Appendix to the working program

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation

BANK OF ASSESSMENT TOOLS FOR DISCIPLINE RADIATION DIAGNOSTICS

Training program (specialty): **31.05.01 GENERAL MEDICINE**

Department: **Department of Oncology, Radiation Therapy and Radiation Diagnostics**

Mode of study **FULL-TIME**

Nizhniy Novgorod
202_

1. Bank of assessment tools for the current monitoring of academic performance, mid-term assessment of students in the discipline

This Bank of Assessment Tools (BAT) for the discipline "**Radiation Diagnostics**" is an integral appendix to the working program of the discipline "**Radiation Diagnostics**". All the details of the approval submitted in the WPD for this discipline apply to this BAT.

2. List of assessment tools

The following assessment tools are used to determine the quality of mastering the academic material by students in the discipline:

No.	Assessment tool	Brief description of the assessment tool	Presentation of the assessment tool in the BAT
1	Test №1-60	A system of standardized tasks that allows you to automate the procedure for measuring the level of knowledge and skills of a student	Test fund assignments
2	Situational tasks №1-10	A method of control that allows you to assess the criticality of thinking and the degree of assimilation of the material, the ability to apply theoretical knowledge in practice.	Task List

Approximate list of assessment tools (select the one you need)

№	Name of assessment tool	Brief description of the assessment tool	Presentation of assessment tool in the bank
1	Test №1-60	A system of standardized tasks that allows you to automate the procedure for measuring the level of knowledge and skills of a student	Test fund assignments
2	Situational tasks №1-10	A method of control that allows you to assess the criticality of thinking and the degree of	Task List

		assimilation of the material, the ability to apply theoretical knowledge in practice.	

3. A list of competencies indicating the stages of their formation in the process of mastering the educational program and the types of evaluation tools

Code and formulation of competence*	Stage of competence formation	Controlled sections of the discipline	Assessment tools
UC-1, UC - 4, GPC-1, GPC -3, GPC -5	Input	Introduction to radiation diagnostics. Biological bases of the impact of different types of radiation. Basic methods for obtaining medical images. General issues of radiation diagnostics. Fundamentals of X-ray semiotics of the pathology of various organs and systems Particular issues of radiation diagnostics. Radiation diagnosis of diseases of the lungs and mediastinum. Radiation syndromes of lung injury. Radiation signs of diseases of the digestive system. Radiation signs of traumatic injuries of bones and joints.	Test tasks (30 pcs.) Situational tasks (1 pcs.)
UC-1, UC - 4, GPC-1, GPC -3, GPC -5	Intermediate	Introduction to radiation diagnostics. Biological bases of the impact of different types of radiation. Basic methods for obtaining medical images. General issues of radiation diagnostics. Fundamentals of X-ray semiotics of the pathology of various organs and systems Particular issues of radiation diagnostics. Radiation diagnosis of diseases of the lungs and mediastinum. Radiation syndromes of lung injury. Radiation signs of diseases of the digestive system. Radiation signs of traumatic injuries of bones and joints.	Test tasks (30 pcs.) Situational tasks (1 pcs.)

4. The content of the assessment tools of entry, current control

Entry /current control is carried out by the discipline teacher when conducting classes in the form of: assessment tool 1, assessment tool 2, etc. *(list the forms, for example, control work, organization of a discussion, round table, abstract, etc.)*

The input is carried out by the teacher of the discipline when conducting classes in the form of: testing (20 randomly selected tests and situational tasks in accordance with the topic of the current lesson)

4.1. Tasks for the assessment of *competence « UC-1, UC - 4, GPC-1, GPC -3, GPC -5» (specify the competence code):*

1. W.K. roentgen discovered the radiation that was later named after him in

1895
1890
1900
1905

2. the greatest radiation exposure is produced by
fluoroscopy with fluorescent screen
fluorography
fluorography
fluoroscopy with uri

