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Possibilities for Application of Multimedia Technology for Rescue Training

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The developments in Computer Science and the possibilities for its use in Medicine allows us to provide information support and training systems in the field of Disaster Medicine on the basis of the application of multimedia technology. Multimedia systems "Burns" and "Rescues Training" are presented.

The system "Burns" includes all types of medical care to burned victims and treatment tactics both at the pre-hospital and hospital stages. There are many color illustrations, video images, audio comments, and movies that demonstrate methods for providing aid and treatment. The system "Burns" also includes the most important algorithms for burn victim management in cases of disaster. These algorithms are created with participation of Professor B. Domres of Germany, and cover triage and prehospital polytrauma algorithms. The algorithms, in the form of computer tests, can be used in an interactive mode in which the user must choose one of the options at every step of the process. Thus, the system can be used not only as an electronic guide to select the adequate medical aid in cases of disaster, but also it can be implemented as a good visual means for training physicians, medical students, and paramedical staff.

The Multimedia Interactive Training System (MITS) "Rescues Training" includes different tests and hypertext for learning about life-saving techniques for resuscitation and intensive therapy. The web-site with the demo-version of MITS for rescuer training is: <http://windoms.sitek.net/~cito>

Keywords: algorithms; computers; intensive care; life-saving; multimedia technology; rescue techniques; resuscitation; training; training, interactive

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The Psychological Support Program of the Japanese Red Cross Society: Introduction from the International Federation of the Red Cross and Red Crescent Societies

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Introduction: After the Great Hanshin-Awaji earthquake in 1995, stress reactions were common, and the Post-Traumatic Stress Disorder (PTSD) became a popular term among people. But the system to support the psychologically affected people by disasters had not been established. The Japanese Red Cross Society (JRCS) decided to establish a psychological support program.

Methods: The JRCS sent an investigation team to the American Red Cross, the Danish Red Cross, the inter-

national organization in Geneva, Switzerland of the International Federation of Red Cross and Red Crescent Societies (IFRC), the International Committee of Red Cross (ICRC), the UNHCR, and the WHO; in order to get information about stress reactions and psychological support. Also, the JRCS sent its delegates to Bosnia-Herzegovina and the Serbia Republic to evaluate the degree of stress on refugees in both countries.

Results: The JRCS established a draft for the psychological support program by introducing the essence of the program of IFRC, and modified it to fit the Japanese culture. It published a manual for psychological support and coping with stress. The characteristics of the program are as follows: 1) The program consists of methods for the provision of psychological support for the victim of disasters, and for coping skills for stress on the helpers and members of medical relief team; 2) It is not the specialist in psychology or psychiatry who provide the psychological support; 3) As our program introduced the main frame from IFRC, it also is useful for the delegates for international relief actions. Since 1995, the JRCS added this course for psychological support and coping with stress to the training program for the members of medical relief teams of JRCS.

Conclusion: The JRCS started its psychological support program by introducing and modifying the international system. It is important to train the trainers in order to develop the system and to make it effective.

Keywords: coping skills; disaster; earthquake; Hanshin-Awaji earthquake, 1995; Japan; Japanese Red Cross Society; post-traumatic stress disorder; psychological support; stress; stress disorders; training

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New Methods for Diagnosis and Rehabilitation of Patients with Post-Traumatic Stress Disorder (PTSD)

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Introduction: In recent years, Russia has experienced a tendency for increasingly different disasters and accidents, economic difficulties, chemical and railway accidents, and others. The Afghanistani and Chechen wars and the consequences of the liquidation of Chernobyl have contributed to the growing number of patients with Post-Traumatic Stress Disorder (PTSD) in Russia. More than 300 participants in the Afghanistani and Chechen wars, and victims of the consequences of Chernobyl and of another large catastrophes were studied for early diagnosis PTSD, the development and evaluation of new diagnostic and rehabilitation programs.

