

RADIATION MEDICINE

Guidelines for the 2nd year students (Faculty for International Students)

LESSON № 8: PROGRAM OF LIQUIDATION OF CONSEQUENCES OF THE CHERNOBYL ACCIDENT. THE MAIN DOSE-FORMING RADIONUCLIDES OF THE CHERNOBYL RELEASE

THE AIM: to get acquainted with the peculiarities of the radiation situation in the Republic of Belarus after the Chernobyl accident;
to study the characteristics of the main radionuclides of the Chernobyl release;
to master the concept of protection in cases of radiation accidents;
to perform laboratory work.

DURATION: 3.0 hours.

PLACE: student's workshop.

EQUIPMENT: methodical grant, tables, PowerPoint presentation, tasks according to the topic.

Required theoretical knowledge

1. The concept of radiation accidents. Protection of the population in cases of radiation accidents.
2. Radiation safety in situation of radiation accidents.
3. Chernobyl disaster the dynamics of emission in time and space.
4. Characteristic (physico-chemical characteristic, entering, distribution and derived from the body, biological effects) of the basic radionuclides of the Chernobyl release: C-14, Cs-137, Am-241, Sr-90, H-3, I-131, Pu-239, "hot particles".
5. Principles of radiation doses formation after radiation accidents in the dependency from the period of its development.
6. The concept of population protection in radiation accidents at the nuclear power plants.

Laboratory (individual) work of students

1. Measurement of the exposure dose of the dosimeter MKC-AT1125

Literature

Basic:

1. Radiation medicine : учебное пособие для иностранных студентов учреждений высшего образования : допущено Министерством образования Республики Беларусь / А.Н. Стожаров [и др.]; под ред. А.Н. Стожарова. – Минск: Новое знание, 2020. – 203 с.

Additional:

1. Мойсеёнок, Е.А. Лекции по радиационной медицине (в таблицах) = Lectures on Radiation Medicine (in tables): пособие для студентов факультета иностранных учащихся (на английском языке) [изд. на CD-дисках] / Мойсеёнок Е.А. – Электрон. текст. дан. и прогр. (объем 29 Мб). – Гродно: ГрГМУ, 2012. – 1 электрон. опт. диск (CD-ROM).
2. Radiation and Ecological Medicine: Electronic Educational and Methodological Complex. Access: <http://edu.grsmu.by/course/view.php?id=99>