

action of real accident situations. It also is difficult to represent accident situations with casualties represented by live players, because different traumas and symptoms are nearly impossible to be vividly and correctly simulated. Thus, there is an urgent need to provide easily available and truly interactive methods for large-scale training for both individual members as well as for emergency groups and ensembles.

Interactivity, problem solving, decision-making, immediate evaluation, and feedback are the key elements of a simulation program for training actions for medical emergency care.

There are two totally different applications available to provide adequate training. The first is to construct a simulation training centre with giant computers to create integrated group training sessions or even virtual reality circumstances. The other way is to provide large-scale individual training with software running in a normal PC. The tactics and cooperation at the site of an accident are so multidimensional that it has only been in recent years that the more advanced computer technology has made it possible to create this type of simulation program for PCs. With these programs, it is possible to create challenging scenes with naturally acting casualties having different injuries. Because the program "memorizes" the performance step by step, it can be scored and evaluated. This immediate feedback is essential for learning and progressing successfully to more difficult situations. This individual training later can be completed in much more advanced and technically demanding group sessions. We can expect that interactive training software production will accelerate, and thus, provide modern useful training and testing methods for emergency care.

Key words: computers; emergency care; groups; feedback; individual; interactive; learning; simulations

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Municipal Contingency Plans

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During the last century, disaster prevention has become the focus of attention in emergencies administration. Knowing clearly and accurately the possible effects of a disaster, and who commands the responses in case of emergency, can facilitate the civil protection authorities and the general population to develop specific mechanisms to reduce the impact of calamitous events.

Municipal Contingency Plan (MPC) develops community protection actions and includes action organizations, services, people, and resources available to attend to disasters. It also contains specific risk identification, community preparedness, local capabilities for response, risk planning, and establishment of the structure for organization (authorities, agencies, offices, volunteers) to respond at the emergency. Each element knows their respective role—what to do, what not to do, and how to participate in a

team effort.

The state of Oaxaca is situated in the southeast portion of Mexico and presents a complex geography that makes access to basic emergency services difficult. The state is also at high risk for earthquakes: Of the total number of earthquakes in Mexico, 40% strike in Oaxaca. Additionally, the Tehuantepec Isthmus Region occupies the first matrix point for generating hurricanes.

Today more than ever before, both the urban and rural population in Oaxaca know the effects of disasters. The government and society are now more inclined to promote and practice self-protection and the prevention of the most traumatic consequences.

Development of the proposed MPC forces decision-makers to plan and execute preventive actions and emergency projects, by developing effective formulas that can improve the stability factors and response mechanisms. Our goal is the generation of organizational schemes based on natural community leadership.

In order to develop prevention strategies, we must facilitate collaborative activities between municipal institutions, like education and health, promoting natural schemes of organization. This organization should be based in the society and not in government offices because if programs are applied by official means, they may have only a short-term effect. However, if its implementation is developed and adopted by the local community, its effect may be more long-term.

The Civil Protection Office in Oaxaca, has implemented this formula and it is clearly effective. Where the population has been adopted these systems, especially in the hazardous places, they have been able to prevent the most common causes of disasters and promote a culture of prevention.

Key words: collaboration; contingency planning; disaster; municipal; planning; prevention; risk; roles

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Cardiac Arrest: The Case Against Public Access Defibrillation

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Objective: The aim of this study was to determine the location of out-of-hospital cardiac arrests in Melbourne, Australia, and to determine if public access defibrillation may be of benefit.

Methods: A retrospective case note review of all out-of-hospital cardiac arrests that presented to the Metropolitan Ambulance Service (Melbourne, Australia) for 1997, was performed with the use of the Utstein Criteria.

Results: 1,064 victims of out-of-hospital cardiac arrests were identified: (1) age, 66.5 ±15.3 years; (2) gender, 64% male; (3) response time, 9.1 ±4.2 minutes; (4) witnessed, 57.5%; (5) documented call to 000, 87.7%; (6) bystander CPR, 34.7%; and (7) location: private home, 915/1,064 (93.7%), public place, 62/1,064 (5.8%).

