Outcome of Prehospital Cardiac Arrest Cases Treated by the National Center for Emergency Medical Services (EKAV) during 2006 in Heraklion, Crete, Greece

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Objectives: The aim o this study was to review of all of the cases of prehospital cardiac arrest treated by a hospital's emergency medical services (EMS) personnel during a 10-month period from January through October 2006.

Methods: Retrospective analysis was conducted of prospectively collected data, including: (1) patient demographics; (2) arrest rhythm; (3) duration of arrest; (4) time to cardiopulmonary resuscitation (CPR) initiation; (5) time to first defibrillation; (6) time to Return of Spontaneous Circulation (ROSC); (7) status at hospital admission; and (8) status at hospital discharge.

Results: From January through October 2006, 67 cases of prehospital cardiac arrest were treated by the EMS personnel. The mean value for the age was 59 ±12 years, 67% were male. Of the arrest rhythms: (1) 62.7% were asystole; (2) 23.9% were ventricular fibrillation; (3) 13.4% ventricular tachycardia. Of the 67 cases of prehospital cardiac arrest, 23 (34.3%) patients were alive at hospital admission (survivors). For these survivors, the mean time to CPR initiation and mean time to first defibrillation were 6 ±4 minutes and 15 ±12 minutes respectively, whereas the corresponding values for non-survivors were 9 ±5 and 1,914 minutes. For the survivors, the mean time to ROSC was 17 minutes (range: 1–62 minutes). Only 30.4% of patients alive at hospital admission were discharged alive, with a mean time to CPR initiation and mean time to first defibrillation of 3 ±4 minutes and 4 ±4 minutes respectively.

Conclusions: During this 10-month period, approximately one out of three cases of prehospital cardiac arrest arrived at the hospital alive; however, only one of 10 cases was still alive at hospital discharge. Timely initiation of effective CPR and defibrillation (whenever indicated) are the main aspects that must be targeted in order to improve survival rates in pre-hospital cardiac arrest.

Keywords: cardiac arrest; cardiopulmonary resuscitation (CPR); emergency medicine services; personnel; prehospital
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(60) Aeromedical Transportation in Japan—Recent Progress

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The efficacy of air medical transport for saving the lives of injured soldiers first was realized during the Korean War in the 1950s. Therefore, it is interesting that the development of a national air medical transport service in Japan only occurred in 1999. Since then, the Dr-Heli system has been used to transport experienced emergency physicians and nurses from advanced emergency medical centers to the

sites of accidents. Using a double-engine helicopter, the service is the first dedicated aeromedical transport service in Japan. Currently, there are only 10 stations in Japan, but >35 are envisioned for the future. The system is a national project funded by equal contributions from the national and local governments. Unfortunately, the financial burden confronting many local governments means that their funding has become a bottleneck for expansion. However, the economic benefits associated with preventing "preventable deaths" have been demonstrated through the Dr-Heli system. Additional problems with deploying aeromedical facilities in Japan include difficulties with landing on major transportation routes. In addition, while communication between aeromedical facilities and the police has improved markedly, further cooperation with fire departments, police services, and road management bodies is necessary. The effectiveness and advantages of medical transport by helicopters in urban areas also must be assessed. While these aspects have been demonstrated in suburban areas and areas with insufficient medical services, they have yet to be considered and assessed in major cities.

Keywords: aeromedical; development; emergency medical services; funding; helicopters; Japan; transport
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(61) Return of Spontaneous Circulation and Neurologic Outcome after Administering LUCAS-CPR for In-Hospital Cardiac Arrest

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Introduction: Recently, LUCAS-CPR was introduced at H. Hart Hospital in Belgium.
Methods: From February until June 2006, LUCAS-CPR was used for all cases of adult in-hospital cardiac arrest after the arrival of the in-hospital emergency team. The Glasgow Coma Scale (GCS) Score was used to determine the neurological outcome 24 hours after discontinuing sedative drugs. At three months, the outcome was determined by the Cerebral Performance Categories (CPC). Results are presented as mean ±standard deviaton.
Results: Thirty-five patients received in-hospital LUCAS-CPR. Thirteen were female. The mean value for the age was 72.6 ±10.6 years. In 16 cases, the arrest occurred in a monitored department (emergency department, coronary care unit, intensive care unit), and a 19 occurred in a general ward. All but one of the arrests were witnessed. The mean duration of manual, closed-chest compression before LUCAS-CPR was 6.6 ±4.91 min. The first rhythm was asystol in eight patients (22.8%), PEA in 19 (54.3%), and VT/VF in eight (22.8%). Return of spontaneous circulation was obtained in 22 of 35 patients (62.9%). Twenty-four hours after discontinuing sedative drugs, the GCS was favorable (14 or 15/15) in 15 cases (42.8%). At three months, the CPC was 1 in 4 (11.4%) and of 2 in 5 patients (14.3%). One patient had a CPC of 3 and one had a CPC of 4.
Conclusion: LUCAS-CPR is a good alternative for manual closed-chest compression for patients with in-hospital cardiac arrest. ROSC ratio (62.9%) and early neurologic outcome determined by the GCS (42.8%) are high. Long-term follow up by CPC supported a positive outcome (CPC 1 or 2) in 25.7%.

Keywords: cardiac arrest; circulation; hospital; LUCAS-CPR; return of spontaneous circulation
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(62) Role of the Greek Aeromedical Evacuation Office during Early Reperfusion of Patients with ST-Elevation Myocardial Injury

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Introduction: In Europe, coronary artery disease is responsible for 40% of deaths of persons ≤75 years age. About 1:3 of acute myocardial infarctions (AMI) are fatal before treatment, mostly within the first hour after symptoms appear. Aeromedical transport of cardiac patients quickly is developing internationally. In-flight coronary thrombolysis, temporary pacing, and defibrillations have been documented as safe and improve morbidity and mortality rates.

The Aeromedical Evacuation Office of the National Center for Emergency Health Care (EKAB) has been the official governmental institution for providing prehospital emergency medical care in Greece since 1994. The EKAB provides high standards of aeromedical services.
Methods: An international bibliography review, statistical analysis of the EKAB database, review of the protocol of in-flight coronary thrombolysis, and the scientific estimation of Greek Aeromedical Evacuation Office practices has been elaborated.
Results: A meta-analysis of six trial studies, which included 6,000 patients, documented that the average time to treatment from AMI symptoms setting decreased by 58 minutes after prehospital thrombolysis, resulting in 17% decrease of in-hospital mortality. Decreasing one hour to treatment with prehospital thrombolysis application saved 21 lives/1,000 patients that were treated within in the time frame of three hours from onset of symptoms.
Conclusions: A pilot study of in-flight coronary thrombolysis and aeromedical transportation for primary Percutanerous Transluminal Coronary Angioplasty, in collaboration with the Greek Cardiological Society and Greek Task Force for Invasive Cardiology, provides an opportunity to compare international and Greek results with the aim of further development of this practice in Greece.

Keywords: aeromedical; emergency medicine; evacuation; Greece; myocardial infarction
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(63) Functions of Hyogo Emergency Medical Center

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The Hyogo Emergency Medical Center (HEMC) was established in 2003, and is intended to save lives by adjusting care between each organization during disasters.

First, there are several training courses for medical staff and medical volunteers in Hyogo Prefecture, disaster medical assistance teams (DMATs), and well-trained and well-