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

Faculty of Treatment and Prevention

Evaluation materials

in the discipline Radiation diagnostics

Specialty 05/31/01 MEDICINE

2023

1. List of competencies formed by the discipline
professional (PC):

Code and name of professional competence
PC-2 Examination of the patient to establish a diagnosis

2. Kinds estimated materials V compliance With formed competencies:

Name competencies	Types of assessment materials	number of tasks **for 1 competency**
PC-2	Closed tasks	25 with sample answers
	Open type tasks: Situational tasks Interview questions Add-on tasks	75 with sample answers

PC-2:

Closed-type tasks: TOTAL 25 tasks.

Task 1. Instructions: Choose one correct answer.

The principle of radiationprotection is:

1. rationing principle
2. optimization principle
3. screen protection
4. filtration

Response standard: 3.screen protection

Task 2. Instructions: Choose one correct answer.

X-rays were discovered and their properties described:

1. VC. X-ray
2. A.A. Becquerel
3. A. Einstein
4. I. Newton
5. *Sample answer:*1.VC. X-ray

Task 3. Instructions: Choose one correct answer.

Non-ionizing radiation includes:

1. radiography, fluorography
2. MRI, ultrasound diagnostics
3. Scintigraphy, angiography
4. CT, fluoroscopy

*Sample answer:*2.MRI, ultrasound diagnostics

Task 4. Instructions: Choose one correct answer.

The source of X-ray radiation is:

1. electromagnet
2. piezo crystal
3. radiopharmaceutical
4. x-ray tube

*Sample answer:*4.x-ray tube

Task 5. Instructions: Choose one correct answer.

Shift of mediastinal organs towards pathology is typical for:

1. exudative pleurisy;
2. lung cancer;
3. atelectasis
4. acute pneumonia.

*Sample answer:*3.atelectasis

Task 6. Instructions: Choose one correct answer.

Group 1 critical organs include:

1. whole body, gonads, red bone marrow
2. muscles, thyroid gland, adipose tissue
3. skin, bone tissue, hands, forearms, ankles, feet
4. liver, kidneys, gastrointestinal tract, lungs, eye lens

*Sample answer:*1.whole body, gonads, red bone marrow

Task 7. Instructions: Choose one correct answer.

Direct radiological signs of a fracture are:

1. osteoporosis
2. line of enlightenment
3. bone deformity
4. fracture line, displacement of fragments

*Sample answer:*4.fracture line, displacement of fragments

Task 8. Instructions: Choose one correct answer.

At what stage of fracture healing does calcium salts accumulate and calcification occur:

1. Connective tissue stage
2. Osteoid stage
3. True bone stage
4. After callus formation

*Sample answer:*4.After callus formation

Task 9. Instructions: Choose one correct answer.

A fracture that does not heal for a long time is a fracture in which:

1. the consolidation process increases 4 times
2. a false joint has formed
3. the consolidation process lasts 6 months or more
4. the consolidation process doubles
   *Sample answer:*1.the consolidation process increases 4 times

Task 10. Instructions: Choose one correct answer.

X-ray syndromes of lung diseases do not include:

1. Pulmonary pattern pathology syndrome
2. Blackout syndrome
3. Lung root pathology syndrome
4. Pulmonary vascular pathology syndrome
   *Sample answer:*4.Pulmonary vascular pathology syndrome

Task 11. Instructions: Choose one correct answer.

X-ray picture of stage 3 atelectasis:

1. Intense homogeneous darkening of a triangular shape with concave contours, displacement of the mediastinum to the opposite side
2. Homogeneous darkening of a triangular shape with convex contours, displacement of the mediastinum towards pathology
3. Enlightenment with depletion of the pulmonary pattern and an increase in the volume of lung tissue
4. Clearing with the absence of a pulmonary pattern against its background, shift of the mediastinum to the opposite side
   *Sample answer:*1.Intense homogeneous darkening of a triangular shape with concave contours, displacement of the mediastinum to the opposite side

Task 12. Instructions: Choose one correct answer.

At what stage of acute pneumonia does a direct radiological sign of this disease appear:

1. high tide stage
2. red liver stage
3. gray hepatization stage
4. resolution stage
   *Sample answer:*2.red liver stage

Task 13. Instructions: Choose one correct answer.

The X-ray picture of apical cancer (Pancoast tumor) is characterized by:

1. rounded shadow with multicentric contours
2. dumbbell symptom - bipolar, one of the poles of which is formed by a peripheral cancer node, the other by metastases
3. darkening at the apex of the lung with tuberous contours, with destruction of 2-3 ribs
4. asymmetric expansion of the mediastinal shadow
   *Sample answer:*3.darkening at the apex of the lung with tuberous contours, with destruction of 2-3 ribs

Task 14. Instructions: Choose one correct answer.

Which form does not belong to central lung cancer:

1. pneumonia-like
2. endobronchial
3. exobronchial
4. peribronchial-branched
   *Sample answer:*1.pneumonia-like

Task 15. Instructions: Choose one correct answer.

X-ray signsThe primary tuberculosis complex (Gon's focus) is:

1. heterogeneous darkening of a triangular segment or lobe of the lung;
2. a rounded shadow with unclear contours, expansion of the root of the lung, a “path” in the form of linear shadows (lymphangitis) connecting the peripheral shadow with the root lung
3. darkening with a fuzzy outline and spots of dropouts
4. round focus with decay and liquid level.
   *Sample answer:*2. a rounded shadow with unclear contours, expansion of the lung root, a “path” in the form of linear shadows (lymphangitis) connecting the peripheral shadow with the lung root.

