

RADIATION MEDICINE

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

LESSON № 5: THE CONCEPT OF DOSES USED IN RADIATION MEDICINE. RADIATION DAMAGE TO HUMANS

THE AIM: to get acquainted with classification of ionizing radiations, their properties;
to study stages of radiation injury;
to master the main types of cell reactions to irradiation;
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. Classification of ionizing radiations, their properties.
2. Stages of radiation injury: direct and indirect action.
3. The radiolysis of water, the main products of radiolysis. The influence of oxygen on radiolysis.
4. Types of cell reactions to irradiation.

Laboratory (individual) work of students

1. To master the principles of operation of the detector setup РЗБ-05 to control contamination in surfaces of the arms, legs, body and clothing of human beta-active radionuclides.

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>