8th EUTERP WORKSHOP
Optimization of training in radiation protection
Dolmen Hotel, Qawra, St Paul's Bay, Malta April 10-12, 2019

Creation of core-course in Georgian language from national specificity and needs of Georgia in radiation safety, with structure of additional modules and creation and publishing the handbook

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Georgia-Part of Europe

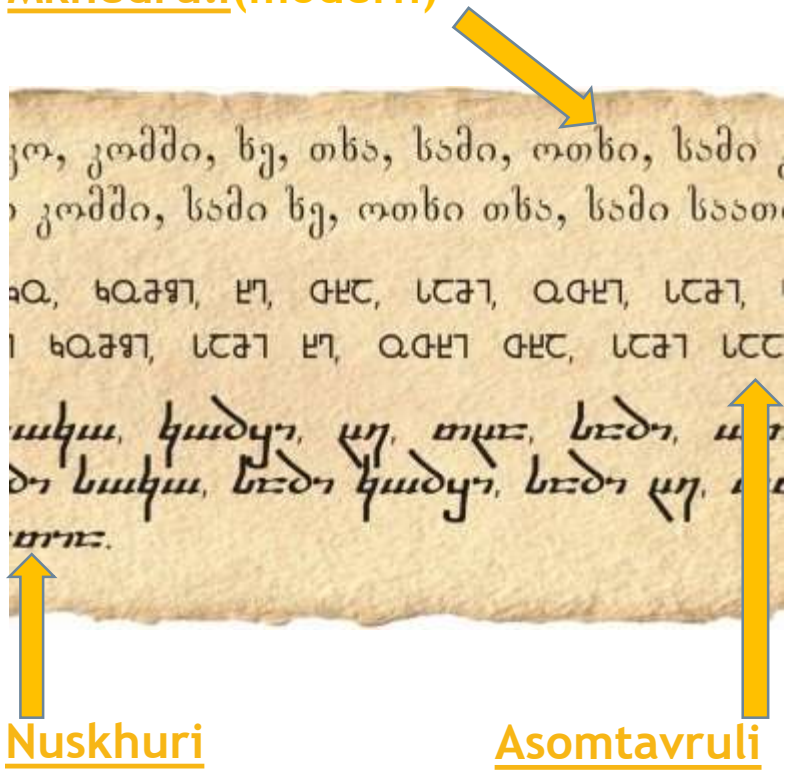
Writing systems in Europe

Pharnavaz I ; 3rd century BC: 302–237 BC

The Old Georgian tradition (in particular, Leonti Mroveli, the eleventh-century historian) ascribes the creation of the Georgian alphabet to Parnavaz I, the king of Georgia in the third century B.C.

Georgian Alphabet

- The **Georgian scripts** are the three writing systems used to write the Georgian language: Asomtavruli, Nuskhuri and Mkhedruli. Although the systems differ in appearance, all three are unicase, their letters share the same names and alphabetical order, and are written horizontally from left to right. Of the three scripts, Mkhedruli, once the civilian royal script of the Kingdom of Georgia and mostly used for the royal charters, is now the standard script for modern Georgian and its related Kartvelian languages, whereas Asomtavruli and Nuskhuri are used only by the Georgian Orthodox Church, in ceremonial religious texts and iconography.



Georgian Alphabet in UNESCO Intangible Cultural Heritage List

Modern Georgian alphabet and "qwerty"

Our Center

In 2010 the I.Beritashvili Experimental Biomedicine Center (www.biomedicine.org.ge) was founded on the bases of I.Beritashvili Institute of Physiology, Centre of Radiobiology and Radiation Ecology (Founded in 1991), Institute of Molecular Biology and Biological Physics and the Center of Experimental Neurology Research.

Nowadays, former Centre of Radiobiology and Radiation Ecology is represented by two departments in the I.Beritashvili Center of Experimental Biomedicine:

- Department of Radiobiology
- Department of Radiation Safety Problems

On the basis of the center exists International Nuclear Information System Office (INIS) with it officer

Scientific articles are published periodically scince 1971 in the journal "Radiation Studies" whose editorial office is located on the basis of the center.

