

achieve these goals due to the immediate effects of the disaster on the community and especially on the health care system, to the number and variety of casualties, to the emergency situation with an initial phase of disorder, to the lack of resources and the limited output of medical teams, to the necessity to operate in multidisciplinary and complementary teams and to the multiplicity of tasks. Therefore, Disaster Medicine has its own characteristics—it is an emergency medicine in the field, a global medicine, a mass medicine, a medicine with extramedical aspects, and a doctrinal medicine. Therefore, education and training in Disaster Medicine are essential.

18 The Link Between Emergency, Disaster, and War Medicine

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Objective: To inform the congress inter alia of the activities of the Joint Medical Committee of the North Atlantic Treaty Organization.

Methods: The scope of Emergency, Disaster, and War Medicine is outlined. From the medical point of view, Emergency Medicine is the common denominator of Disaster and War Medicine and, therefore, is a line of itself.

With the exception of some essential differences, a lot of similarities between Disaster and War Medicine are evident. It was stated in the past that emergency medical care in disasters should follow the principles of emergency war surgery (Spirgi, 1979). Therefore, it is concluded that Emergency and War Medicine are the pillars on which Disaster Medicine is built.

From the managerial point of view, links can be identified between the military-medical and civil-defense organizations on local, national, and international governmental levels. In this context, some activities in the field of medical and health care within the organization of the North Atlantic Alliance are outlined.

A relation which might possibly evolve between NATO and the United Nations Department of Humanitarian Affairs (DHA-GENEVA) is mentioned.

Conclusion: In order to avoid duplication of effort and to make full use of each others' possibilities, it is concluded that military and civil-defense assets should also be used in disaster relief.

19 Changing Concepts and Perspectives in Disaster Medicine

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During the last decade, the medical care systems in the United States and Europe have been characterized by an ever increasing shortage of money. The need for economical measures have become pronounced and market economy principles

have been introduced. The scene now is dominated by purchasers and providers, competition between public and private enterprises, and economical considerations guide the offer of medical treatment.

The need for extensive rationing with maximal utilization of resources such as personnel, localities, and supply, has resulted in increased vulnerability. Only a limited extra load on the medical services, e.g., after a major accident, results in prioritization of problems. The possibilities to cope with a disaster situation with a substantial number of casualties vanishes when all the margins already are being used and no more capacity can be mobilized. In such a situation, the knowledge and experience gained from Disaster Medicine are more important than ever before. Well-founded, cost-effective analysis will be essential for the medical care system to be able to handle the limited resources properly, and to set the right priorities. Which treatment principles should be practiced to obtain the best possible results for as many patients as possible under safe conditions? How small are acceptable margins? These are questions that need answers. **Conclusion:** It will be the responsibility of experts in Disaster Medicine to take a more active part in this discussion and to present solutions acceptable from an ethical as well as economical standpoint.

20 The Role of Telemedicine in the Management of Disasters

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A disaster represents a real challenge for the medical and social structures; it may stress greatly the response capability of both the emergency medical and rescue services. Although it virtually is impossible to completely remove the risk of disaster, many efforts should be made in order to prevent and limit its consequences. Effective management of disasters requires accurate preventive planning and cooperation between all involved structures, including: Police Force; Armed Forces; Emergency Departments; Poison Control Centers; hospitals; and rescue staffs. From this point of view, telemedicine, a new and rapidly developing field of medical sciences, is now opening interesting perspectives. Many telemedicine applications, such as teleconsultation and tele-electrocardiography, allow long distance data communication between health care professionals for diagnostic and therapeutic planning. The development of a computerized data bank with a mass storage system offers quick access to data concerning the disaster risk in selected areas, the most important clinical information for patient management and the availability of specific health care facilities. Continuous up-to-date and real-time information is particularly important in toxicological emergencies due to the large number of toxic substances that may be involved, and the many different mechanisms of action by which they exert their activities. The preparedness of the single health care professional is not sufficient to handle the complex reality of a disaster. The full integration of the emergency medical system is



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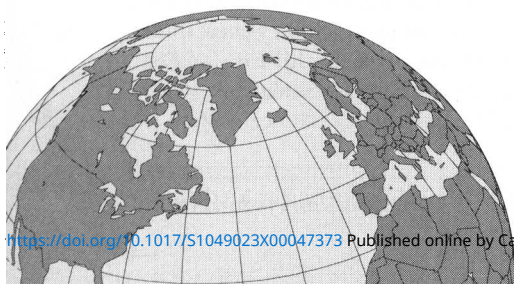
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required, and that can be achieved only by assuring an adequate communication network linking all of its components.