Task 16. Instructions: Choose one correct answer.

X-ray examination of the stomach is carried out:

1. on an empty stomach
2. after drinking one liter of liquid
3. after a cleansing enema
4. without prior preparation
   *Sample answer:*1.on an empty stomach

Task 17. Instructions: Choose one correct answer.

Radiological signs of esophageal achalasia in the initial stages are:

1. narrowing of the lumen of the esophagus with uneven, clear, rigid contours
2. large oval-shaped filling defect with clear contours
3. conical narrowing of the distal esophagus, slowing contrast evacuation
4. limited protrusion of a section of the esophageal wall with a narrow neck
   *Sample answer:*3.conical narrowing of the distal esophagus, slowing contrast evacuation

Task 18. Instructions: Choose one correct answer.

Esophageal cancer is more common:

1. in the upper part of the esophagus;
2. in the middle section of the esophagus;

3. in the lower esophagus;
4. in the abdominal segment of the esophagus.

*Sample answer:*2.in the middle esophagus

Task 19. Instructions: Choose one correct answer.

Radiological signs for mechanical intestinal obstruction are:

1. the presence of free gas in the abdominal cavity;
2. the presence of free fluid in the abdominal cavity;
3. the presence of arches and horizontal levels of fluid in the intestine;
4. violation of the topography of the gastrointestinal tract.

*Sample answer:*3. the presence of arches and horizontal levels of fluid in the intestines; Task

20. Instructions: Choose one correct answer.

A method for early diagnosis of metastatic bone lesions is:

1. conventional radiography;
2. linear tomography;
3. radioisotope method;
4. radiography with functional tests.

*Sample answer:*3. radioisotope method.

Task 21. Instructions: Choose one correct answer.

In peripheral lung cancer, characteristics of the contours of the formation:

1. clear, even;
2. fuzzy, radiant, heavy;
3. clear, uneven;
4. impossible to determine.

*Sample answer:*2. fuzzy, radiant, heavy;

Task 22. Instructions: Choose one correct answer.

Osteoporosis is radiographically characterized by:

1. an increase in bone density, thickening of the cortical layer, narrowing of the bone marrow canal;
2. increased bone transparency, thinning of the cortical layer, expansion of the bone marrow canal;
3. area of destruction with unclear contours;
4. high density area.

*Sample answer:*2.increased bone transparency, thinning of the cortical layer, expansion of the bone marrow canal;

Task 23. Instructions: Choose one correct answer.

A reliable symptom of perforation of a hollow organ is:

1. violation of the position and function of the diaphragm;
2. free gas in the abdominal cavity;
3. free fluid in sloping areas of the abdominal cavity;
4. flatulence.

*Sample answer:*2. free gas in the abdominal cavity;

Task 24. Instructions: Choose one correct answer.

The radiological sign of the simplest form of pulmonary metastases is:

1. multiple rounded shadow syndrome;
2. milliary dissemination syndrome;
3. widespread blackout syndrome;
4. pulmonary pattern enhancement syndrome.

*Sample answer:*1. multiple rounded shadow syndrome. Task 25.

Instructions: Choose one correct answer.

The division of cancer into central and peripheral depends on:

1. localization in the lung lobe;
2. level of damage to the bronchial tree;
3. tumor forms;
4. location in relation to the pleura.

*Sample answer:*2. level of damage to the bronchial tree;

Open type tasks: TOTAL 75 tasks

Exercise 1.

Central lung cancer develops from the bronchi 1 -_____order

*Sample answer:*3

Task 2.

Peripheral lung cancer is characterized by damage to the bronchi starting from_____order

Response standard: 4

Task 3.

Protection by distance – radiation intensity is inversely proportional_____distances

*Sample answer:*square.

Task 4.

The most common oral contrast agent for gastrointestinal examinations is sulfate.

_____

Response standard:barium

Task 5.

The main types of protection against ionizing radiation include: shield protection, distance protection and_____

Response standard: protection by time.

Task 6. Interview question.

List the basic principles of radiation protection.

Standard answer: time protection, distance protection, screen protection. Task 7.

Interview question.

What methods belong to ionizing methods of radiation diagnostics

Standard answer: fluoroscopy, radiography, fluorography, angiography, computed tomography, scintigraphy.

Task 8. Interview question.

What methods belong to non-ionizing methods of radiation diagnostics.

Standard answer: ultrasound diagnostics, magnetic resonance imaging. Task 9. Interview question.

How many main groups of critical organs are there? Standard answer: three.

Task 10. Interview question.

List the main radiological syndromes of lung diseases.

Standard answer: darkening syndrome, clearing syndrome, pulmonary pattern pathology syndrome, lung root pathology syndrome.

Task 11. Interview question.

List the types of blackout syndrome in lung pathology.

Standard answer: diffuse dimming, limited dimming. Limited darkening, in turn, is divided into: round shadow syndrome, ring-shaped shadow, disseminated shadows, focal shadow.

Task 12. Interview question.

Describe the radiographic changes in hydrothorax.

Standard answer: diffuse total or subtotal darkening, high intensity, with a horizontal liquid level.

Task 13. Interview question.

List the main clinical forms of pulmonary tuberculosis.

Sample answer: primary tuberculosis complex, tuberculosis of intrathoracic lymph nodes, disseminated pulmonary tuberculosis, focal tuberculosis
lungs, infiltrative pulmonary tuberculosis, caseous pneumonia, pulmonary tuberculoma, cavernous pulmonary tuberculosis, fibrous-cavernous pulmonary tuberculosis, cirrhotic pulmonary tuberculosis, tuberculous pleurisy.

Task 14. Interview question. Radiation picture of

central lung cancer.

Sample answer: picture of bronchial obstruction. In the peribronchial-nodular form, a shadow with bumpy/radiant contours is determined. Involvement of the lymph nodes of the lung root is also possible.

Task 15. Interview question.

Radiation picture of peripheral lung cancer.

Sample answer: the presence of a formation of a round shape, high/medium intensity, with bumpy/radiant contours, it is also possible to form a path to the root
lung

Task 16. Interview question.

Radiation picture of bronchial obstruction.

Standard answer: Stage 1 – hypoventilation, decreased transparency of the lung tissue within the affected area. The next stage is valvular swelling, leading
X-ray syndrome – clearing. Stage 3 – atelectasis. X-ray: intense homogeneous darkening of a triangular shape with concave contours, displacement of the mediastinal organs towards the lesion.

Task 17. Interview question.

Describe the X-ray picture of exudative pleurisy.

Standard answer: uniform, high-intensity darkening with a clear contour, oriented outward and upward along the Demoiseau-Sokolov line.

Task 18. Interview question.

List the main methods of x-ray examination of the gastrointestinal tract.

Sample answer: plain X-ray. targeted radiography, fluoroscopy with contrast, CT, MRI.

Task 19. Interview question.

What two phases are distinguished during an X-ray examination with contrast of the gastrointestinal tract?

Standard answer: tight filling phase, relief phase.

Task 20. Interview question.

What is referred to as syndromes of damage to the gastrointestinal tract during contrast.

Standard answer: change in shape, size, position of an organ. Changes in the relief of the mucous membrane. Changes in peristalsis. The advancement of contrast and the rate of contrast evacuation also need to be assessed.

Task 21. Interview question.

What changes are revealed when assessing the evacuation of contrast during X-ray examination of the gastrointestinal tract with contrast.

Sample answer: no evacuation, accelerated, slowed down, sharply slowed down. Task 22.

Interview question.

Describe the radiographic picture of esophageal diverticula.

Sample answer: limited saccular protrusion of the esophageal wall with a narrow neck, single or multiple.

Task 23. Interview question.

Radiation picture of esophageal achalasia at different stages.

Sample answer: at stage 1, a conically dilated esophagus is observed, the delay of the contrast agent is several minutes. At stage 2, the contrast delay increases to 2-3 hours; the image shows an expansion of the thoracic part of the esophagus. At stage 3, the esophagus is sharply dilated, the contrast is retained for a long time, containing remnants of food and liquid.

Task 24. Interview question.

Describe the X-ray picture of esophageal burns.

Standard answer: with tight filling with contrast, the upper part of the esophagus is dilated, the distal half is narrowed, contrast evacuation is reduced or absent.

Task 25. Interview question.

What syndrome characterizes damage to a hollow organ? What is the x-ray picture like?

Sample answer: pneumoperitoneum, radiologically looks like a strip of clearing in the subdiaphragmatic region.

Task 26. Interview question.

Name the leading radiological syndrome for gastric ulcers. Describe the radiological picture of this disease.

Sample answer: an ulcerative niche is a true, limited protrusion of an ulcerative crater extending beyond the contour of the contrasted organ. The form may be triangular or rectangular. X-ray picture of peptic ulcer

stomach includes the presence of an ulcerative niche in combination with changes in the folds of the mucous membrane, spastic retraction on the side opposite the niche.

Task 27. Interview question.

List the complications of gastric ulcer.

Sample answer: penetration, cicatricial deformity, pyloric stenosis, malignancy, perforation into neighboring organs.

Task 28. Interview question.

List the main radiological signs of gastric cancer.

Sample answer: presence of a filling defect, atypical relief along the periphery, aperistaltic zone around. With the endophytic form - rigidity of the walls, uneven contour.

Task 29. Interview question.

Describe the radiation picture in chronic gastritis.

Sample answer: the relief of the gastric mucosa is represented by unevenly thickened, convoluted folds impregnated with mucus - a symptom
"marbling".

Task 30. Interview question.

Describe the X-ray picture of foreign bodies in the gastrointestinal tract.

Standard answer: high-intensity shadows with clear contours, various shapes, sizes.

Task 31. Interview question.

List the main radiation syndromes of skeletal damage.

Standard answer: change in position, shape, size of the bone; change in bone surface; changes in bone structure; change in the periosteum.

Task 32. Interview question.

What refers to changes in bone structure?

Standard answer: change in structure with a decrease in bone tissue: osteoporosis, destruction, osteolysis, atrophy. Changes in structure with an increase in bone tissue - osteosclerosis, hyperturf. Necrosis and sequestration.

Task 33. Interview question.

Give the concept and list the radiological signs of bone osteoporosis.

Standard answer: osteoporosis is a restructuring of the bone structure, which is characterized by a decrease in the amount of bone tissue per unit volume. X-ray signs: increased bone transparency, thinning of the cortical layer, expansion of the bone marrow canal.

Task 34. Interview question.