Main activities:

Scientific research, consulting and expert activities;

- The country's scientific and technological progress in promotion;
- The creation of new technologies, analysis and dissemination;
- The international scientific cooperation;
- A personnel training and retraining efforts in Radiation Safety and Protection in Medicine.
- Processing of the new international standards of Nuclear and
- Radiation Safety and the normative basis of the components;
- Conduction of the educational programs.

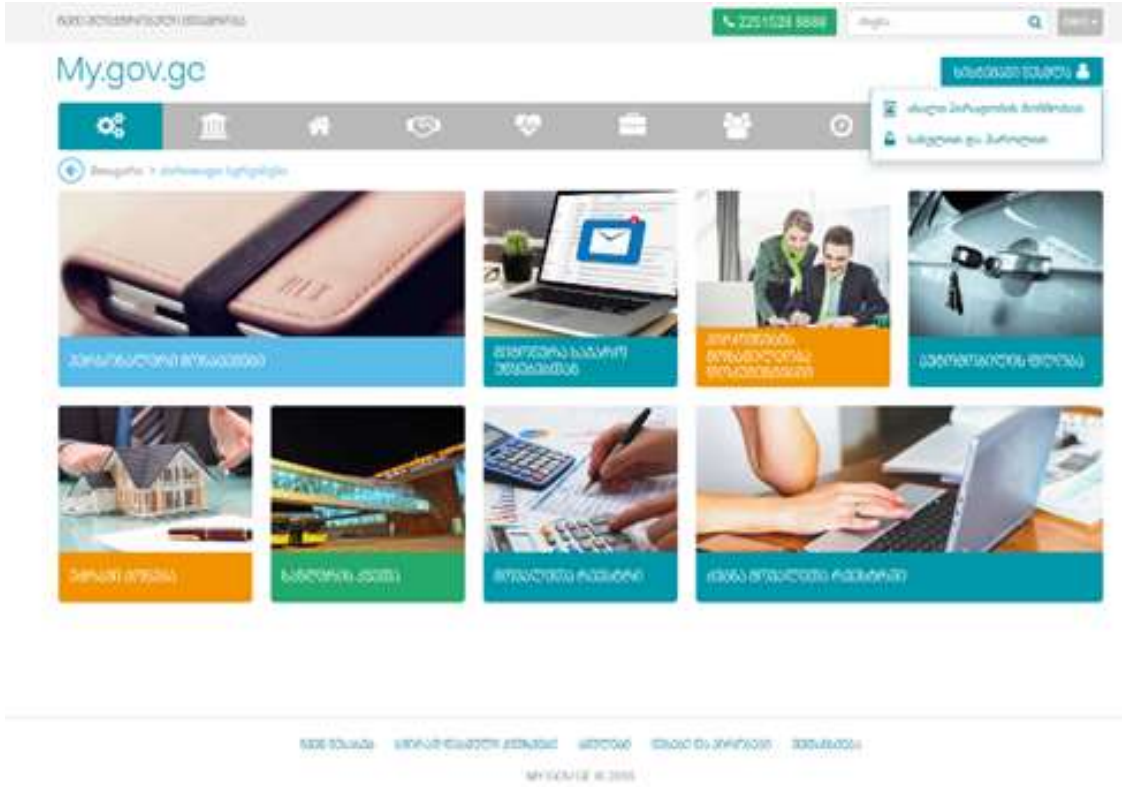
I.Beritashvili Center of Experimental Biomedicine cooperates with Tbilisi State Medical University ans Georgian Regulatory Body ANRS (Agancy of Nuclear an Radiation Safety)

LEPL Agency of Nuclear and Radiation Safety

Regulatory Body - ANRS

LEPL Agency of Nuclear and Radiation Safety

- Authorization of nuclear and radiation activities (medicine, industry, science and education);
- Conducting of planned and unplanned inspections;
- Enforcement actions;
- Collection of the regulatory data (radiation sources and equipment, authorizations, facilities and inspections) using Advanced Regulatory Information System (*ARIS*);
- Review and assessment of annual reports submitted by the license holders.



Legislation

- Statute of the ANRS, 2015.
- Georgian Law on Nuclear and Radiation Safety, 2015.
- Georgian Law on Licences and Permits, 2005.
- Decree N2 – Rules for Inspection of Nuclear and Radiation Activity, 2016.
- Decree N450 – Radiation Safety Requirements, 2015.
- Decree N317 – Radiation Safety Requirements for Medical Exposure, 2015.
- Decree N558 – Radiation Safety Requirements in Industry, Science and Education, 2016.
- Decree N689 – Registry of Ionizing Radiation Sources, Radioactive Waste, Authorization and Categorization of Ionizing Radiation Sources, 2014.

LEPL Agency of Nuclear and Radiation Safety

National requirements for education & training

- No specific requirements for workers in national legislation – “appropriate training”;
- Requirements on education and training are set for workers;
- **Minimum education level** - general requirements for all workers:

Workers shall have relevant qualification and expertise certifying document before designation;

- **Training/Re-training in radiation safety:** a) For workers with secondary education - once every 3 years or upon request of the regulatory; b) For workers with higher education – once every 5 years (*National BSS, QA program in medical application…).*

EduTA MISSION

VISIT IN OUR CENTER

In 2016, the EduTA mission was conducted in Georgia, as a result Ivane Beritashvili Center of Experimental Biomedicine, which has been conducting training courses of nuclear and radiation safety issues for several years and is the leading organization in the field of education and science in Georgia resumed existing programs according to the requirements of international and national legislation.

Training Courses

Course 1

Title of the Course: Radiation Protection and the Safety in Medicine

The course based on the **GUIDELINES ON RADIATION PROTECTION EDUCATION AND TRAINING OF MEDICAL PROFESSIONALS IN THE EUROPEAN UNION** and **IAEA training material of Radiation Protection of Patients (RPOP)**
Accreditation: by ***ANRS Recommendation:***
Course is recommended for Georgian Association of Radiology

Target group: *Medical Personnel with low education* and other healthcare workers, including engineers and technicians

Amount of contact hours: 45

Course 2

Title of the Course: Radiation Protection and the Safety in Medicine

The course based on the **GUIDELINES ON RADIATION PROTECTION EDUCATION AND TRAINING OF MEDICAL PROFESSIONALS IN THE EUROPEAN UNION** and **IAEA training material of Radiation Protection of Patients (RPOP) . Accreditation:** by ***ANRS Recommendation:***
Course is recommended for Georgian Association of Radiology

Target group: Hi education Medical Personnel- Diagnostic and Interventional radiologists, Nuclear medicine specialists, Radiation oncologist, dantists, Healtcare professional.

Amount of contact hours: 60

Course 3

Title of the Course: Radiation Protection and the Safety in Medicine

The course based on the **GUIDELINES ON RADIATION PROTECTION EDUCATION AND TRAINING OF MEDICAL PROFESSIONALS IN THE EUROPEAN UNION** and **IAEA Syllabus of Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources**
Accreditation: by ***ANRSRecommendation: Course is recommended for Georgian Association of Radiology***

Target group: RPO and QE in hospitals, companies or teaching and research institutions.

Amount of contact hours: 35

Training Courses

Course 1

The purpose of the program is to insight (familiar) the students with hazards, related to nuclear and radiation practice, as well as measures of radiation protection and safety of radiation sources which comply with revised International Basic Safety Standards.

Participants'Qualifications Prerequisites – Basics of general education disciplines: physics, chemistry, biology,
Basics of fundamental biomedical disciplines: biophysics, biochemistry, physiology, engineering.

Course 2

The purpose of the program is to meet the educational and training requirements of medical and healthcare professionals in radiation protection and the safety of radiation sources, which comply with revised International Basic Safety Standards.

Participants'Qualifications Prerequisites - General education disciplines: physics, chemistry, biology,
Fundamental biomedical disciplines: biophysics, biochemistry, physiology, molecular and medical genetics.
Minimal knowledge about evidence based medicine foundations and biostatistics.

Course 3

The purpose of the program is to meet the educational and training requirements of graduate level staff earmarked for senior positions in radiation protection and the safety of radiation sources, which comply with revised International Basic Safety Standards.

Participants'Qualifications Prerequisites :
General education disciplines: physics, chemistry, biology; **Fundamental biomedical disciplines:** biophysics, biochemistry, bioengineering. The participants should have had a formal education to a level equivalent to a university degree in the physical, chemical or life sciences or engineering .

Training Courses

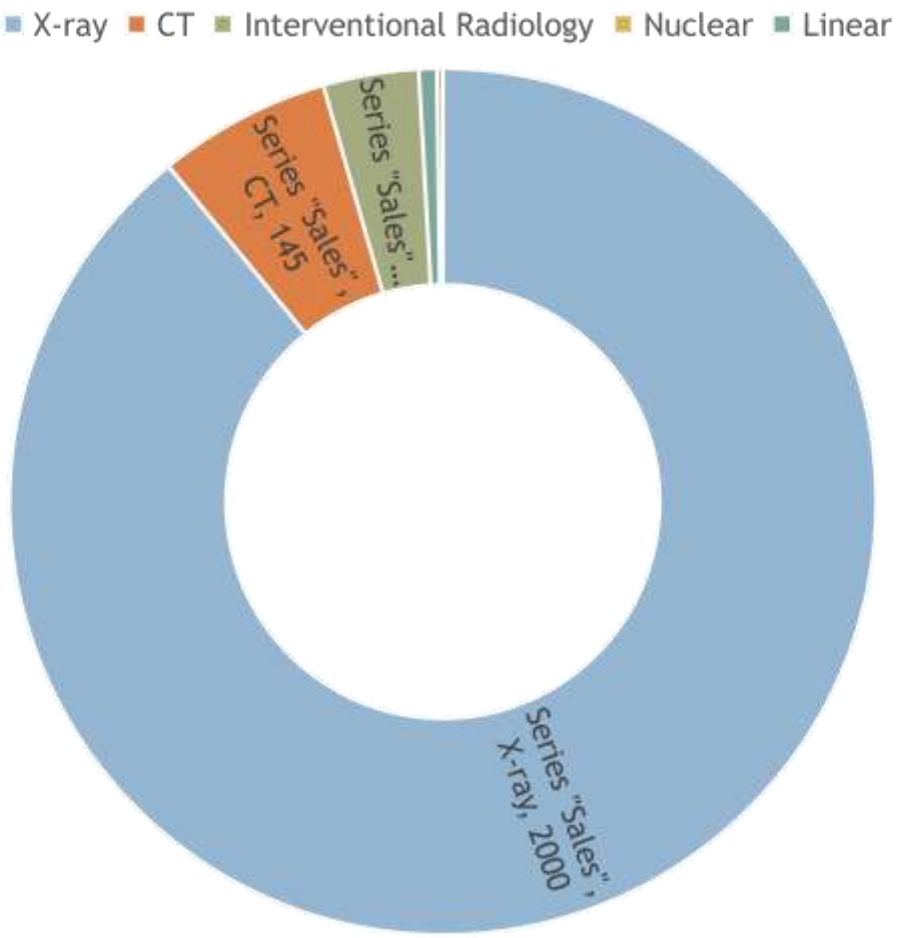
Despite not a large number of trainers, training courses are conducted not only in the capital, also in large regional centers, which enables professionals to save the time and supply required material and practical part timely.

Medical Facilities under Regulation

- Licence Holders - 800.

90% from this facilities are medical.

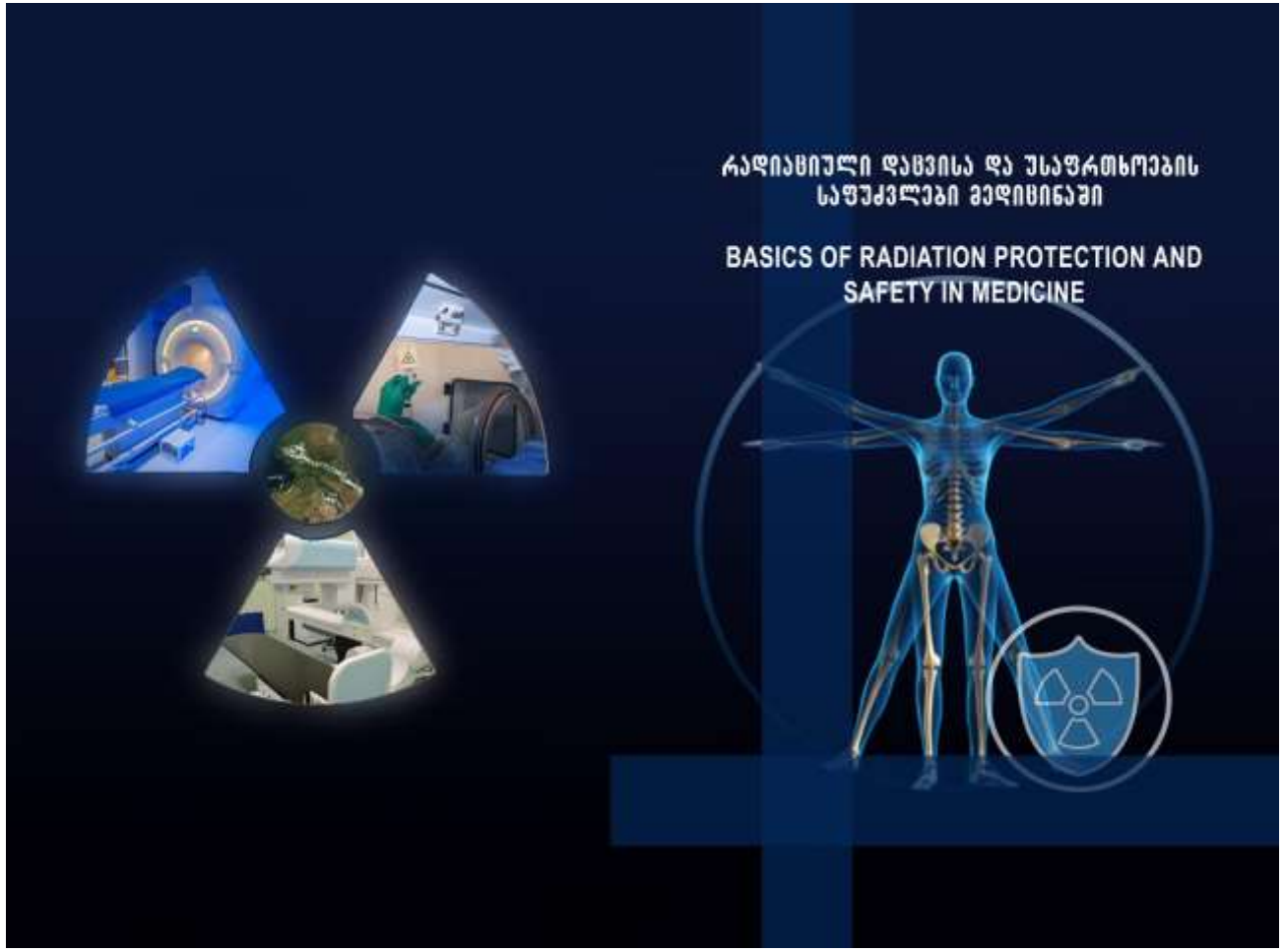
- X-ray 2000
- CT 145
- Interventional Radiology 80
- Nuclear 5
- Linear 15