21 Disaster Planning in Hospitals: Organization of the Emergency Department

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In mass-disaster situations, the emergency department (ED) usually is the first area of the hospital to cope with the suddenly increased patient load. Activation of the ED by the responsible civil authority usually sets off the chain of events.

Recall and mobilization of staff is guided by initial casualty estimates. A rehearsed recall system often works best. The ED floor area then is reorganized and often temporarily expanded. Staff reporting to the department is given specific assignments by the ED director. On arrival, casualties are tagged, allocated triage packets, and triaged by a senior doctor to separate categorized treatment areas. At these areas, designated, organized teams backed by necessary medical supplies provide mainly resuscitation and initial stabilization. Casualties requiring hospitalization then are sent either to the operating theaters, intensive care units, or designated disaster wards by dispatch teams. Very often, a separate area of the ED needs to be allocated for adequate care of regular emergency (non-disaster related) patients who continue to arrive. Patient documentation and reporting of casualty disposition to hospital management are important ED functions. Crowd control, traffic flow, and security should not be forgotten.

Regular exercise drills ensure familiarity of these procedures by ED and hospital staff. This will decrease the chaos and confusion inherent in disasters.

22 Improvement of Hospital Preparedness for Mass Casualties of Chemical Warfare in the Aftermath of the Gulf War

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The Gulf War exposed the Israeli civilian population to the reality of chemical weapon attack. The threat of such an attack demanded preparedness of medical and auxiliary services for handling a unique, mass-casualty disaster.

A plan for hospital organization, triage, decontamination, and treatment had been devised previously, and the hospitals were prepared accordingly. However, this first-time, real threat of chemical weapon attack required prolonged hospital preparedness which enabled improvement of this doctrine. Updates of the doctrine included: 1) the deployment of pre-hospital medical units to regulate the flow of casualties and to treat the very mildly injured; 2) organization for early intubation upon arrival at the hospital, before decontamination, by

teams wearing full protective gear; 3) construction of a program for large numbers of psychologically affected victims; and 4) preparation of the hospital for the possibility of direct contamination by the chemical agent, early detection of chemical pollution in the hospital area, and immediate implementation of an alternative plan of management.

Based on these principles, the improved doctrine will be presented for hospital deployment in chemical warfare which also may be applied in other civilian toxicological mass disasters.

23 Planning and Management of Disasters in Hong Kong

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Introduction: Some of Hong Kong's major disasters with mass casualties in the last few years are presented. These include: air crash; sunken oil barge; power-plant explosion; refugee fight; and mass trampling.

Disaster Exercises: Air-crash exercise and underground mass-transit train disaster exercise are rehearsed at least twice a year. Major hospitals have individual disaster plans and exercises. Highlights of these exercises are presented.

Coordinating Disaster Management: Hong Kong Hospital Authority has developed a special contingency plan in the event of major disaster. Two major regional hospitals will receive and support the disaster management jointly. A casualty team and a medical-control officer are available to be dispatched and will manage casualties through a joint coordinating procedure.

Conclusion: This presentation stresses the importance of multi-disciplinary team work and coordination in management of disasters. Training and frequent practices are essential to achieve a successful outcome.

24 The "Group from Gent": Harmonization of the Medical Discipline in Disasters in Belgium

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Belgium

Objective: The country-wide standardization of procedures, responsibilities, functions, and materials for medical intervention in disasters.

Methods: After several meetings, a first draft was formulated in accordance with elements clearly described in the law and with the generally accepted principles of Disaster Medicine, by the organizers of disaster medicine courses, representatives of the