Establishment of the diagnosis included screening methods of diagnostics (special computer programs, many-sided personality study, and others) and methods of precise diagnostics (systematic study of peroxidation and lipids, immunological status, and concentrations of melatonin). This program allows the diagnosis of PTSD

during its early stages of development. Early diagnosis is necessary to begin early medical rehabilitation programs. The examination indicated a correlation between clinical symptoms and hormone level concentrations. An increasing concentration of melatonin forecasts of intensification of PTSD. In this connection, the efficiency of new diagnostic and treatment strategies for PTSD was evaluated with persons who suffered the consequences of Chernobyl.

Eighty-one participants in the Chernobyl event were examined. All of the patients were categorized into one of two groups. In the first group, generally accepted standards of diagnosis developed by American experts (DSM-III-R) were used. In the second group, the strategy "Perceptions radiation dangers" and special computer programs were used. Twenty-three percent of the participants were diagnosed with PTSD in the first group, and in the second group, 31.3% were diagnosed with PTSD.

The second aspect of this investigation was a study of the efficiency of the new programs for medical rehabilitation. Of principal importance is the need of complex influence on the background of known methods, such as psychotherapy and psychological help, and for the new methods of medical rehabilitation including an important role of the administration of different concentrations of oxygen, allowing reduction in activation of peroxidation and lipids, render decrease the effect that was confirmed by studying the concentrations of melatonin in the sick. The main intervention uses preparations that possess antioxidant and immunological activities. For the treatment of PTSD, we provided a combination of beta-carotene, vitamin E, and vitamin C.

This study demonstrated high effectiveness in the new diagnostics for the early diagnosis of patients with PTSD, as well as high efficacy of the individual programs for medical rehabilitation. The programs include new methods and can be recommended for broad introduction within the framework of patient care.

Keywords: anti-oxidants; beta-carotene; Chernobyl; diagnosis; diagnostics; melatonin; peroxidation; post-traumatic stress syndrome; rehabilitation; treatment; vitamin C; vitamin E; war

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Field Decontamination in the Mental Health Activity in the Community Disaster

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The concept and activity of field decontamination has been adopted in the provision of emergency medical interventions at a chemically polluted site. Its purpose is to remove chemical stimulants from the site where the afflicted victims continue to be exposed.

A similar procedure is needed in the mental health activities in a massive disaster. In the disaster setting, decontamination means the separation of affected people from ongoing contact with the trauma-provoking stimuli or situation. This situation includes not only the

initial disastrous incident, but also various types of the secondary trauma. One typical example observed in the recent Wakayama arsenic case, was the stress caused by the unfavorable flood by the media that not only evoked the memory of the initial trauma, but stirred up the sense of "Haji", shame. Many of those afflicted became anxious due to the social stigma associated with the media report. Since the target of the media report was not each individual person, but at the afflicted community, it was necessary to provide a massive procedure to decontaminate the community in terms of the contact with the media. This decontamination procedure is the same as with other decontamination procedures in the sense that the injured people should be placed in a quiet and sanitary situation. A guideline to guarantee both the media activity and the [end]

Keywords: arsenic; decontamination; disaster; health, mental; media; psychological stress; psychosocial; shame; trauma

Special Lecture II

SL-2 Methodology of Non-Traditional Triage
 Thursday, 14 May, 9:10–9:55 hours
 Chair: *Yukihio Watoh*

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Traditional triage methodology, as an essential element of disaster management and medicine, implies that personnel, equipment, standard procedures, evacuation, and echelons of care exist to support a system-wide management process. Non-traditional triage suggests that or the agents used to cause the disaster will compromise traditional triage categorization, personnel resources, and evacuation capabilities. In this decade, complex emergencies, and nuclear, chemical, biologic, and terrorist events and threats emphasize the need to readdress triage training and methodology. This lecture will outline those factors that influence triage methodology during the crisis and consequence management phases of non-traditional disasters.

Keywords: categorization; complex emergencies; disaster management; management; procedures; triage

Symposium III

Global Concord for Mitigation of Acute Death
 Thursday, 14 May, 10:00–12:00 hours
 Chair: *Steven J. Rottman, Yasuhiro Yamamoto*

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Global Concord for Mitigation of Acute Deaths in Japan

Hideaki Abe

Managing Director, Secretariat of Japan Disaster Relief