3. which organs and tissues of a patient need primary protection from ionizing radiation?
bone marrow, gonads
thyroid gland
mammary gland
leather
4. radiography is based on the property of X-rays to induce
photochemical changes
fluorescence
ionization of the medium
biological effect

5. lateroscopy is performed in the position of the patient
supine or lateral with horizontal arms
and vertical arms on
the abdomen and vertical arms
on the back and vertical arms

6. barium sulfate used for contrast contrast enhancement
oesophagus, stomach, intestine
retroperitoneal
cavity systems kidney
pleural cavity

7. contrast agents
are used for examination of blood vessels
water-soluble iodine-containing
salts of heavy metals
gaseous
fat-soluble iodine-containing

8. ultrasound is
mechanical vibrations of the medium
infrared radiation
electromagnetic radiation
photon flux

9. in positron emission tomography radiation is recorded
gamma
alpha
beta
positron

10. computed tomography X-ray is most informative for the examination of

mediastinal lymph nodes
cardiac pulsation diaphragm
motility

11. the main way to study radial bone morphology in normal and pathological conditions
radiography
x-ray computed tomography mri
ultrasound

12. bronchography allows to study
bronchi
pulmonary parenchyma
pleura of
mediastinum

13. rib-diaphragmatic sinuses normally have the following shape
acute-angled
rectangular
obtuse-angled

14. displacement of mediastinal organs is determined by
trachea and mediastinal boundaries
left heart boundary
right heart boundary
clavicle position

15. left diaphragm dome is located in relation to the right diaphragm dome
one rib (intercostal space) lower
at the same level
one rib (intercostal space) higher
lower on inhalation, higher on exhalation
16. in atelectasis of the lung lobe radiologically:
the mediastinum is displaced towards the lesion;
the mediastinum is displaced towards the healthy lung;
the mediastinum is not displaced;
any of the above is possible.

17. Diaphragm in peripheral lung cancer
unchanged
pushed down
its dome is offset upwards
on the affected side is deformed

18. normally the upper pole of the right kidney is lower than that of the left kidney.
1-2 cm
lower by 3-4 cm .
5-6 cm
lower by 10 cm.

19. ultrasound examination of the kidneys can determine:
size, shape, localisation of the calyx-pelvis system and the magnitude of the renal blood flow
size of renal blood flow
function of renal tubules and renal tubules
size, shape, localization of renal calyx-lobule system

20. the articular gap gives on the radiograph:
lumen
fade line
are not differentiated

21. thoracic fluoroscopy allows to study
mobility of the diaphragm
pulmonary pattern
state of the interlobar pleura
minor focal shadows

22. the most informative technique for bronchiectasis detection is
bronchography
X-ray
tomography

23. pulmonary pattern is a reflection of
blood vessels of
connective tissue of lung
bronchi
lymphatic vessels

24. a small amount of fluid in the pericardial cavity can be detected by
ultrasound
X-ray
fluoroscopy
X-ray tomography

25. the normal right cardio-diaphragmatic angle is
acute
obtuse
direct

26. displacement of mediastinal organs to the side of the lesion is characteristic of
atelectasis of the lung
exudative pleuritis
diaphragmatic hernia
pneumonia
hydropneumothorax .

27. total darkening of pulmonary field without displacement of mediastinal organs is characteristic for
pneumonia
pulmonary cirrhosis
exudative pleurisy
pulmonary atelectasis

28. shift of the mediastinum to the healthy side is characteristic of
exudative pleuritis
central
lung
cancer
atelectasis lobe

chronic pneumonia

29. If pneumothorax is suspected, a chest X-ray is taken
exhale
on inhalation
without breath-holding

30. mobility of diaphragmatic cupula in pulmonary emphysema

not changed not changed
increased sharply
increased

31. the most effective method of chronic bronchitis diagnosis is
bronchography and bronchoscopy
radiography
tomography

32. total exudative pleurisy the darkening has
homogeneous nature
heterogeneous nature
homogeneous or heterogeneous nature

33. drained lung abscess radiologically looks like
a bordered lumen with darkening around it, with a level of fluid; a
bordered lumen in the lung tissue;
diffuse darkening of the lung field;
homogeneous round-shaped darkening in the lung.

