FEDERAL STATE BUDGET EDUCATIONAL INSTITUTION OF HIGHER EDUCATION "ROSTOV STATE MEDICAL UNIVERSITY" MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

Faculty of Education of foreign students, residents and postgraduates

CONFIRM
Supervisor
educational program
_____ / E.S. Belousova /
(signature) *(FULL NAME.)*
"30" августа 2023

DISCIPLINE WORKING PROGRAM

RADIATION DIAGNOSTICS

Speciality 31.05.01 General medicine

Form of education full-time

Rostov-on-Don
2023

I. GOALS AND OBJECTIVES OF MASTERING THE DISCIPLINE

Targetmastering the discipline "Radiation diagnostics" consists of mastering knowledge about the nature, properties and biological effects of ionizing, non-ionizing radiation and the clinical application of electromagnetic, ultrasonic, magnetic and corpuscular fields for diagnostic purposes.

At the same time, the objectives of the discipline within the framework of medical activities are:

- Conducting preventive medical examinations, medical examinations, and follow-up;
- diagnosis of diseases and pathological conditions of patients;
- diagnosis of emergency conditions;

within the framework of scientific activities is:

- analysis of scientific literature and official statistical reviews, participation in statistical analysis and public presentation of the results obtained;
- participation in solving individual research and scientifically applied problems in the field of health care in diagnosis, treatment, medical rehabilitation and prevention.

II. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

The process of studying the discipline is aimed at developing the following competencies in accordance with the Federal State Educational Standard of Higher Education and the EP of Higher Education in this specialty:

General professional competencies - GPC - 5 -ability and willingness to analyze the results of one's own activities to prevent professional errors;

Professional competencies Medical activities

PC – 5 -readiness to collect and analyze the patient's complaints, his medical history, examination results, laboratory, instrumental, pathological, anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease;

PC – 6 -the ability to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, X revision;

Research activities

PC – 20 –readiness to analyze and publicly present medical information based on evidence-based medicine;

PC – 21 -readiness to analyze and publicly present medical information based on evidence-based medicine;

PC – 22 -readiness to participate in the implementation of new methods and techniques aimed at protecting the health of citizens.

III. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF EP VO

3.1. The academic discipline is basic;

3.2. The formation of the above competencies is facilitated by studying

the following previous disciplines:

- bioethics;
- biochemistry;
- anatomy;
- histology;
- pathological anatomy;
- pathophysiology;
- propaedeutics of internal diseases;
- general surgery.

3.3. The discipline “Radiation diagnostics” creates the prerequisites for the formation of these competencies in the following disciplines:

- clinical pathological anatomy;
- public health and healthcare;
- neurology, medical genetics, neurosurgery;
- psychiatry, medical psychology;
- ophthalmology;
- obstetrics and gynecology;
- pediatrics;
- faculty therapy;
- occupational diseases;
- hospital therapy;
- endocrinology;
- infectious diseases;
- phthisiology;
- outpatient therapy;
- anesthesiology, resuscitation, intensive care;
- Faculty Surgery;
- urology;
- hospital surgery;
- pediatric surgery;
- oncology, radiation therapy;
- traumatology orthopedics;
- VPT, VPH.

IV. CONTENT AND STRUCTURE OF DISCIPLINE

Labor intensity of the discipline in 44 hours

4.1. Sections of the discipline studied in the 7th semester

No. section a	Section name	Number of hours					
		Total	ContactJob				SRO*
			L	WITH	ETC	LR	
Semester 7							
1.	**Physical and biological basis of radiation diagnostic methods.**	6	2	4	-	-	-

2.	**Radiation diagnostics of respiratory systems.**	8	2	8	-	-	-
3.	**Radiation diagnostics of musculoskeletal motor system.**	6	2	8	-	-	-
4.	**Radiation diagnostics of cardiac vascular system.**	6	2	4	-	-	-
5.	**Radiation diagnostics of the gastrointestinal tract.**	6	2	4	-	-	-
6.	**Radiation diagnostics of urinary systems.**	6	2	4	-	-	-
	Total:	44	12	32	-	-	-

L- lectures

WITH– seminars (in accordance with the RUP)