Give the concept and list the radiological signs of osteosclerosis of the bones.

Standard answer: osteosclerosis - an increase in the amount of bone tissue per unit volume of bone. X-ray signs: increased bone density, thickening of the cortical layer, narrowing of the medullary canal.

Task 35. Interview question.

List the main methods of radiation examination for pathology of the osteoarticular apparatus.

Standard answer: radiography, computed tomography, magnetic resonance imaging, osteoscintigraphy, ultrasound diagnostics.

Task 36. Interview question.

List the main types of periosteal reaction.

Standard answer: linear periostitis, bulbous periostitis, fringed (lace) periostitis, visor-shaped periostitis, needle-shaped or spicule-shaped periostitis.

Task 37. Interview question.

Describe the radiological picture in the acute stage of osteomyelitis.

Standard answer: destruction of bone with unclear contours, then the addition of a reaction from the periosteum - periostitis.

Task 38. Interview question.

Describe the radiological picture in the subacute and chronic stages of osteomyelitis.

Sample answer: zone of destruction with clear contours, possible formation of sequestration. During sequestration, an area of the highest density is determined, surrounded by a sequestration box.

Task 39. Interview question.

List and describe the stages of normal fracture healing.

Sample answer: Stage 1 – connective tissue stage, takes 7-10 days, in the zone fracture, resorption of small bone chips and small bone fragments occurs and coarse fibrous connective tissue is formed.

2 stage - osteoid, also takes 7-10 days, osteoid is formed from fibrous tissue.

3 stage – true bone, lasts 7-10 days, bone callus begins to form from the osteoid due to the assimilation of calcium salts and the formation of points calcification.

Task 40. Interview question.

List the types of pathological healing of fractures according to the rate of consolidation.

Standard answer: slow-healing fracture - the consolidation process is increased by 2 times; long-term non-healing fracture - the consolidation process is increased 4 times; non-united fracture – the picture does not change after 6 or more months.

Task 41. Interview question.

List the types of pathological healing of fractures according to the nature of consolidation.

Sample answer: improperly healed fracture; formation of a false joint; formation of synostosis; post-traumatic osteonecrosis.

Task 42. Interview question.

List the main radiological signs of malignant skeletal tumors.

Sample answer: presence of an area of destruction with unclear contours, periosteal reaction, increased soft tissue density, pathological vascularization in the lesion.

Task 43. Interview question.

List the main radiological syndromes in cardiac pathology.

Standard answer: change in the position of the heart, change in the shape and size of the heart, change in the contraction of the heart.

Task 44. Interview question.

Describe the radiographic picture of exudative pericarditis.

Sample answer: the cardiac shadow is expanded, takes on a spherical shape, the arcs along the contours of the cardiac shadow are smoothed, the shadow of the vascular bundle is shortened.

Task 45.

Patient, 45 years old. Complaints of increased fatigue, chest pain, shortness of breath.

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) an area of limited darkening of irregular shape with fuzzy, spicule-like contours in the left lung. Left lung cancer.

Task 46.

A 65-year-old patient complains of fatigue, slight shortness of breath, and weight loss of up to 7 kg over the past month. To clarify the diagnosis, an X-ray examination was prescribed.

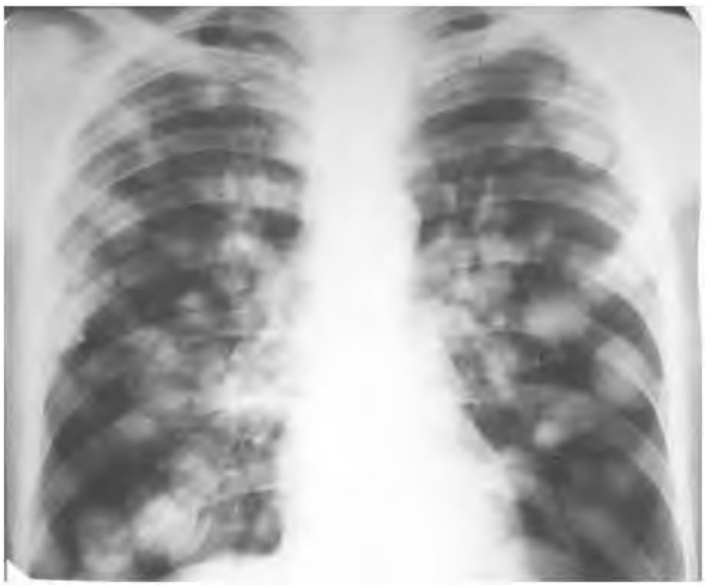
3) indicate the research method
4) formulate a tentative radiological conclusion.

Sample answer:

3) plain radiography of the chest organs
4) area of focal darkening in the right lung. High-intensity darkening, with unclear, uneven contours. The presumptive conclusion is peripheral cancer of the right lung.

Task 47.

Woman, 47 years old. In the anamnesis, she was operated on due to a tumor of the uterus.



1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in both lungs multiple, rounded shadows, up to 3 cm in diameter, with fuzzy, uneven contours are detected. The presumptive diagnosis is metastases in the lungs.

Task 48.

Male 30 years old. He was injured in a traffic accident and complained of pain in the left chest and shortness of breath.

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in the left lung there is a subtotal high-density darkening with a horizontal fluid level. The presumptive diagnosis is left-sided hemothorax.

Task 49.

