## M-technologies in Management of Disasters and Mass Casualties

*Melle Maria Fernanda Cabrera Umpierrez*
ETSI Telecomunicacion, Ciudad Universitaria, Madrid, SPAIN

Nowadays, a great number of applications are used to compile and transmit information relative to casualties and disasters, but there are many problems associated with the technology including reliability, and the size and weight of the devices that a medical staff must carry. Telecommunication infrastructures support information movement among geographically dispersed locations. Recently, many small devices have appeared in the buyer's market. They are called Personal Digital Assistants, and because of their physical and technical features, they can be very useful in the emergency field. With regard to communications reliability, many technologies have been developed in the last few years. However, it is necessary to find a solution that can be used in every situation independent of the emergency circumstances.

In cases of disaster, the responsible Health Emergency Coordination Centre must receive accurate and current information about the number, type of injuries, and location of the victims. This information, as well as the location and status of all the available resources, must be communicated immediately to the related emergency services and to the authorities in charge of the situation. Acknowledging this need, the Spanish government funded REMAF, an ATYCA (Initiative of Support for the Technology, Security and Quality in the Industry) project. The REMAF joined research groups (UPM), telephone operators (Fundación Airtel Móvil), and the end users (SAMUR) to build a disaster data management system. The system was designed to use modern telemedicine systems—including the aforementioned mobile communication tools and networks in order to optimise management of these situations.

**Key words**: communications; computers; disasters; management; system; telecommunications; telemedicine
**E-mail**: chiqui@gbt.tfo.upm.es
*Prehosp Disast Med* 2001;16(2):s78.

## Four Workers Poisoned with Crezol

*F. Van Trimpont*
Chu Ambroise Pare, Mons, BELGIUM

*Introduction*: Four patients who were in contact with Creozote (crezol) came to the emergencies with a cutaneous and respiratory symptomatology.
*Method*: Four workers handled beams which were soaked in creozote oil a few days prior to the exposure. Creozote is a mixture of phenols and polyphenols. These beams are exposed to the sun and diffuse emanations of chlorinated polyphenols. The workers suffered from a face rash and irritated eyes and were also hyperthermic. The poisoning with crezol ingestion usually results in the development of a hepatocellular syndrome,[1] and/or neurotoxicity.[2] The local symptoms often consist of cutaneous irritation or even a cutaneous burning.[3]
*Results*:

| Patient (age) | Symptoms | Chest X-ray |
|---|---|---|
| 1 (26 years old) | Face irritation, breathing problem, wheezing, T: 37.7°C. | Normal |
| 2 (38 years old) | Face irritation, normal pulmonary auscultation, T: 38.5°C. | Normal |
| 3 (46 years old) | Face irritation, normal pulmonary auscultation. T: 37.7°C. | Normal |
| 4 (29 years old) | Important face irritation, breathing problem, normal pulmonary auscultation. T: 38.7°C. | Normal |

| Patient (age) | Gasometry (pH, $pO_2$, $pCO_2$, $SaO_2$%) | Biology |
|---|---|---|
| 1 (26 years old) | 7.41, 99, 41, 98% | Normal |
| 2 (38 years old) | 7.40, 93, 36, 97% | Normal |
| 3 (46 years old) | 7.38, 78, 46, 95% | Normal |
| 4 (29 years old) | 7.45, 60, 38, 93% | Normal |

*Conclusions*: The handling of soaked creozote oil beams caused face irritation, breathing problems, and an unexplained hyperthermia.

### References

1. Hashimoto T, Lida H, Dohi S: Marked increases of aminotransferase levels after cresol ingestion. *Am J Emerg Med* 1998;16(7):667–668.
2. Craig PK, Barth ML: Evaluation of the hazards of industrial exposure to tricesyl phosphate: A review and interpretation of the literature. *J Toxicol Environ Health B Crit Rev* 1999;2(4):281-300.
3. Lin Ch, Yang Jy: Chemical burn with cresol intoxication and multiple organ failure. *Burns* 1992;18(2):162–166.

**Key words**: creazote; hyperthermia; hypoxemia; manifestations; phenols; polyphenols; rash
*Prehosp Disast Med* 2001;16(2):s78.

## Efficiency of Cardiopulmonary Resuscitation: Comparison Between Evolutions

*F. Van Trimpont*
Chu Ambroise Pare, Mons, BELGIUM

*Introduction*: Criteria used for teaching of cardiopulmonary resuscitation (CPR) change with time. We studied the results of evaluations of nurses tested following several standards used at several times of CPR teaching.
*Method*: Nurses were evaluated on the Resusci-Anne Skillmeter (Laerdal, Stavanger, Norway). Results from ventilation were analysed using the old American criteria for resuscitation (800 to 120 ml for each ventilation), old European criteria for resuscitation (400 to 600 ml for each ventilation), and the new recommendations from the European Resuscitation Council (10 ml/kg). The results were compared with results of similar evaluation realised in 1989 with nurses at the end of their formation and eight months after CPR formation with American criteria from 1989 (800 to 1,200 ml). Each group contained 18 people. Percentage of correct compressions in 2001 were also compared with 1989.
*Results*: