

Foreword

Under Article 5.b(ii) of the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, one function of the IAEA is to assist, upon request, a State Party or a Member State in developing appropriate training programmes for personnel to deal with nuclear accidents and radiological emergencies. The present training materials are intended to be used for these purposes. These materials are also meant to support the practical implementation of the recommendations put forward in the final report on the International Action Plan for Strengthening the International Preparedness and Response System for Nuclear and Radiological Emergencies. Member States have the responsibility for establishing and maintaining emergency management programmes that are effective and efficient, and for improving them, as necessary, and State programmes must take into account national, regional and international considerations.

As stated in the IAEA Safety Requirements on Preparedness and Response for a Nuclear or Radiological Emergency (IAEA Safety Standard Series No. GS-R-2), which establishes the requirements for an adequate level of preparedness for, and response to, a nuclear or radiological emergency in any State,

“On the presentation of medical symptoms of radiation exposure or other effects indicative of a possible radiological emergency, the medical practitioner or other responsible party who recognizes the indications shall notify the appropriate notification point and shall take response actions as appropriate.”

These training materials are intended to address this need.

The IAEA officer responsible for this publication was E. Buglova of the Incident and Emergency Centre.

Background

In almost all nuclear and radiological emergencies, local emergency services (e.g. local medical, law enforcement, and fire brigades) will have the most important role in the early response. Within hours, hospitals may also have an important role to play in the response at the local level. Since nuclear and radiological emergencies are rare, medical responders often have little or no experience in dealing with this type of emergency and inexperience may lead to an inadequate response. For this reason, training in medical preparedness and response for a nuclear or radiological emergency is an important aspect of preparedness and response activities.

These materials are designed for use at a training course on medical preparedness and response for a nuclear or radiological emergency. They contain a wide range of lectures and supporting materials, which cover the basic topics and more specific areas of medical preparedness and response. Therefore, in planning their specific courses, organizers are encouraged to choose those lectures and supportive materials from the CD-ROM that best match their training priorities.

Materials on the CD-ROM address the following areas:

- Terrorism in Perspective;
- Malicious Act Scenarios;
- Providing Information to the Medical Community and the Public;
- Medical Response to a Radiation Mass Casualty Event;
- Handling of Contaminated Persons in Malicious Events;
- Planning and Preparedness for Medical Response to Malicious Events with Radioactive Material;
- Handling the Bodies of Decedents Contaminated with Radioactive Material;
- Radiation Emergencies: Scope of the Problem;

- Common Sources of Radiation;
- Basic Concepts of Ionizing Radiation;
- Basic Concepts of Radiation Protection;
- Biological Effects of Ionizing Radiation – Basic Notions;
- Basics of Radiopathology;
- External Radioactive Contamination;
- Internal Radioactive Contamination;
- Acute Radiation Syndrome;
- Cutaneous Radiation Syndrome (Local Radiation Injury);
- Cytogenetic Dose Assessments;
- Psychological Effects of Radiation Emergencies;
- Psychosocial Aspects in Radiation Emergencies
- Use of Detection Equipment;
- Communication with the Public;
- International Emergency Preparedness and Response Framework;
- Medical Management On-site and at Pre-hospital Levels;
- Hospital Preparedness and Management of Persons Accidentally Exposed to Ionizing Radiation;

- Iodine Thyroid Blocking and Other Response Actions;
- Lessons Learned from Past Nuclear and Radiological Emergencies.

The information is presented in the form of lectures and supplementary materials for drills and tabletop exercises, including a sample triage tag and victim cards. In addition, the CD-ROM contains information on frequently asked questions and suggested answers, a basic and an advanced pre-test, a review test and pocket guides for medical responders at pre-hospital and hospital levels.

Objectives

- To present the background information on medical preparedness and response for nuclear or radiological emergencies.
- To train medical responders on actions to be taken in medical response to various nuclear and radiological emergencies at pre-hospital and hospital levels.
- To enable participants to train in responding to nuclear and radiological emergencies (according to their level of qualification and expertise), and in particular, for:
 - Emergency medical personnel to provide pre-hospital care for overexposed, injured and/or contaminated victims as a result of mass casualty events,
 - Hospital staff to provide treatment for overexposed, injured and/or contaminated victims as a result of mass casualty events.

Target audiences

- Emergency medical personnel (physicians and head nurses who specialize in emergency medicine and may be involved in pre-hospital care of victims as a result of a nuclear and radiological emergency, including an emergency resulting in a mass casualty event).
- Relevant medical specialists (surgeons, radiopathologists, haematologists).
- Medical school professors teaching a relevant subject.
- Senior health administrators responsible for training, planning, and managing medical response in a nuclear or radiological emergency.

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