Woman 35 years old. Complaints of fever, severe shortness of breath, dizziness. To clarify the diagnosis, an X-ray examination was prescribed.

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in the left lung there is a subtotal darkening, homogeneous structure, high intensity, oriented upward and outward. The presumed diagnosis is exudative pleurisy.

Task 50.

Patient, 44 years old. Complaints of increased fatigue for 6 months, dry cough, periodic fever, weight loss.

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in both lungs, dissemination syndrome is determined, lesions up to 1 mm in size. The presumptive diagnosis is disseminated tuberculosis.

Task 51.

Patient, 24 years old. He complained of pain in the right side of the chest and shortness of breath after an injury.

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) there is an area of total clearing on the right; there is no pulmonary pattern throughout. In the area of the root of the lung there is a high-intensity darkening. Total pneumothorax on the right.

Task 52.

The patient is 37 years old. Complaints of fever, severe shortness of breath, dizziness. To clarify the diagnosis, an X-ray examination was prescribed.

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) area of subtotal darkening of high intensity on the right with an obliquely descending border. Subtotal right-sided exudative pleurisy.

Task 53.

The patient complained of cough with sputum production. From the anamnesis: for 3 weeks the patient was bothered by high temperature - up to 39°C, cough with scant sputum, pain in the right half of the chest.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in the upper parts of the right lung, a shadow of a round shape, high intensity, with a diameter of up to 12 cm, with a horizontal level of liquid and clearing on top is determined. Abscess of the right lung in the stage of drainage.

Task 54.

A 64-year-old woman complained of a productive cough, an increase in body temperature to 38.3°C, shortness of breath with moderate physical activity, pain in the right half of the chest when coughing and taking a deep breath, and general weakness. She became acutely ill 5 days ago after hypothermia.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in the middle lobe of the right lung, a darkening of medium intensity, heterogeneous in structure with clear contours is determined. Acute primary right-sided middle lobe pneumonia.

Task 55.

Patient, 60 years old, smoking experience for more than 20 years. According to him, the father died of lung cancer. He complained of a cough, sometimes with streaks of blood in the sputum, pain in the right side, and shortness of breath. He notes that he has lost a lot of weight over the past 3 months.

Questions:

3) indicate the research method
4) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the chest organs
2) in the region of the root of the right lung, a high-intensity darkening is determined, heterogeneous in structure with heavy contours. Central cancer of the right lung.

Task 57.

Patient T., 72 years old, complained of constipation, abdominal pain, feeling of heaviness in the right hypochondrium

 .

Questions:

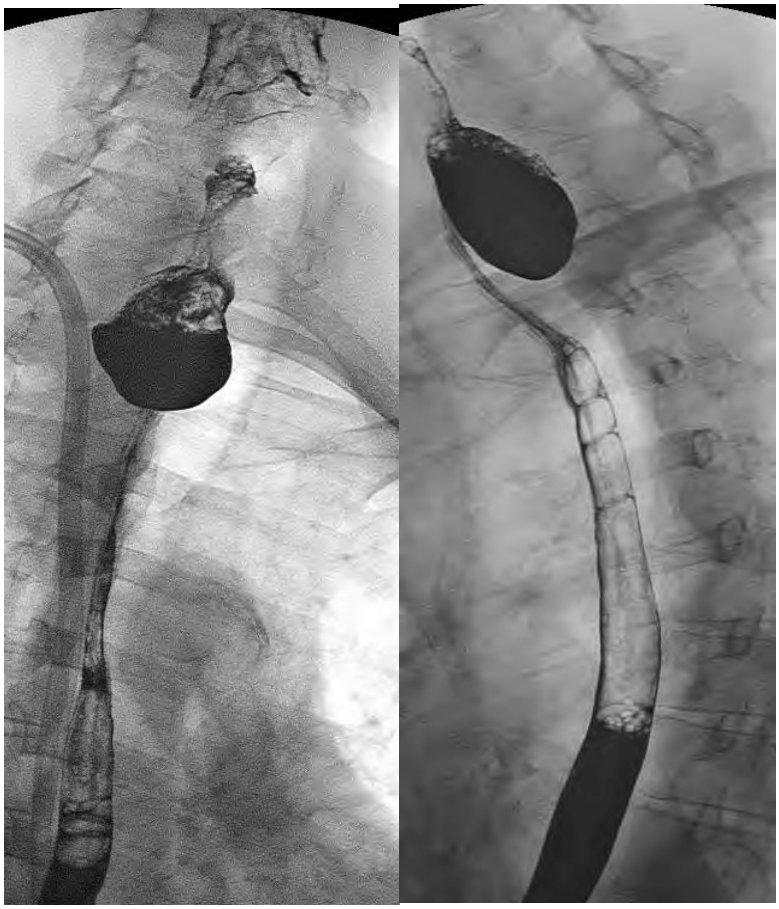
1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) plain radiography of the gastrointestinal tract.
2) Wide horizontal levels of liquid and low gas bubbles above them are determined. Acute small bowel obstruction

Task 58.

A 54-year-old woman was admitted with complaints of dysphagia, cough, and sometimes pain when swallowing.



Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the esophagus with barium passage.
2) V In the upper parts of the esophagus, a sac-like protrusion is determined, with clear, even contours, filled with contrast. Pharyngeal-esophageal diverticulum.

Task 59.

