Microsoft Power Point,® and can be presented at different levels of knowledge and difficulty depending on the characteristics of the audience. This method was practised successfully on students of medical faculty in Prague and the same way for paramedics of the Emergency Medical Services (EMS) of the Town of Jeseník. It serves the students as the first step of introduction to the problems of shock, and helps them to keep in mind the common principles of diagnosis and therapy.

Keywords: alarm reaction; circulation; emergency medical services; insult; medical students; oxygen consumption; oxygen delivery; paramedics; shock; steady state; teaching; VO_2/ DO_2 ratio

G-31
Management Technologies in the System of Emergency Prevention

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The urgency for the discussion of problems concerning the development of management technologies in the systems for medical humanitarian assistance is determined by the necessity of dispersing experience and scientific projects that are part of the structural/functional organization of the All-Russian Centre for Disaster Medicine (ARCDM) and in analogous services of other countries.

Objective: To demonstrate ways, using the experience of ARCDM, to develop management technologies to improve Disaster Medicine services. The main purpose of Disaster Medicine services is to carry out preventive measures and decrease the health aftermath of natural calamities, accidents, and disasters. The grounding of the main management technologies used legislatively on some levels of the All-Russian Service for Disaster Medicine (ARSDM), and their characteristics are the:

1) Level of activity of international coordinating mechanisms for promotion and mutual interaction;
2) Level of mutual assistance and interaction of Disaster Medicine Services in the CIS countries;
3) State of complex activity regulation in emergencies and mitigation;
4) Level of management technologies in the sphere of resolutions of the Federal Inter-institutional Commission — a lead organization for coordination and interaction between different institutions and ministries;
5) Hierarchy of management technologies inside the Health Ministry that reflect vertical management mechanisms; and
6) Vertical management and horizontal interaction from federal to territorial to regional to local levels.

The following normative regulating documents are the main papers that determined the improvement of management solutions and coordination that are aimed to increase the efficiency of the activities of ARSDM: 1) The Constitution of Russia; 2) Federal law "On protection of population and territories against natural and technological emergencies"; 3) Resolution 05.11.95, No. 1113 of the government of Russia, "On emergency response and prevention system in Russia"; 4) Resolution 03.05.94, No. 420 of the government of Russia, "On protection of life and health of population in the Russian Federation at set-out and relief operations in emergencies, caused by accidents, natural calamities and disasters"; 5) Resolution 28.02.96, No. 195 of the government of Russia, "Problems of ARSDM"; 6) Resolution 08.07.97 on Disaster Medicine Service of the Health Ministry of Russia; 7) Federal laws, orders, resolutions of the President of Russia, other ordinances of the Government, orders of the Health Ministry, Resolutions of the Federal Inter-institutional Commission, and other normative/legislative acts.

At each of the presented management levels in the system for the prevention of accidents, natural calamities, and disasters, it is proposed that they focus on the principles of legal regulation, scientific grounding, competence and experience, sufficient financing, identifying the sources of emergencies, forecasting emergencies, and the development of criteria to estimate emergency scales and the health aftermath.

Keywords: assistance, mutual; coordination; Disaster Medicine; efficiency; emergencies, natural and technical; forecasting; interaction; management; prevention; technologies, management

General Session-II
Hospitals in Disaster-I
Monday, 10 May, 4:20–15:35 hours
Chair: *V. Anantharaman, Takeshi Shima*

G-5
Who's In-Charge for the Treatment of Disasters and Victims of Emergencies?

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Introduction: The fact is that, the actual treatment of the victims of the disasters and majors accidents starts after they are transferred from the Emergency Room or the triage area to the Intensive Care Units or to the patient care wards. Many of these patients suffer multiple injuries, and some of them must be operated and treated by different teams of different specialties. So, it is not uncommon to find confusion about who's in charge?