4.2. Contact work

Lectures

No. section a	**No.** lectures	**Lecture topics**	**Number of hours**
Semester 7			
1.	1.	Physical and biological basis of radiation diagnostic methods.	2
2.	2.	Radiation diagnostics of lung diseases.	2
3.	3.	Radiation diagnostics of injuries and diseases of the musculoskeletal system.	2
4.	4.	Radiation diagnostics of diseases of the gastrointestinal tract.	2
5.	5.	Radiation diagnostics of heart diseases. Clinical angiography.	2
6.	6.	Radiation diagnostics in urology.	2

Seminars

Section no.	**No. PR**	**Topics of practical work**	**Qt yhours**	**Formscurrent control**
Semester 7				
1.	1.	Introduction. Physical and biological basis of radiation diagnostic methods. Principles radiation protection.	4	paperwork
2.	2.	Radiation anatomy, main radiological syndromes lung diseases.	4	paperwork
2.	3.	Radiation diagnostics of lung diseases.	4	paperwork
3.	4.	Radiation anatomy, main radiological syndromes of bone and joint diseases. Radiation diagnostics of musculoskeletal injuries	4	paperwork

Section no. la	No. PR	Topics of practical work	Qt yhours	Formscurrent control
		systems and fracture healing.		
3.	5.	Radiation diagnostics of diseases musculoskeletal system.	4	paperwork
3.	6.	Radiation diagnostics of diseases of the gastrointestinal tract. Radiation diagnostics emergency conditions.	4	paperwork
4.	7.	Radiation diagnostics of diseases hearts. Clinical angiography.	4	paperwork
6.	8.	Radiation diagnostics urinary system.	4	paperwork

V. ASSESSMENT FUND FOR CURRENT CONTROL AND INTERMEDIATE CERTIFICATION

The fund of assessment tools for determining the level of development of competencies as a result of mastering the discipline is an appendix to the work program.

VI. EDUCATIONAL AND METHODOLOGICAL SUPPORT OF DISCIPLINE

6.1. Main literature.

1. Radiation diagnostics [Electronic resource]: textbook / Trufanov G.E. and others - M.: GEOTAR-Media, 2018. - 484 p. - ISBN 978-5-9704-4419-1 - Access mode: http://www.studmedlib.ru/book/ISBN9785970444191.html

2. Radiation diagnostics and therapy. General radiation diagnostics [Electronic resource] / Ternovoy S.K. et al. - M.: GEOTAR-Media, 2014. - 232 p. - ISBN 978-5-9704-2989-1 - Access mode: http://www.studmedlib.ru/book/ISBN9785970429891.html

3. Radiation diagnostics and therapy. Private radiation diagnostics [Electronic resource] / Ternovoy S.K. et al. - M.: GEOTAR-Media, 2014. - 356 p. - ISBN 978-5-9704-2990-7 - Access mode: http://www.studmedlib.ru/book/ISBN9785970429907.html

4. Atlas of human radiation anatomy [Electronic resource] / Filimonov V.I., Shilkin V.V., Stepankov A.A., Churakov O.Yu. - M.: GEOTAR-Media, 2010. - 452 p. - ISBN978-5-9704-1361-6 -Mode access: http://www.studmedlib.ru/book/ISBN9785970413616.html

6.2. Additional literature.

1. Propaedeutics of internal diseases with elements of radiation diagnostics [Electronic resource]: textbook / I. A. Shamov. - M.: GEOTAR-Media, 2019. - 512 p. - 512p.-ISBN978-5-9704-5182-3-Mode access: http://www.studmedlib.ru/book/ISBN9785970451823.html

2. Radiation diagnostics [Electronic resource]: textbook / Ilyasova E. B., Chekhonatskaya M. L., Priezzheva V. N. - M.: GEOTAR-Media, 2016. - 280 p. -ISBN 978-5-9704-3789-6-Access mode: http://www.studmedlib.ru/book/ISBN9785970437896.html

3. Fundamentals of radiation diagnostics [Electronic resource] / D. A. Lezhnev [et al.] - M.: GEOTAR-Media, 2018. - 128 p. - ISBN 978-5-9704-4397-2 - Access mode: http://www.studmedlib.ru/book/ISBN9785970443972.html

4. Radiology [Electronic resource] / Ed. A.Yu. Vasilyeva - M.: GEOTAR-Media, 2008. - 128 p. (Series "Pocket atlases on radiation diagnostics") -ISBN 978-5-9704-0925-1 -Mode access: http://www.studmedlib.ru/book/ISBN9785970409251.html

5. Multislice computed tomography [Electronic resource] / Ed. S.K. Ternovogo - M.: GEOTAR-Media, 2009. - 112 p. (Series "Library of a specialist doctor") - ISBN 978-5-9704-1020-2 - Access mode: http://www.studmedlib.ru/book/ISBN9785970410202.html

6. Magnetic resonance imaging [Electronic resource]: textbook / Sinitsyn V.E., Ustyuzhanin D.V. Ed. S.K. Ternovogo - M.: GEOTAR-Media, 2008. - 208 p. (Series "Pocket atlases on radiation diagnostics") - ISBN 978-5-9704-0835-3 - Access mode:http://www.studmedlib.ru/book/ISBN9785970408353.html

7. Ultrasound diagnostics [Electronic resource] / N. Yu. Markina, M. V. Kislyakova; edited by S.K. Ternovoy. - 2nd ed. - M.: GEOTAR-Media, 2015. - 240 p. - ISBN978-5-9704-3313-3 -Mode access: http://www.studmedlib.ru/book/ISBN9785970433133.html

8. Radionuclide diagnostics [Electronic resource] / S.P. Pasha, S.K.Ternovoy - M.: GEOTAR-Media, 2008. - 208 p. - ISBN 978-5-9704-0882-7 - Access mode: http://www.studmedlib.ru/book/ISBN9785970408827.html

9. Contrast agents [Electronic resource] / Shimanovsky N.L. - M.: GEOTAR-Media, 2009. - 464 p. (Series "Library of a Medical Specialist") - ISBN 978-5-9704-1270-1- Access mode: http://www.studmedlib.ru/book/ISBN9785970412701.html

10. Radiation diagnostics of damage to the maxillofacial area[Electronic resource] / Vasiliev Yu.V., Lezhnev D.A. - M.: GEOTAR-Media, 2010. - 80 p. -ISBN 978-5-9704-1698-3 -Mode access: http://www.studmedlib.ru/book/ISBN9785970416983.html

11. MSCT of the heart [Electronic resource] / Ternovoy S.K., Fedotenkov I.S. - M. : GEOTAR-Media, 2013. - 112 p. (Series "Library of a Medical Specialist") - ISBN 978-5-9704-2685-2-Mode

access:http://www.studmedlib.ru/book/ISBN9785970426852.html

12. Radiation diagnostics (MRI, CT, ultrasound, SPECT and PET) of liver diseases [Electronic resource]: manual / Trufanov G.E., Ryazanov V.V., Fokin V.A. Ed. G.E. Trufanova. - M.: GEOTAR-Media, 2008. - 264 p. - ISBN 978-5-9704-0742-4 - Access mode:http://www.studmedlib.ru/book/ISBN9785970407424.html

13. Principle-based analysis of radiology dataevidence-based medicine [Electronic resource] / Vasiliev A.Yu., Maly A.Yu., Serov N.S. - M.: GEOTAR-Media, 2008. - ISBN 978-5-9704-0869-8 - Access mode: http://www.studmedlib.ru/book/ISBN9785970408698.html

1.3. Internet resources

	ELECTRONIC EDUCATIONAL RESOURCES	**Access to the resource**
1.	**Electronic libraryRost State Medical University** .– URL:http://109.195.230.156:9080/opacg/	Unlimited access
2.	**Student Advisor**: EBS. – Moscow: LLC “IPUZ”. - URL:	Access