Male, 53 years old, cachectic build. Complains of dysphagia. Constantly drinks alcohol. From the anamnesis: a year before the study, I drank an unknown substance, having mixed up the bottle.

Questions:

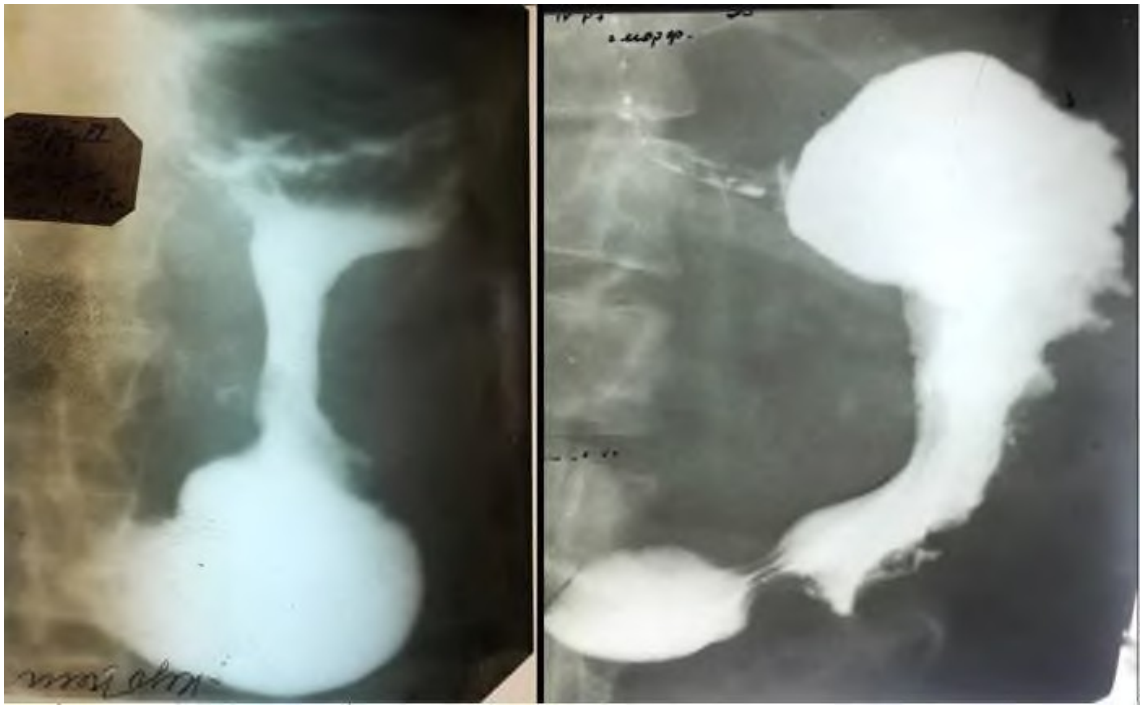
1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) Fluoroscopy of the esophagus with barium passage
2) stricture of the distal esophagus with impaired evacuation (due to a chemical burn).

Task 60.

Patient R., 69 years old. Complaints of epigastric pain, nausea, weakness, weight loss. From the anamnesis: the patient performed FGDS 6 months ago. In conclusion - chronic gastritis. After the prescribed treatment, the condition did not improve.



Questions:

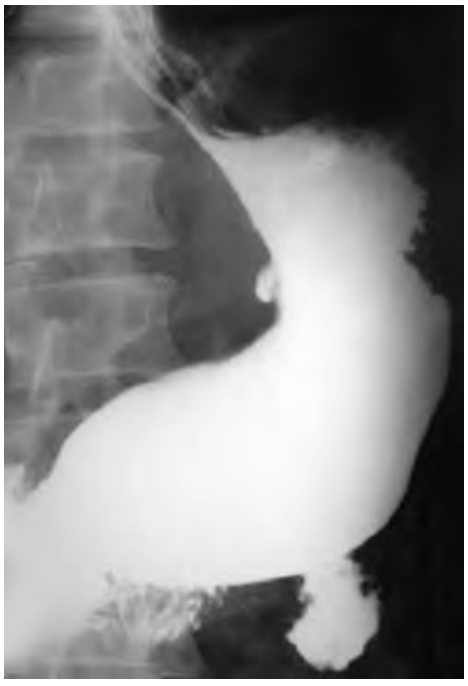
1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray with contrast of the stomach in the tight filling phase. In the area of the body of the stomach, circulatory narrowing is determined, the contours along the greater curvature are uneven.Infiltrative cancer of the body of the stomach.

Task 61.

Woman, 52 years old, complaints of epigastric pain,heartburn, feeling of heaviness.



Questions:

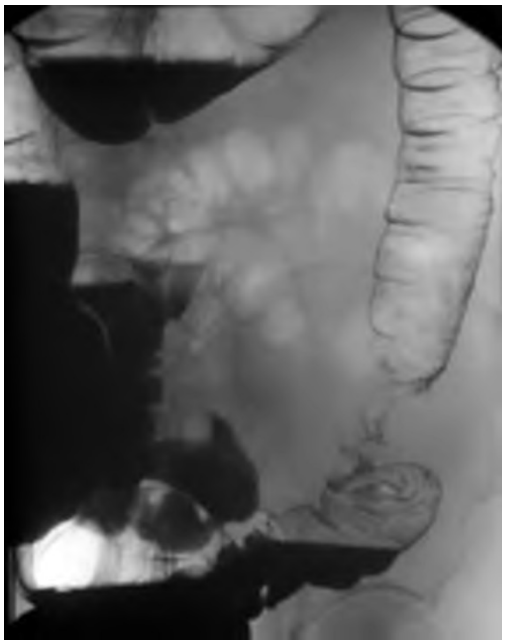
1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray with contrast
2) The stomach is in the tight filling phase. Along the lesser curvature of the stomach, an irregularly shaped protrusion filled with contrast is an ulcerative niche. Stomach ulcer.

