

REPORT

for a course held on the topic of “Emergency and recovery preparedness, and response” in the National Centre of Radiobiology and Radiation Protection on the PIANOFORTE program

The short training course was approved by the managers of the PIANOFORTE mobility program.

In the period March 13 - 17, 2023, a training course was held on the topic “Emergency and recovery preparedness, and response” in NCRRP.

15 people participated in the training - specialists from Emergency Medicine Centers (medical doctors and other medical personnel) and three physicists, one of them with a PhD.

The course included lectures of 45 minutes each, two demonstrations, and practical training in biodosimetry. A short video film with a discussion on the “Consequences of radioactive contamination” was also presented.

The modules of the course were:

Radiation accident: introduction, the scope of the problem.

Principles of radiation protection.

Medical insurance in case of radiation accidents.

Practical Physics for Medical Personnel in a Radiation Accident.

Doses, quantities, and units.

Detection of ionizing radiation. Measuring devices and their use.

Biological impact of ionizing radiation at the molecular, cellular,

Biological impact of ionizing radiation at tissue, and organ level.

Dose-effect curves, deterministic and stochastic effects.

Cytogenetic methods for biological dosimetry of ionizing radiation.

Acute radiation syndrome. Clinical picture,

Acute radiation syndrome. Diagnosis, and treatment.

Diagnosis and treatment of local radiation damage.

Combined radiation damage.

Contamination with radioactive substances. Decontamination and decorporation. Contamination with radioactive substances.

Management of medical assistance in the area of the accident. Pre-hospital medical care.

Readiness and management of the hospital facility to provide assistance to victims of a radiation accident.

Major nuclear accidents. Transboundary accidents.

The accident at the Chernobyl NPP – health consequences.

The accident at Fukushima NPP – health consequences.

Accidents of unknown origin (Guyana).

The accident in Stamboliyski 2011- I.

The accident in Stamboliyski 2011- II.

Nuclear detonation, health effects.

Psychological effects in persons subjected to long-term radiation exposure and radiation damage.

Terrorism.

Medical insurance in case of radiation accidents. Iodine prophylaxis.

Notification of the medical community and the population in the event of a radiation accident. International cooperation for providing medical assistance in case of radiation accidents.

8 specialists participated as lecturers, including 5 medical doctors, two physicists, and 1 biologist.

Jana Djounova, MD, PhD presented the following lectures: Radiation accident: introduction, the scope of the problem. Medical insurance in case of radiation accidents. Biological impact of ionizing radiation at the molecular, cellular, tissue, and organ level. Contamination with radioactive substances. Decontamination and decorporation. The accident in Stamboliyski 2011. Nuclear detonation, health effects.

Nina Chobanova, MD, PhD presented the following lectures: Principles of radiation protection. Dose-effect curves, deterministic and stochastic effects. Major nuclear accidents. Transboundary accidents. The accident at the Chernobyl NPP and Fukushima NPP – health consequences. Medical insurance in case of radiation accidents. Iodine prophylaxis. Notification of the medical community

and the population in the event of a radiation accident. International cooperation for providing medical assistance in case of radiation accidents.

Andrey Milchev, MD presented the following lectures: Acute radiation syndrome. Clinical picture, diagnosis, and treatment. Diagnosis and treatment of local radiation damage. Combined radiation damage.

Krasimira Negoicheva, MD presented the following lectures: Management of medical assistance in the area of the accident. Pre-hospital medical care. Readiness and management of the hospital facility to provide assistance to victims of a radiation accident.

Iler Peyankov, MD, PhD presented the following lectures: Accidents of unknown origin (Guyana). Psychological effects in persons subjected to long-term radiation exposure and radiation damage. Terrorism.

Kremena Ivanova, physicist, PhD presented the following lectures: Doses, quantities, and units. Detection of ionizing radiation. Measuring devices and their use.

Philip Simeonov, physicist, PhD presented the following lecture: Practical Physics for Medical Personnel in a Radiation Accident.

Rositsa Hristova, biologist, PhD presented the following lecture: Cytogenetic methods for biological dosimetry of ionizing radiation.

The lectures in an electronic version were made available to each participant.

Two demonstrations were organized and conducted during the course:

1. „Demonstration of devices for radiation monitoring” was held in the "Dosimetric control" section of the NCRRP and led by K. Ivanova.
2. Treatment of irradiated patients following an accident (decontamination and training) was carried out by the specialists K. Negoicheva, A. Milchev, and I. Peyankov from the Department of “Radiation Safety and Medical Insurance” at the NCRRP.

The practical exercise in biological dosimetry was of particular interest to the participants. They had the opportunity to prepare and report the obtained results. The practice was carried out with the assistance of 4 biologists from the “Radiobiology” Department at the NCRRP.

On one of the days, we presented a video film “Consequences of a radiation event related to the spread of radioactive substances. Rules of behavior in the event of a radiation accident”. It was held a discussion with the participation of N. Chobanova.

In connection with conducting practical exercises on “Biodosimetry” and “Treatment of contaminated persons”, hematological reagents, chemicals, and consumables were purchased according to the finance course plan for the Radiation Safety and Medical Insurance Department and Radiobiology Department.

At the end of the course, participants received a certificate (see below).



СЕРТИФИКАТ

ИЛОНКА РУМЕНОВА ИВАНОВА

Участие в курс
МЕДИЦИНСКО ОСИГУРЯВАНЕ ПРИ
РАДИАЦИОННИ, ЯДРЕНИ АВАРИИ И ТЕРОРИЗЪМ
АВАРИЙНА ГОТОВНОСТ
13.03 - 17.03.2023 г.

лекции – 28 часа, практика – 11 часа
НАЦИОНАЛЕН ЦЕНТЪР ПО РАДИОБИОЛОГИЯ И РАДИАЦИОННА ЗАЩИТА

ДОЦ. Д-Р ЖАНА ДЖУНОВА, ДМ
ДИРЕКТОР на ИЦРРЗ

N. Chobanova

responsible organizer