

injuries, burns, etc., accounted for 4.3%. The pre-hospital care providers performed more than 2,000 non invasive procedures such as airways establishment, splint applications, etc. They also performed more than 300 invasive procedures including IV administered (under the radio direction of the physician), esophageal intubation, etc. The total mortality of this group was 32 patients (2.22%): 29 died at the scene of the accident and 3 patients died during transportation to the trauma center.

Conclusion

This pioneering attempt to create "the consciousness" in Latin America of the value of Pre-Hospital care providers, has been rewarded with a significant decrease in morbidity and mortality from a previous 25% to 2.2%.

DISASTER RESPONSE TO A PHOSPHOROUS FIRE EXPOSURE

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On July 8, 1986, 15 cars of a 38-car train derailed in Miamisburg, Ohio. A car in the derailment contained white phosphorus which immediately ignited upon exposure to air. The resultant cloud of toxic gas forced the evacuation of approximately 40,000 residents in the area. Emergency medical involvement during the incident included emergency physicians at the medical command post and 2 of the 12 evacuation centers, 116 EMS squads from 6 counties as well as personnel staffing emergency departments.

Approximately 500 victims were seen in local emergency departments. Most victims had eye and respiratory irritation. Minor injuries were sustained by several rescue workers. There were no deaths reported related to the incident.

The disaster incident lasted 110 hours and adequately tested the recently revised county disaster plan. A discussion of the evacuation and patient presentation and treatment is provided.

DEVELOPMENT OF A STATEWIDE TRAUMA/EMS SYSTEM: THE MARYLAND EXPERIENCE

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Maryland, U.S.A.**

The Maryland Institute for Emergency Medical Services Systems has become a leader in trauma and emergency medical services committed to advancing the total care of the critically injured or ill patient by increasing the ability of the prehospital and hospital personnel to handle critical emergencies. MIEMSS is the control center of an organized, statewide EMS system unmatched in sophistication and scope. It is a composite of numerous interdependent subsystems, operated by public and private agencies and institutions at the state and local levels. MIEMSS coordinates the emergency care services of Maryland's 46 hospitals, 10 areawide trauma centers, 19 specialty referral centers and 6 consultation centers. The MIEMSS Shock Trauma Center, the clinical core of the system, was officially opened in 1961 with 2 beds. Today, the Center has 108 beds and cares for more than 2500 patients annually. Extended rehabilitation care for patients recovering from severe head, spinal cord or skeletal injuries is provided at the MIEMSS Montebello Center. MIEMSS also coordinates the state's EMS transportation and communications systems and provides training for emergency medical personnel. In addition, MIEMSS maintains a statewide registry and runs a baccalaureate and masters program in emergency health services at the University of Maryland Baltimore County. MIEMSS also conducts active public information and education programs to keep the public informed about EMS services and the Institute's accomplishments.

GENERAL CONCEPTS OF JAPAN MEDICAL TEAM FOR DISASTER RELIEF AND ITS PROBLEMS

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In cases of large scale disasters which destroy local emergency medical services system or even threaten these at a national level in developing countries,

international cooperation is mandatory. The Japanese Association for Acute Medicine submitted the idea of the JMTDR to the Japanese government. The purpose of JMTDR is to dispatch medical relief teams immediately to disaster-stricken areas in the developing countries, mainly in Asia.

The term "disaster" for JMTDR is limited to natural disasters. This idea was reported by the Ministry of Foreign Affairs at the Cabinet Meeting and was approved and authorized as one of the governmental organizations on March 5th, 1982. Since that time, Japan has sent the JMTDR to six countries, i.e., Ethiopia (Famine), Mexico (Earthquake), Columbia (Eruption of Nevado Del Ruiz and alluvion), Cameroon (Volcanic gas asphyxia), El Salvador (Earthquake), and Solomon (Cyclone).

We analyzed the reports by the team leaders. Each complained of the lack of their own air transport capability. To use Self-Defence Airforce craft to overseas locations is not yet approved by the general public. This restrained us from carrying heavy equipment and vehicles and we were compelled to waste time and bear psychological burdens.

In conclusion, however, JMTDR could help the exhausted local medical staffs in several occasions.

A MAJOR TRAIN ACCIDENT TESTS CONTINGENCY PLANS AND A STATEWIDE EMS SYSTEM

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A sudden crash of a high-speed passenger train into a freight train in Chase, Maryland (U.S.A.) resulted in 16 fatalities and 176 injured persons being treated at hospitals. Another 419 passengers were taken to emergency centers. This mass casualty incident demonstrated the vital importance of having a pre-existing highly coordinated Statewide EMS system. An efficient and effective EMS response was provided by implementing local and state contingency plans. These plans are an extension of normal day-to-day operational protocols and provide for centralized medical command and control. More than 50 ambulances, several buses and 10 helicopters were used to

transport casualties to 11 hospitals for treatment. A precarious stacking of two passenger cars atop a club car presented an exceptionally difficult and unstable situation for rescue and medical personnel who toiled for many hours trying to maintain life and extricate entrapped victims. The last live victim was freed from the wreckage 10-1/2 hours after the crash.

INTERNATIONAL PANEL: RESUSCITATION POTENTIALS IN EARTHQUAKES

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Retrospective interviews of surviving lay and physician eye witnesses of the earthquakes in Italy (1980) and Peru (1970) suggest resuscitation could be cost-effective (JWAEDM 2:34, 1986). All estimates agreed that about 40% of those who died slowly and were accessible (about one-third of all killed) might have been resuscitable—if 1) uninjured co-victims had been trained in life-supporting first aid (LSFA); and 2) advanced trauma life support (ATLS) had reached the victims within 6 hours. Potentially reversible slow dying seemed the result of coma (airway obstruction) due to head injury, dust inhalation, external hemorrhage, crushing injuries, internal hemorrhage, and wound infection. Mexico's and other countries' experiences will be summarized.

We intend to invite health professionals who witnessed recent earthquakes in Latin America, to corroborate or modify these impressions, and to explore the possibility of developing international guidelines for resuscitation components within NDMS plans now under development. Estimates of potential benefit and cost are needed for: 1) Mandatory public education in LSFA. 2) Development of novel technologies for prediction and recognition of earthquakes, initiation of response, communication, airlift, finding buried victims, and a traumatic rapid extrication. 3) Medical ATLS teams brought to the scene within 6-12 hours (military). 4) Triage and rapid evacuation to appropriate trauma center with BLS vs. ATLS en route. 5) Field hospitals.