Task 62.

Woman, 67 years old. Complains of general weakness, nausea, constipation.



Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the colon with contrast (barium passage)
2) In the descending colon, a circulatory filling defect is detected, with uneven contours. Infiltrative cancer of the descending colon.

Task 63.

Woman, 50 years old. Fell down the stairs.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the left knee joint.
2) Anteromedial dislocation of the knee joint. Concomitant dislocation of the patella. Oblique fracture of the head of the fibula without displacement.

Task 64.

Woman, 70 years old. Pain in my arm after lifting my granddaughter.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the bones of the upper limb.
2) A displaced comminuted fracture is noted in the midproximal third of the radius. Fracture of the radius.

Task 65.

Patient, 15 years old. Complaints of leg pain and swelling.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the leg bones.
2) In the proximal fibula there is an area of osteolysis with bone destruction. Swelling of soft tissues around the site of destruction. Malignant formation of the fibula.

Task 66.

Patient, 35 years old. Leg pain for 2 weeks.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the leg bones.
2) In the middle of the diaphysis of the fibula, an area of destruction is identified, with a periosteal spicule-type reaction around it. Malignant formation of the fibula.

Task 67.

Patient, 18 years old. Fell on my hand.

Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the bones of the forearm.
2) In the middle third of the diaphysis of the forearm bones there is a fracture line. The bone fragments are displaced along the length of the bone. Fracture of forearm bones.

Task 68.

Patient, 8 years old. Complaints of pain in the arm.

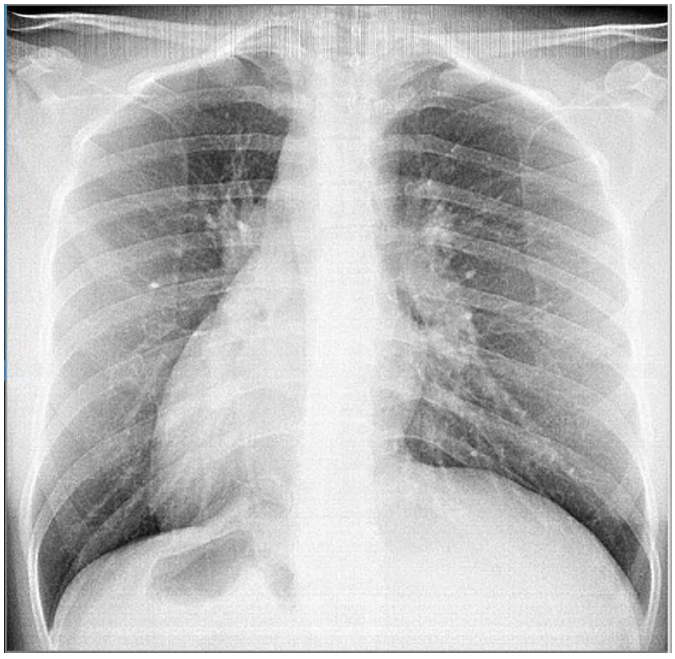
Questions:

1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the bones of the forearm.
2) In the middle third of the diaphyses of the radius and ulna there is a clearing area (fracture line), there is no displacement of bone fragments. Greenstick fracture of the forearm.

Task 69.



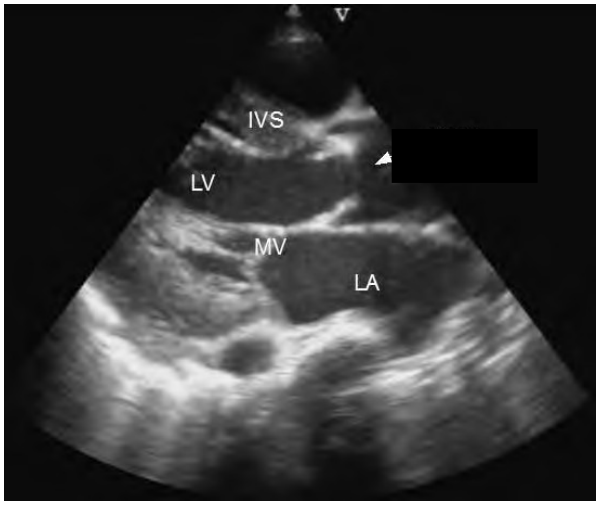
Questions:

1) indicate the research method
2) What are the features of using this method?

Sample answer:

1) Fluorography of the chest organs.
2) Fluorography is used as a screening method for lung diseases. Its features are the speed of execution, the possibility of organizing a mobile study, and lower resolution compared to radiography.

Task 70.



Questions:

1) indicate the research method
2) To which group of radiation diagnostic methods can this method be classified?

Sample answer:

1) Ultrasonography.
2) The method belongs to the group of non-ionizing research methods.

Task 71.

Questions:

1) indicate the research method
2) To which group of radiation diagnostic methods can this method be classified?

Sample answer:

1) MRI of the lower extremities.