34. when lobular bronchial cancer is suspected, X-rays should be followed by
CT scan
angiopulmonography
bronchial artery
angiography
bronchography

35. Characteristic symptoms of central bronchial cancer that can be revealed by bronchography include all the following, except for
bronchial lumen unchanged
large-calibre bronchial amputation
conical bronchial stump
concentric bronchial narrowing

36. pneumothorax on radiological examination refers to:
extensive lucidity syndrome
total darkening syndrome
ring-shaped shadow syndrome

37. surrounding lung tissue in peripheral lung cancer
sometimes has a thick track from the tumour to the root
; it does not change
and often has focal shadows around it.

38. enlargement of lung roots is caused by enlarged lymph nodes

bronchopulmonary group
bifurcation group
tracheobronchial group
paratracheal group

39. most often occurs with abscesses
staphylococcal pneumonia
hypostatic pneumonia
round pneumonia
eosinophilic pneumonia

40. The structure and contours of a peripheral cancer are better defined
on the tomograms
on plain radiographs in straight projection
on lateral view radiographs
on fluorograms

41.The abdominal segment of the oesophagus, which looks like a "mouse's tail", is described as a characteristic feature of
for achalasia of the cardia
in scleroderma
in cardioesophageal cancer
in epiphrenal diverticula

42. Persistent narrowing of the oesophagus up to 5 cm with irregular contours and rigid walls, oesophageal permeability, lack of normal topography
mucous membranes with fold rupture symptom - radiological symptoms
endophytic cancer
esophagospasm
scar stricture
secondary esophageal changes in chronic mediastinitis

43. a technique that clarifies the spread of tumour infiltration of the oesophageal wall is
computed tomography
oesophageal barium-suspended oesophagus multiprojection study
double esophageal contrast
esophageal examination with pharmacological relaxants

44. The X-ray symptoms of intestinal obstruction are:
the totality of the symptoms listed.
levels of fluid in the intestinal loops;
lack of passage of contrast agent;
irregular dilatation of intestinal loops;

45. the first radiological symptoms of intestinal obstruction appear
In 2.5-3 hours
After 1-1.5 h
In 1.5-2.5 h
After 4-5 hours

46. basic radiological examination techniques of the oesophagus, stomach, intestines:
X-ray, fluoroscopy, polygraphy
fluoroscopy, roentgenography, fluorography
fluoroscopy, roentgenography, tomography

47. radiological signs of ulcer:
ulcer "niche", inflammatory shaft, convergence, hypersecretion, regional spasm, accelerated progression of barium suspension in ulcer area, local soreness
ulcer "niche", inflammatory shaft, convergence of mucosal folds, mucosal folds entering "niche", hypersecretion, regional spasm, accelerated progression of barium suspension in ulcerous area, local soreness
ulcerous "niche", inflammatory shaft, rigidity of wall, convergence of mucosal folds into "niche", hypersecretion, regional spasm in ulcerous area, local soreness

48. the stomach is enlarged with fluid on an empty stomach. the small curvature of the antrum is shortened, the pyloro-duodenal area is hypermotile, the pylorus is narrowed, asymmetrical, the bulb of the duodenum is deformed. gastric emptying is slow. these symptoms are typical
for ulcerative stenosis of the pylorus
for endophytic cancer
for antral rigid gastritis
for congenital pylorostenosis

49. The gastric antrum is concentrically narrowed, irregular, the walls rigid, the pylorus gaping, no mucosal folds visible. this pattern is characteristic of
for endophytic cancer
for ulcerative stenosis of the pylorus
for antral rigid gastritis
for squeezing the stomach from outside

50. Gallbladder concretions on ultrasound are defined as:
hyperechogenic masses with a clear contour and acoustic shadow
Hypoechogenic masses with clear contours and acoustic shadow
multichamber heterogeneous echostructures
with clear contours, deforming contours of a gallbladder