The answer to this question not only is important from political and legal points of views, but also, for medical care reasons, since the medical condition of the patients may change within minutes and not hours, and the role of continuous monitoring is essential for further management. Based on personal experience of direct involvement in four disasters and several mass casualties incidents, I found that this confusion is serious.

Several factors should determine who is in charge? These factors include: 1) the type of injuries; 2) the causes of the life-threatening; 3) the expected changes the conditions of the patients; and 4) the availability of well-trained intensive care unit (ICU) staff. For example, in cases of craniotomies, the neurosurgeon should direct the team.

Conclusion: A team from different specialties should be in charge for every patient. The work of this team should be coordinated by one agreed-upon consultant to avoid unnecessary confusion.

Keywords: disaster management; in-charge physician; intensive care; surgical specialties; teams; trauma

G-6
The Role of the Teaching Hospital in Subacute Phase of the Great Hanshin-Awaji Earthquake

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Introduction: After the Great Hanshin-Awaji Earthquake (magnitude: 7.2 on Richter scale) on 17 January, 1995, a total of 45,000 of the involved population of more than 400,000 in Nishinomiya City took shelter in 176 public buildings. Hyogo College of Medicine, located in the City, organized medical support teams on 23 January with two objectives: 1) to give medical services in evacuation centers; and 2) to shift these services smoothly from on-site clinics to recovering local medical facilities. This study was aimed at clarifying the role that the teaching hospital can play in the subacute phase of a major earthquake.

Method: We assessed these activities retrospectively by reviewing the official College Report and the medical records. After the project, we sent questionnaires to the members of the hospital staffs for contributions of important points and problems.

Results: On 24 January, we sent more than 100 College physicians to the evacuation centers to survey the medical requirements. From 25 January to 15 March, we dispatched a total of 1,034 physicians and 624 nurses to 1,080 centers, and a total of 3,787 patients were examined and treated. The diseases most commonly encountered were upper airway infections, hypertension, and gastroenteritis. Our activities also had a big impact toward beginning on 26 January, official meetings between city authorities, local medical societies, volunteer groups, and our College hospital. The average frequency of consultation by patients was 2.5 during the first week, decreasing gradually to 1.1 during the fifth week. The rate of the referred patients to the local clinics increased from 0% during the first week to 12.3% during the fourth week.

Three quarters of 1,052 questionnaires were completed. It was evident that while the start of our activities was late, the time of withdrawal of the support was appropriate.

Conclusions: In the subacute phase of a major earthquake, a teaching hospital can provide medical services to many people, organize local medical resources, and support local clinics by referring patients from on-site clinics. But, an earlier start of the medical activities by a teaching hospital is appropriate.

Keywords: consultations; earthquake; hospital, teaching; medical college; medical support; shelters, use of; shelters, medical care for; subacute; university

G-7
The Geotechnical Risk Analysis of Hospitals in Kobe City Using a Geographic Information System

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Kobe University Research Center for Urban Safety and Security has been developing a geographic information system (GIS), called JIBANKUN, which stores the geotechnical information over all the areas of Kobe City, Japan. The GIS also contains the information on the damages of all the structures such as buildings with the three levels of damage: 1) minor; 2) medium; and 3) major, which were caused by the Great Hanshin-Awaji Earthquake (Kobe quake) in 1995. Moreover, this GIS has been extended to contain the information related to medical disaster response. So far, the locations and the capabilities of all the hospitals or clinics in Kobe City are stored in the GIS. The computer simulations based on such extension enabled us to analyze the geotechnical risk of a hospital in terms of liquefaction of the grounds around the hospital. The quantified risk of liquefaction can be applied to prepare for planning of medical disaster response.

Coupled with the data of human casualties in the Kobe earthquake, the geotechnical risk analysis of hospitals indicates a future potential to exploit a new direction of disaster epidemiology.

Keywords: earthquake; epidemiology; future; geographic information system; geotechnical risk; liquifaction; risk analysis

G-8
Injury Control: A Role for Occupational Medicine in Hospital Disaster Response

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