Conclusions: These results indicate that out-of-hospital car-

diac arrests occur mainly in the victim's home. From these data, there appears little evidence to support large-scale deployment of public access defibrillators.

Key words: arrest; cardiac; defibrillators; homes; out-of-hospital; public access; public places; Utstein style

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Asystole Cardiac Arrest in Melbourne, Australia

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Introduction: Out-of-hospital cardiac arrest (OHCA) claims approximately 2,000 victims in Metropolitan Melbourne each year. Ventricular fibrillation (VF) and ventricular tachycardia (VT) are the common presenting rhythms found by the EMS-providers for Melbourne, the Metropolitan Ambulance Service (MAS). Asystole is less commonly encountered. International studies have shown that the survival rate of OHCA presenting as asystole is very poor. This study investigated victims of OHCA who presented to the MAS in asystole.

Results: In a 12-month period, 778 patients met the entry criteria. The mean value for age was 67.2 years, 36% were female, 64% male. Response time was a mean of 9.8 minutes. Resuscitation was commenced on 37% of patients. There was one survivor (0.12%).

Conclusion: Adult victims of OHCA presenting as asystole should not receive treatment.

Key words: arrest; asystole; cardiac; out-of-hospital; survival

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Advanced Life Support Skills of Emergency Department Staff

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Introduction: Cardiac arrest is a common event in emergency departments. Survival from cardiac arrest can be used as a measure of performance of an emergency department (ED), and can be used as a tool for comparing emergency departments. In the prehospital setting, ventricular fibrillation (VF) is the most commonly recorded rhythm. There are no Australian data that indicate the most common cardiac rhythm found in patients who arrest in the emergency department. Prompt, safe defibrillation is the treatment most likely to improve survival after VF. Optimum effect from defibrillation occurs within 90 seconds of onset of VF. The aim of this study was to determine whether VF could be identified and managed adequately in an ED setting in accordance with the resuscitation protocol prescribed by the hospital.

Methods: The ED staff of a tertiary referral hospital were

assessed as to their ability to manage patients with VF. The subjects for this study were staff volunteers from the medical and nursing staff from the ED. The subjects were asked to manage, without warning and apparent prior knowledge, a simulated patient in VF. The study took place in the hospital setting known to the subject.

Results: The time to defibrillation varied between staff type and appointment level with the majority of subjects achieving defibrillation within the 90 second time frame.

Conclusion: The results suggest that teaching, training, and testing of ED staff in the management of VF be improved, and that there may be a role for the use of Automated External Defibrillators in the ED setting.

Key words: automatic external defibrillator; ability; defibrillation; emergency department; staff; training; treatment; ventricular fibrillation

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Earthquake in Armenia of 1988

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A total of 3,232 children have suffered from the earthquakes in Armenia in 1988. Of these, 2,007 (62.1%) sustained various damages to the locomoto apparatus. Of these, 653 (32.5%) sustained closed fractures, 286 (14.2%) sustained open fractures, and 377 (18.8%) children had crush-syndrome.

The medical care was provided in two stages: (1) pre-hospital first aid (control of bleeding, application of aseptic bandages, anesthesia, immobilization, and transport) was implemented at the place of incident; and (2) The full complement of the aid to victims at the site not always was implemented because the crews providing the first aid did not have adequate supplies of medical equipment. In this series of cases, some victims were delivered to a hospital without having any first aid.

The greatest difficulty with the treatment has arisen for those victims not treated in specialized clinics. The errors in treatment for this group of the patient have resulted in development of contractures of joints, high-gravity palsy of extremities, deformity of segments, and quite often, led to amputations. Many errors were made at rendering assistance to children with high-gravity, open fractures, and with the syndrome long-time compression (LTC). The vast cuts of extremities made in last cases, complicated the condition of the patients due to secondary wound infections and padding intoxication. We were forced to perform amputation in five of them. We performed fasciotomies only when ischemia of extremities was threatening and definite intoxication from several small approach. Three patients with the high-gravity form of LTC developed of an aseptic necrosis the head of the hip.

Analysis of results of treatment LTC of extremities has shown the ineffectiveness of using during the first days, compression-distraction apparatus or fulfilment of a sub-