

cooperative arrangements for prevention and relief during emergencies and acts of terrorism. Since 1994, the Council has included the coordinating group for disaster medicine problems of NIS countries. The chairman is Deputy Minister of Public Health of the Russian Federation. During each session, the Council considers four to five topics on disaster medicine. The Council ratified 11 interstate documents on disaster medicine training programs, vocabulary of terms, textbook, and methodical documents.

In 1996, during an international conference, Command-Staff Exercises (CSE) relative to disaster medicine problems following earthquakes were conducted. International CSE "Management of Emergency Medical Relief in a Military Conflict" is to be held in 2003 in Dushanbe, Tajikistan. The Council ratified an Activity Coordination Program for emergency prevention and health relief on the territories of NIS countries for 2001–2003, and the Plan of Cooperation and Mutual Assistance of Disaster Medicine Services of the NIS countries in emergencies. These documents envision the elaboration of a coordination doctrine of medical assistance for the injured during an emergency, including: (1) training of managerial bodies, institutions, and units for work during emergency conditions; (2) determination of the connection and the emergency notification order; (3) coordination of the force requirements and the Disaster Medicine Service resources needed for emergency health relief; (4) production of a sufficient supply of medical equipment; (5) information exchange, including the facts regarding the nature of the emergency, and the expected emergency health relief measures that will be required; (6) provision of the required manpower and supplies; (7) provision of medical staff, victims, and the population defense; and (8) organization and implementation of measures for maintaining the sanitary-epidemiological well-being.

Keywords: cooperation, international; coordination; disaster medicine; emergencies; exercises; NIS; prevention; public health; relief; supplies; terrorism; training

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Public Health Affairs and Prophylactic Treatment of Individuals Exposed to Biological Terrorism

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Almost any kind of micro-organisms can be expected in acts of biological terrorism. Some have been recognized for a long time and almost forgotten in the developed world, in which sanitation measures, good hygienic practices, and vaccination programs are practiced. Some of micro-organisms potentially used in biological terrorist attacks could be classified as a newly recognized micro-organisms, often called "emerging infectious diseases." In the course of a biological attack and afterwards, we should try to recognize the clinical presentation of disease as soon as possible, and conduct epidemiological investigations to identify the source of the infection and the mode of spread of the micro-organism(s). Laboratory confirmation of the clinical diagnosis will be obligatory, even though many times the

laboratory diagnoses should be done only at specially protected and equipped laboratory levels. At the start of biological attack, we can expect to encounter serious victims of the attack, especially before laboratory confirmation of diagnoses.

For some communicable diseases, the use of prophylactic treatment may be the best protective measure. The effect of protection may begin immediately after the start of treatment, which is a big advantage in comparison with the use of vaccines. By choosing the proper initial prophylactic drug and schedules, we can expect prevention of some cases, amelioration of symptoms, and the lower mortality rate of victims. The spectrum of drugs that can be used is broad and dependent upon recognized micro-organisms. Duration of treatment varies according to the defined scheme. Some prophylactic treatments could be accomplished using very old drugs, almost excluded from usual treatment nowadays; some of them are newly recognized. We can expect side effects after treatment with some these drugs, especially if the prophylactic scheme is prescribed to last a long time. Before prescription of drugs, we should ask patients about possible side effects—experiences in the course of previous treatments with the prescribed drug. We should choose the schedule carefully, and the drugs as well. They may be different for children and adults. In some cases, we can revise the treatment after receiving results of microbial susceptibilities of isolated/identified micro-organisms. In this paper, the schedules for prophylactic treatment for anthrax, tularemia, plague, cholera, brucellosis, and other communicable diseases will be discussed.

Keywords: drugs; laboratory; micro-organisms; prescriptions; prophylaxis; schedules; terrorism, biological
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Mustard Gas Exposure in Pediatric Patients (Long-Term Health Status of Mustard-Exposed Children 14 Years After Chemical Bombardment of Sardasht)

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Mustard agents are chemical weapons that act through alkylation of cellular components, causing acute symptoms that include severe blistering of tissue exposed to the vapor or liquid agent and a diverse range of chronic illnesses. During the eight-year war between Iran and Iraq, extensive employment of chemical munitions by Iraqi forces was documented, including attacks on both military and civilian targets. One of these incidents, an aerial bombardment of the Iranian border town of Sardasht in June 1987, is the focus of the present investigation. This is a report on the mustard-induced lesions among 20 female and 30 male victims who were under 10 years of age at the time of exposure. Physical examinations revealed that lesions of the lungs were most common (100%), followed by skin (98%) and eye (86%) lesions, with 0–8% classed as severe; 4–16% as moderate; and 82–84% as mild lesional coverage. It was also noted that,

given equal levels of mustard exposure, initially the children's symptoms were considerably more severe than were those of adults, whereas the chronic effects tended to be significantly more pronounced in adults.

Conclusions: This investigation provides insight into the special repair mechanisms in children. This may account for the lower overall susceptibility to chronic health problems by mustard-exposed children.

Keywords: adults; chemical warfare; children; effects, chronic; lesions; mustard gas; symptoms
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Afghanistan Humanitarian Relief Mission: The Singapore Perspective

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Humanitarian crisis includes the extreme suffering of people driven from their homes, and who lack shelter, security, food, clean water, and healthcare. These consequences may have a sudden onset with a quick conclusion, or they may last for years.

The Afghanistan refugee problem is a chronic one, with the last 20 years of ongoing war and strife. After 11 September 2001, the migration of greater numbers of Afghans has generated a more pressing and acute need, especially at the border between Afghanistan and Pakistan. There are more than one million internally displaced persons. The healthcare, hygiene, and nutritional status of these refugees remain dismal despite multiple attempts at the provision of international and regional relief aid. The predominant problems include: (1) acute respiratory and gastrointestinal diseases; (2) infant malnutrition; (3) anemia; (4) deficiency of care for chronic illnesses (which leads to complications); and (5) lack of obstetrical care. Because of the war, acute traumatic injuries are also common.

Singapore, under the umbrella of the Singapore International Foundation, mounted several missions to render aid. This paper will highlight the efforts and challenges faced by the teams.

Keywords: Afghanistan; aid; consequences; internally displaced persons; International Foundation; Pakistan; refugees; relief; Singapore

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Organization of Medical Provision During Chemical Accidents or Acts of Terrorism in Russia

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Analysis of chemical safety in Russia shows the tendency towards an increase of chemical accidents and technological events. This is the reason a well-built system for the management of chemical accidents on the federal, territorial, and municipal levels was formed in Russia. At the same time, integration of manpower and resources of the medical service is achieved at the expense of interaction on the level of interdepartmental commission, which includes different

ministries in accord with the plan of action for chemical accidents at the federal or territorial level. Medical manpower and resources of Ministry of Health of Russia are presented by ARCDM "Zaschita" (field multipurpose hospital, teams of emergency response), institutions of state sanitary control, and special medical institutions providing toxicological care. During the management of chemical accidents, health relief is realized in three areas: (1) everyday activity; (2) increased preparedness; and (3) emergency.

In the emergency regime, the following is done: (1) information is received through control rooms of Ministries or the All-Russian Service for disaster medicine; (2) special teams or field medical institutions are ready for action or go to the emergency site; (3) the accident scale and level of contamination of the territory are estimated; and (4) qualified and special medical assistance is rendered to the injured.

The most important aspect of the management of chemical accidents is the standardization of chemical hazards, sanitary-hygienic, and medical-evacuation measures. The ARCDM "Zaschita" introduced standards of chemical-accident health relief for 32 highly toxic chemical agents which may be encountered in Russia; these standards are realized in regions and territories in chemical accidents. In acts of terrorism and health relief, a special medical team is formed, ready to hold qualified medical triage and give emergency medical care to the injured.

To increase the efficiency of chemical-accident health relief in Russia, it is necessary to: (1) integrate manpower and reserves of medical service at all levels; (2) form reserves of medical property and antidotes; (3) improve the system of postgraduate training of doctors—specialists of ARSDM.

Keywords: assessments; chemical events; integration; medical services; organization; relief; reserves; response; Russia; safety; teams; terrorism; training

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Disaster Medicine: Psychological Issues

From Armenia to Algeria — 15 Years Together with Children during Disasters

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It seems that the earthquake in Armenia happened only yesterday. And only yesterday, there was an earthquake in Algeria. Fifteen years have elapsed as if only a minute. Fifteen years ago, I got myself involved into the disaster medicine as a volunteer. Ten of the 15 years, I have given to the World Association for Disaster and Emergency Medicine (WADEM). In the course of this period, there has been established a unique (the only one in the world) pediatric relief team qualified and prepared to render medical aid to children during emergencies: This team has worked in many countries of the world during wars and other disasters.