51. the most informative method of biliary system study in cholelithiasis is
ultrasound scan
Cholangiography
by intravenous cholecystholangiography
infusion chollegraphy

52. the most informative technique in case of suspected liver tumor affection is
x-ray computed tomography
abdominal plain radiography
contrast study of biliary system
scintigraphy

53. the leading mode of investigation in nephroptosis is
Excretory urography
vertical ultrasound
retrograde pyelography
review radiography

54. kidneys in a healthy subject are at the level of
12-th thoracic and 1-2nd lumbar vertebrae
8-10th thoracic vertebrae
1-5th lumbar vertebrae
4-5th lumbar vertebra

55. urinary tract radiographs show the shadow of the bladder
detected rarely
detected always
detected
never detected
excellent detected

56. a reliable radiological sign of gastroduodenal ulcer perforation is:
presence of free gas in the abdominal cavity
high standing
of the diaphragm of the cloiber
cup
enlarged gastric gas bladder

57. in the case of suspected perforative gastric ulcer the first stage of investigation should be:
abdominal radiograph + esophagogastroduodenoscopy
gastric fluoroscopy with barium suspension + esophagogastroduodenoscopy
laparoscopy

58. Doppler ultrasound examines
blood flow organ structure organ
function

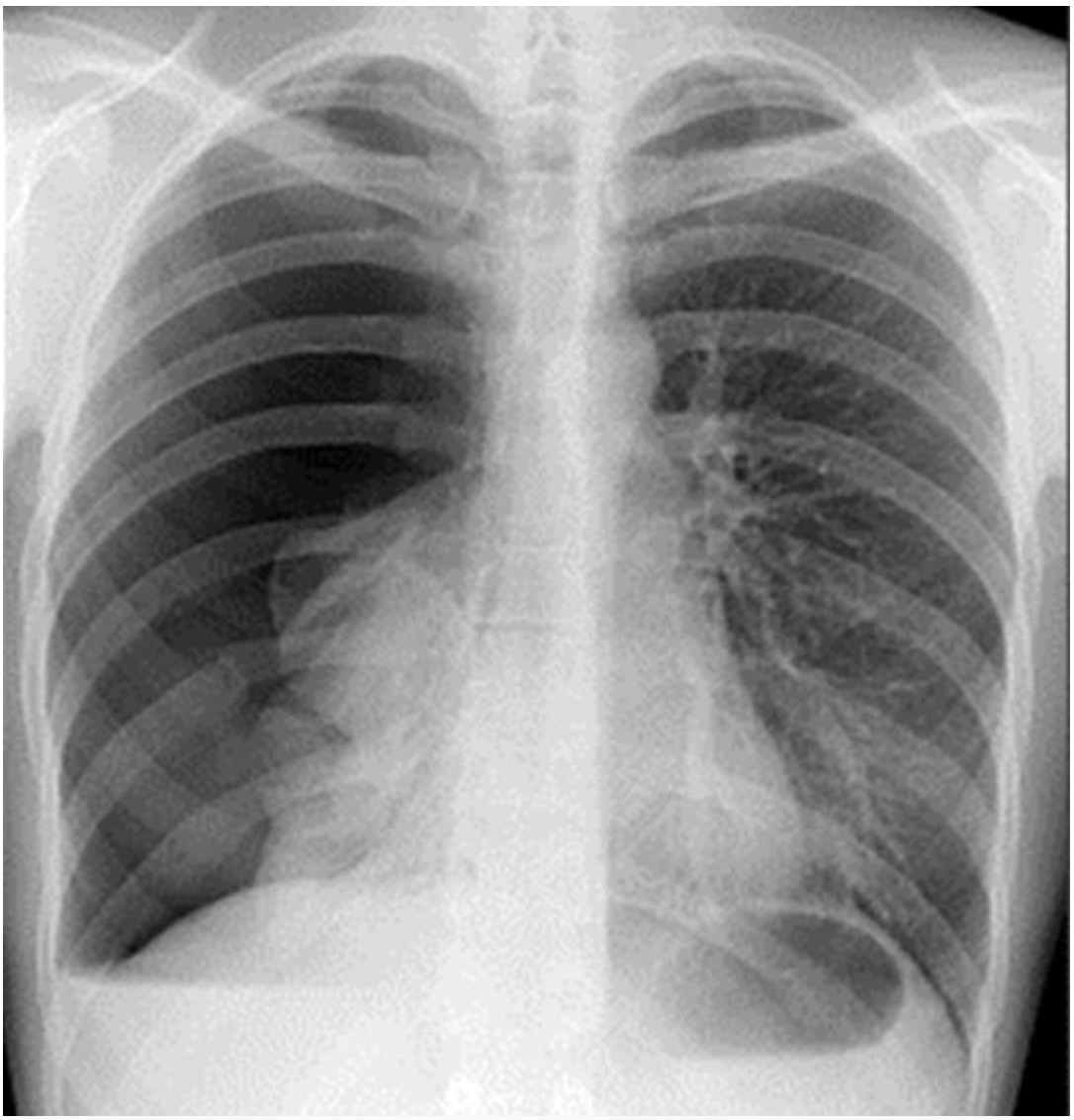
59. the main method of radial diagnosis of intestinal obstruction is
radiological;
radioisotopic;
echographic;
ctmrt

