

siveness when faced with multiple choices because of the dilemma posed by this choice. These persons need a developed theoretical grounding in order to justify their choice.

An evaluation programme of the teaching of emergency practices has been developed in order to exploit the answers to a questionnaire offered to more than 7,000 first-aiders trained each year. This programme was designed for a MacIntosh computer. It analyses four types of information: 1) personal details (profession, age) which remain confidential; 2) information concerning the training of the individual; 3) training course, quality, organization, teaching methods used, etc.; 4) answers to 10 questions concerning their knowledge of the CPR programme; the assessment of a victim, recovery position, mouth-to-mouth ventilation, chest compressions; and 5) steps to take when faced with: a) haemorrhage; b) heart attack; c) suffocation; d) electrocution; etc. The questions relating to the assessment of the level of knowledge can be modified without disrupting the comparative analysis from year to year.

Thus, with the help of the programme, it is possible to devise a validation or non-validation of the choice of teaching practices.

**Key Words:** academic level; CPR; evaluation; first-aid; training

#### **Training in Disaster Medicine: How to Simulate Pathologies and Treatments and How to Evaluate Efficiency of Medical Care**

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**Introduction:** Teaching Disaster Medicine requires a minimum of theoretical lectures and practical exercises. The Emergency Department of the Catholic University of Louvain organized a course on Disaster Medicine for physicians working in Emergency Departments and in prehospital medical teams. During the last course, a simulation demonstrated two difficulties: 1) How to efficiently simulate the evolution of pathologies, i.e., vital signs and clinical findings according to the applied treatments; and 2) How to efficiently evaluate triage, medical cares, and the regulation of evacuations.

**Methods:** To improve the communication between victims and medical staff, we separated 50 attending physicians into two groups: 15 "medical personal" and 35 "victims" (10 T1; 12 T2; 13 T3, and one dead). Each victim received a data-sheet containing information including history, vital signs, and clinical findings at sequential times and the effectiveness of the applied treatments or actions. Efficiency of triage, medical care, and regulation of evacuation can be evaluated "a posteriori" following these two parameters: 1) the avoidable mortality: number of deceased patients who did not benefit of a "just in time" treatment; and 2) the excess of treatment: based on medical actions without influence on the clinical evolution. At the end of the exercise, each victim completed a debrief-

ing-sheet concerning the adequacy of "his" management. **Rules**—We defined three categories of rules: 1) General and Security rules; 2) Diagnostic rules (measuring vital signs, clinical examination); and 3) Therapeutic rules (intravenous lines, endotracheal intubation, oxygen, ventilation).

**Results:** Amongst the 35 victims, 6 died (17.1%) due to late treatment, 2; excess of medication, 1; or lack of ventilation, 3.

**Conclusion:** Using physicians as victims in a disaster simulation improves the reliability of the evaluation of clinical evolutions. A retrospective analysis comparing the victim's data-sheets and the METTAG of each patient allows the evaluation of the efficiency of the provided cares in disaster simulations.

**Key Words:** disaster; efficiency; evaluation; mortality; physician; simulation

#### **Experience and Problems of Disaster Drills and Education for Medical Teams Using a Disaster Manual**

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The roles of the Clinical Research Institute of the National Hospital Tokyo Disaster Medical Center include education and promotion of disaster drills, as well as development of disaster handling manuals and studies of treatment of casualties resulting from a disaster.

Disaster simulation drills were repeated twice before a disaster handling manual was developed in March 1996. The disaster manual was designed to be as simple and practicable as is possible. After that time, the disaster manual and the education course were used on two occasions. These exercises and education apparently attracted a great deal of attention for disasters and deepened the knowledge of Disaster Medicine of medical teams from the main hospitals that were dispatched from almost all prefectures in Japan.

Many problems remain in our disaster handling manual, such as the lack of a section describing avoidance of a secondary exposure to toxic substances and treatment of patients of chronic diseases. However, a more practical disaster manual is thought to be essential for use in the training and education of appropriate personnel for Disaster Medicine as an adjunct to repeated disaster drills.

**Key Words:** disaster drill; disaster education; disaster manual

#### **Systems and Problems of Disaster Drills in the National Hospitals of Japan**

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In case of a disaster, the National Hospital Tokyo Disaster Medical Center acts as headquarters of all of the National Hospitals in Japan. All National Hospitals are divided into 9 blocks, and set-up main base hospitals