About Handbook

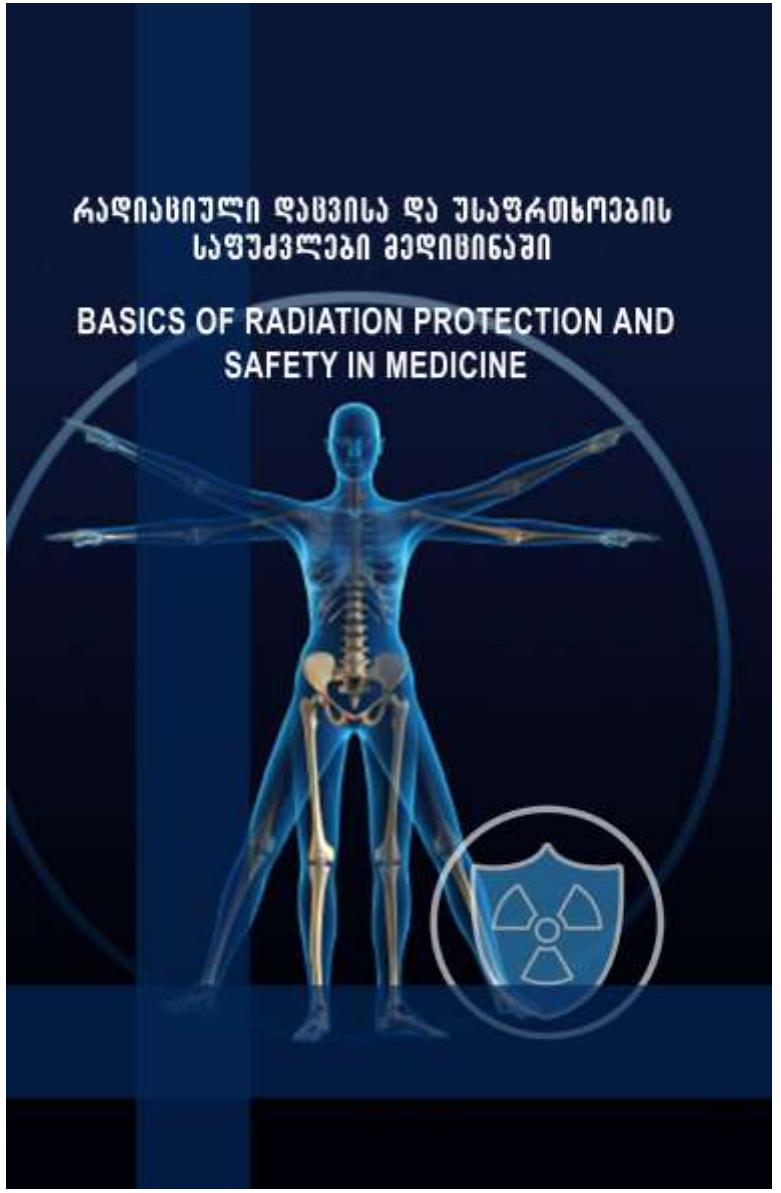
IAEA RER9147 Enhancing Member States' Capabilities for Ensuring Radiation Protection of Individuals Undergoing Medical Exposure
Country name: GEORGIA

Country action plan for 2018-2019
"Develop and publish a handbook in radiation protection and safety for medical applications in cooperation with appropriate scientific-research institutions."



Handbook

The syllabus of the training was developed for three types of listeners working in the field of medicine with agreement to the Regulatory Authority (Nuclear and Radiation Safety Agency). These include: average medical personnel (x-ray labors), medical personnel with higher education (doctors) and persons responsible for nuclear and radiation safety. During composition of mentioned syllabuses experience of the AES and other international organizations, as well as national interests was taken into consideration. The necessity of modifying existing courses in the country was primarily due to the lack knowledge of listeners of the modern standards of safety. The Core-course was created, which included the theoretical material required for all three above-mentioned listeners. Course starts with the types of listeners and ends with practical part. All three types of programs are presented in such a way that the listeners have opportunity to an active discussion and feedback.