60. signs of diverticula:
The shadow of the diverticulum always extends beyond the shadow of the contrasted organ, the mucosal folds are cut off
The shadow of the contrasted ends of the diverticulum always extends beyond the shadow of the contrasted organ, the mucosal folds enter the diverticulum
The shadow of the diverticulum does not extend beyond the shadow of the contrasted organ, the mucosal folds enter the diverticulum

The first answer is correct.

4.2. Situational tasks for assessing competencies « UC-1, UC - 4, GPC-1, GPC -3, GPC -5» (specify the competence code):

Task



Patient N, 22 years old. Student. Complaints of pain in the right half of the chest and shortness of breath after the injury
1. Name the research method
2. Formulate and justify the hypothetical conclusion

5. The content of the assessment tools of mid-term assessment

Intermediate certification is carried out in the form of testing (30 test items out of 60, randomized sample) and one situational task.

5.1.1. Test tasks (UC-1, UC - 4, GPC-1, GPC -3, GPC -5) are given in section 4.1.

5.1.2. Situational tasks (UC-1, UC - 4, GPC-1, GPC -3, GPC -5) are given in section 4.2.

6. Criteria for evaluating learning outcomes

For the credit (example)

Learning outcomes	**Evaluation criteria**	
	Not passed	**Passed**

Completeness of knowledge	The level of knowledge is below the minimum requirements. There were bad mistakes.	The level of knowledge in the volume corresponding to the training program. Minor mistakes may be made
Availability of skills	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes.	Basic skills are demonstrated. Typical tasks have been solved, all tasks have been completed. Minor mistakes may be made.
Availability of skills (possession of experience)	Basic skills are not demonstrated when solving standard tasks. There were bad mistakes.	Basic skills in solving standard tasks are demonstrated. Minor mistakes may be made.
Motivation (personal attitude)	Educational activity and motivation are poorly expressed, there is no willingness to solve the tasks qualitatively	Educational activity and motivation are manifested, readiness to perform assigned tasks is demonstrated.
Characteristics of competence formation*	The competence is not fully formed. The available knowledge and skills are not enough to solve practical (professional) tasks. Repeated training is required	The competence developed meets the requirements. The available knowledge, skills and motivation are generally sufficient to solve practical (professional) tasks.
The level of competence formation*	Low	Medium/High

***** - *not provided for postgraduate programs*

For testing:

Rating "5" (Excellent) - points (100-90%)
Rating "4" (Good) - points (89-80%)
Grade "3" (Satisfactory) - points (79-70%)

Less than 70% - Unsatisfactory - Grade "2"

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Date "_____" _____ 202__