	http://www.studmedlib.ru	is not limited
3.	**Doctor's consultant.**Electronic medical library: EBS. – Moscow: LLC GC "GEOTAR". - URL: http://www.rosmedlib.ru	Access is not limited
4.	**UpToDate**: DB / Wolters Kluwer Health. – URL:www.uptodate.com	Access is not limited
5.	**Consultant Plus** : reference legal system. -URL:http://www.consultant.ru	Access from computers university
6.	**Scientific electronic library eLIBRARY** .- URL: http://elibrary.ru	Open access
7.	**Scopus**/ Elsevier Inc., Reed Elsevier. – Philadelphia: Elsevier BV, PA. – URL:http://www.scopus.com/*(National project)*	Access is not limited
8.	**WebofScience** /ClarivateAnalytics.-URL: http://apps.webofknowledge.com*(National project)*	Access is not limited
9.	**Federal electronic medical library Ministry of Health of Russia** .-URL: http://www.femb.ru/feml/,http://feml.scsml.rssi.ru	Ope naccess
10.	**CyberLeninka**: scientific electron. beep. - URL: http://cyberleninka.ru/	Open access
ele ve n.	Archives of scientific journals/NEIKON.-URL: https://archive.neicon.ru/xmlui/	Open access
12.	**Open access journals in Russian** /platform ElPub NEICON. – URL:https://elpub.ru/	Open access
13.	**Medical Bulletin of the South of Russia** .- URL:https://www.medicalherald.ru/jouror from the RostSMU website	Open access
14.	**World Health Organization**. - URL: http://who.int/ru/	Open access
15.	**Evrika.ru**information and educational portal for doctors. – URL:https://www.evrika.ru/	Open access
16.	**Med-Edu.ru**:medical video portal. - URL:http://www.med-edu.ru/	Open access
17.	**DoctorSPB.ru**:information-reference portalmedicine.-URL: http://doctorspb.ru/	Open access
	Other open resources you can find by address:http://rostgmu.ru→Library→Electronic catalogue→Openth Internet resources→further by keyword…	

6.5. Guidelines for mastering the discipline

1. X-ray analysis of the spine in normal and pathological conditions: a methodological manual / compiled by: M.V. Babaev, E.V. Kharlamov, A.V. Kondrashov, K.V. Prokhorskaya.- Publisher: RostGMU. Rostov-on-Don, 2003, 39 p.

2. X-ray diagnosis of scoliotic spinal deformities / comp.: M.V. Babaev, G.P. Volkov, A.I. Lukash, 2010.- 56 p.

3. Radiation anatomy of the lungs. Textbook / compilation: M.V. Babaev, B.V. Vinogradov, G.P. Volkov – Publisher: State Budget Educational Institution of Higher Professional Education Rost State Medical University of the Ministry of Health and Social Development of Russia. Rostov-on-Don, 2011, 54 p.

4. X-ray diagnosis of diseases and injuries of the spine: textbook. manual / comp.: V.D. Sikilinda, M.V. Babaev, G.P. Volkov [and others]; Height. state honey. univ. – Rostov n/d: publishing house Rostov State Medical University, 2013. – 101 p.

5. X-ray diagnosis of osteochondrosis: textbook / M.V. Babaev, G.P. Volkov, V.D. Sikilinda [etc.]; Height. state honey. university, department Ray. diagnostics and beam. therapy . – Rostov n/d: publishing house Rostov State Medical University, 2014. – 84 s. - access from the ERB.

6. Babaev M.V. X-ray diagnostics of acute nonspecific inflammatory lung diseases: textbook. allowance / M.V. Babaev, G.P. Volkov; Height. state honey. university, department radiation diagnostics and radiation therapy. – Rostov n/d: publishing house Rostov State Medical University, 2015. – 72 p.

7. Babaev M.V. Radiation diagnostics and differentiation of pulmonary tuberculosis: textbook. allowance / M.V. Babaev, B.V. Vinogradov, G.P. Volkov; edited by M.V. Babaeva; Height. state honey. university, department radiation diagnostics and radiation therapy. - Rostov n/d: publishing house Rostov State Medical University, 2015. – 92 p. - access from the ERB.

8. Research methods in traumatology, orthopedics and neurosurgery: textbook. allowance / V.D. Sikilinda, V.A. Balyazin, M.V. Babaev; FSBEI HE Rostgmu Ministry of Health of Russia. – Novocherkassk: Lik, 2019. – 218 p.

9. Situational tasks in traumatology-orthopedics, radiology and neurosurgery: educational-practical. allowance / V.D. Sikilinda, I.V. Balyazin-Panferov, M.V. Babaev; FSBEI HE Rostgmu Ministry of Health of Russia. – Novocherkassk: Lik, 2019. – 99 p.

VII. MATERIAL AND TECHNICALENSURING DISCIPLINE

For students' work it is expected to use

informationaleducational environment of RostSMU.