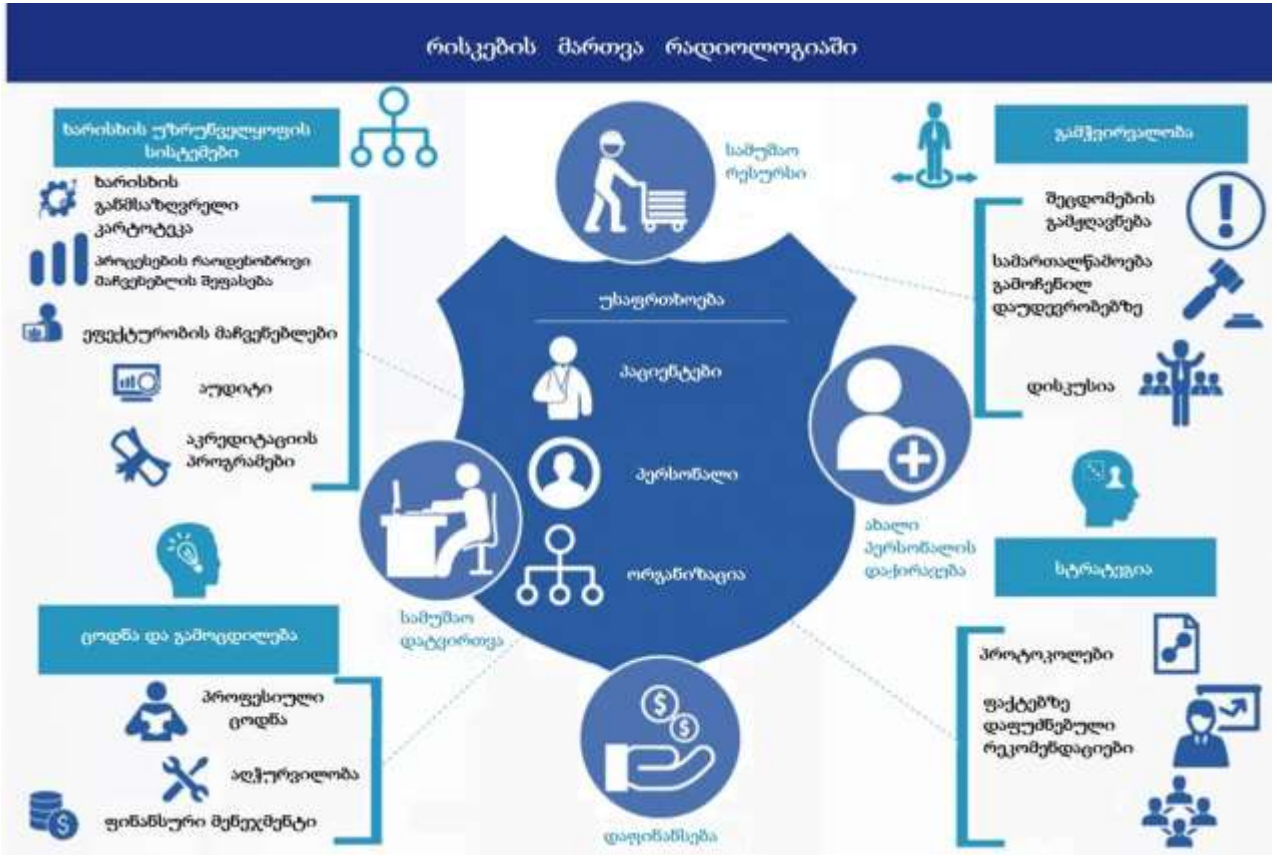
Organizational Structure of Course

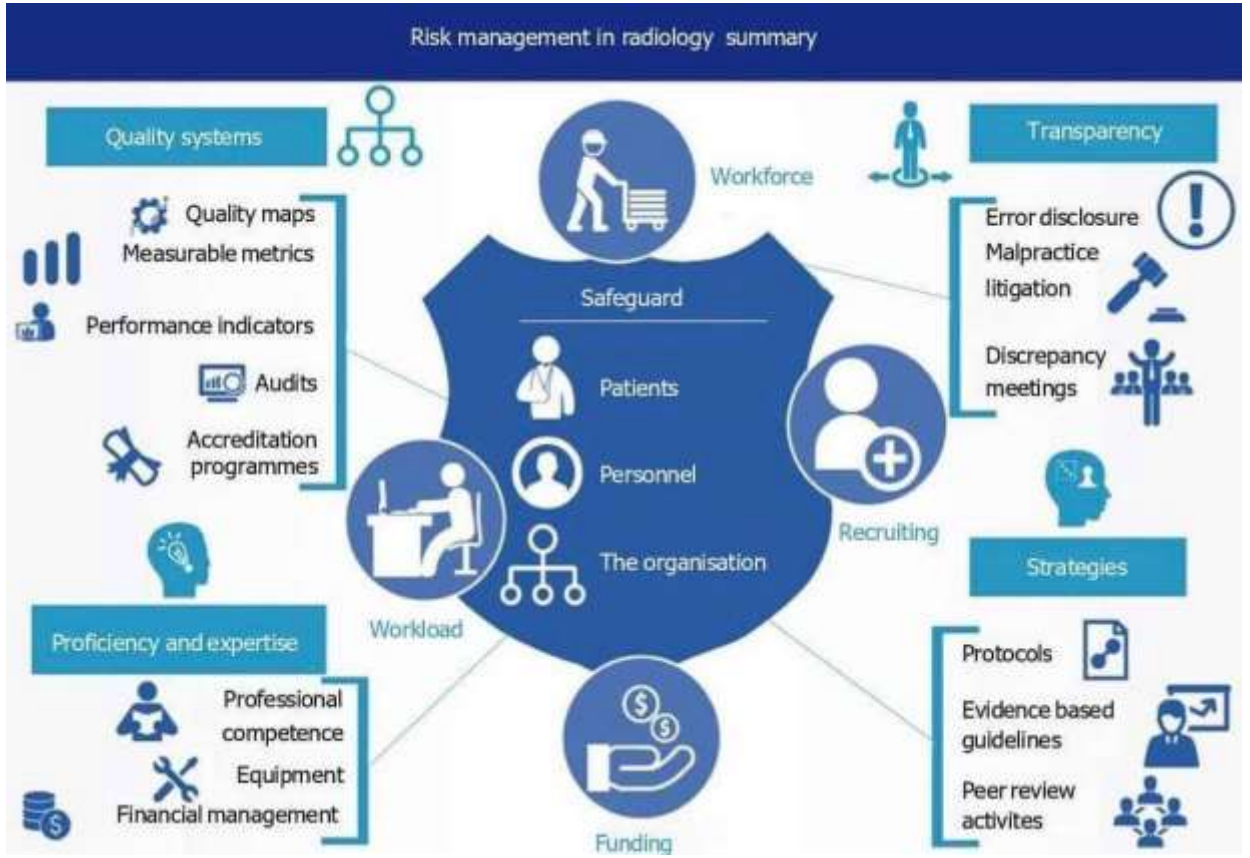
- International and National requirements
- Radiation Safety Principles
- Biological Effects and Risk
- Postings and Labels
- Contamination Skills
- Basics of Nuclear Physics
- Review of Planning, Emergency an Existing Exposure Situations
- Implementation of ALARA principles in medicine,
- Radioactive Waste Management
- Training Tests Before and after course

Additional Modules

