

pinned below the truck. No possible access exists, and only an ankle can be reached.

Method: Collaboration between firemen, paramedics, medical team, and civil protection must permit extrication of the driver as soon as possible with maximum of security for the driver. This patient was conscious, can answer the questions, and has problems breathing because of compression.

Results: Following consciousness, the paramedics gave oxygen to the victim with a mask introduced below the truck as close as possible of the supposed localization of the face.

The fire personnel attempted to move the truck with several extrication apparatus, but with no results because of the weight of the truck. Civil protection then was called.

The medical team then set a trans-tibial infusion line and sedation using ketamine.

Civil protection then lifted the truck with a wrecking crane.

After the truck was lifted, the paramedics could then place a cervical collar and a backboard and begin monitoring vital signs. The medical team could then set a peripheral intravenous line.

Conclusions: Collaboration between different services (firepersons, paramedics, doctors, nurses, and civil protection) permitted extrication in one and a half hours with maximum efficiency.

Key words: compression; doctors; efficiency; entrapment; extrication; firemen; nurses; paramedics; civil protection; team

Prehosp Disast Med 2001;16(2):s77.

Management of the PMA (Advanced Medical Post): Contributions of New Tools

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Introduction: Any catastrophic event implies problems in the management of the victims at the scene of the accident, as well as identifying the appropriate area to which they should be admitted. The implementation of the "red plan" in our industrial nations is mainly in response to "catastrophic accidents with limited effects" (ACEL). The administrative management of the disaster is at the charge of nonmedical authorities, and must face on one hand, the difficulty of management appropriate to the ACEL, but also on the other hand, the pressing demand of information on behalf of the media. This implies a constant and effective flow of information to the administrative authorities through the medical staff, mainly at the level of the "advanced medical post" (PMA). It also demands a successful secretariat with fast and reliable communications that facilitates permanent control of victims' movements within the PMA. In this paper, we explain innovative measures to meet this target.

Method: The first point is about the initial and definitive identification of the patient. Ideally, the victim is identified, conscious or not, at the site of the event, by means of recognition that is appropriate for him or her. We use bracelets that bear a bar code in order to use the advantages

of the computerization of the PMA. These bracelets are of various colors according to the severity of the victim's injuries (absolute emergency [UA], relative emergency [UR], injured, dead). A bar code identifying the number of the bracelet is written on it transversely and longitudinally, so that it can be read quickly no matter the position of the patient. In addition, it has detachable labels that carry the bar code, and the numbers also are available. They can be used at each level of management of the disaster.

The second point is computerization of the PMA, which consists of a network system of laptops and printers that equip a secretariat at the entrance of the PMA, another secretariat at the exit, and one at the headquarters. The initial conditions of the software elements are: (1) simplicity and speed of application, (2) simplicity and speed of use with the assistance in crises by means of pop-up menus, (3) automatic publishing of list and statistics during the course of the mission, (4) respect for the input-output chain, with control of double or missing elements, and (5) modular use (no position or server dedicated) and total security of data autonomy for 3 hours.

To test this equipment in actual conditions, we took advantage of the annual exercise of the SAMU 67 to perform a "double blind" test using a classical secretariat and a computerized secretariat. The exercise consisted of an accident of a tramway in a tunnel using actors simulating as close as possible to reality, including desperate and impulsive acts that may occur with patients under stress.

Results: The superiority of the computerized secretariat could be seen within the first quarter of an hour, because only the computerized "version" was able to provide regular information regarding the situation in real time with only two members of the staff engaged in the process. Acquisition was facilitated largely with the bar code bracelets, because one person was able to register 41 patients at the entrance within the first 20 minutes. In addition, use of the computer version avoided double registrations, and provided a precise picture of the flow of the victims. On the other hand, the secretariat done manually registered doubles and lost one victim. The exercise was concluded after 1.55 hours during which time 78 victims were treated (8 UA, 14 UR, 56 injured, 0 dead).

Conclusion: This experiment of "double blind" type demonstrated the feasibility of computer-assisted management of the PMA. Furthermore, we were able to define a number of advantages: (1) reliability and speed of balance listing supplied in the operational headquarters (PCO), (2) constant check of patients flows within the PMA, with fast detection of possible errors, and (3) savings in terms of the numbers of staff engaged in the process. Additionally, this type of management remains flexible with regard to the type of catastrophic accident, constant connection with the SAMU, management of destinations, management of several PMA, and an "evacuation grouping point".

Key words: advanced medical post; communications; computers; disaster; information; records; registration; triage

Prehosp Disast Med 2001;16(2):s77.