- Dental X-ray
- General X-ray
- CT Diagnostics
- Interventional Procedures
- Radiation Therapy
- Nuclear Medicine

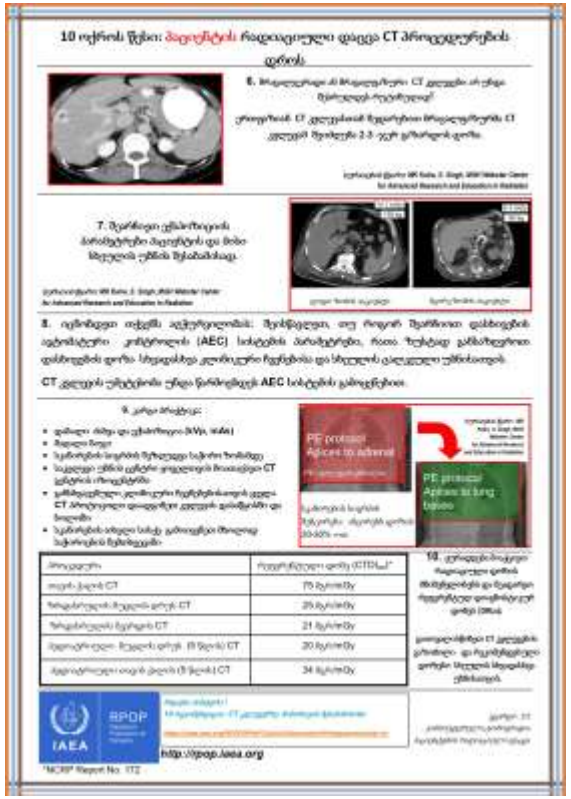
Used Materials





Sourse: *World Jornal of Radiology* 2015 June 28; **Risk management in radiology departments;**
Horea Craciun, Kshitij Mankad, Jeremy Lynch 7(6): 134-138

Additional Visual Materials



Source: https://www.iaea.org/resources/rpop/resources/posters-and-leaflets

Our team

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THANK YOU!