2) The method belongs to the group of non-ionizing research methods.

Task 72.

Woman, 67 years old. Complains of abnormal stool.

Questions:

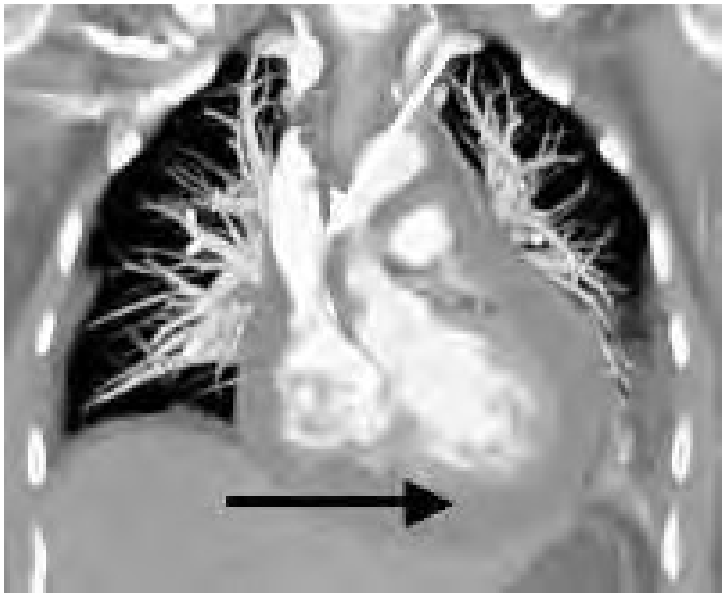
1) indicate the research method
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray with contrast (barium passage)
2) Multiple sac-like protrusions filled with contrast are identified. Intestinal diverticulosis.

Task 73.

Patient, 1 year old.



Questions:

1) indicate the research method in the top picture.
2) formulate a tentative radiological conclusion.

Sample answer:

1) X-ray of the chest organs
2) Exudative pericarditis.

Task 74.

Questions:

1) indicate the research method
2) describe the changes in the picture.

Sample answer:

1) X-ray of the chest organs.

2) lengthening and bulging of the second and third arcs of the left contour of the cardiac shadow; upward displacement of the right cardiovasal angle, enlargement of the right atrium. Mitral configuration of the heart.

Task 75.

Questions:

1) indicate the research method
2) describe the changes in the picture.

Sample answer:

1) X-ray of the chest organs.
2) retraction of the waist of the heart; lengthening the lower arch along the left contour; downward displacement of the right cardiovasal angle. Aortic configuration of the heart.

CRITERIA for assessing competencies and rating scales

Grade "unsatisfactory"(not accepted) or lack of competence	**Grade "satisfactorily"(passed) or satisfactory (threshold) level of competence development**	**Grade “good” (passed) or sufficient level of mastery competencies**	**Grade "Great"(passed) or high level of mastery of competence**
The student's inability to independently demonstrat eknowledge when solving tasks, lack of independence in using skills. Absence availability confirmation	The student demonstrate sindependence in applying knowledge, skills and abilities to solve educational tasks in full accordance with the model given teacher, by	The student demonstrates independent applicatio nknowledge, skills and abilities when solving tasks similar samples that	The student demonstratesthe ability to be completely independent in choosing a way to solve non-standard tasks within disciplines with

competence development indicates negative results of mastering the academic discipline	tasks whose solution was shown teacher, it should be assumed that the competence has been developed at a satisfactory level.	confirms the presence of a forme dcompetencies at a higher level. Availability of such competence at a sufficient level testifiesabout a firmly established practical skill	usingknowledge, skills and abilities acquired both in the course of mastering givendisciplines and related disciplines, competence should be considered to be formed at a high level.

Criteria for assessing test control:

percentage of correct answers	Marks
91-100	Great
81-90	Fine
70-80	satisfactorily
Less than 70	unsatisfactory

When grading tasks with multiple correct answers, one error is allowed.

Evaluation criteria for individual forms of control must be selected based on those prescribed in paragraph 2.

Interview assessment criteria:

Mark	**Descriptors**		
	strength of knowledge	**the ability to explain (represent) the essence of phenomena, processes, do conclusions**	**logic and consistency b answer**
Great	strength of knowledge, knowledge of the basic processes of the subject area being studied, the answer is distinguished by the depth and completeness of the topic; possession terminologicalapparatus; logic and consistency answer	high ability to explain the essence, phenomena, processes, events, do conclusions and generalizations, give reasonedanswers, give examples	high logic and response sequence
Fine	solid knowledge	ability to explain	logic and

	the main processes of the subject area being studied, is distinguished by the depth and completeness of the topic; possession terminologica lapparatus; Fluency monologue speech, but one is allowed - two inaccuracies in the answer	essence, phenomena, processes, events, draw conclusions and generalizations, give reasoned answers, give examples; however one or two inaccuracies in the answer are allowed	response sequence
Satisfactory	satisfactoryknowledge of the processes of the subject area being studied, the answer differs insufficient depth and completeness of the topic; knowledge of the basic issues of theory. There may be several errors in the content of the answer	satisfactorythe ability to give reasoned answers and give examples; satisfactorily formedanalysis skills phenomena, processes. There may be several errors in the content of the answer	satisfactorylogic and response sequence
unsatisfactory	poor knowledge of the subject area being studied, shallow coverage of the topic; poor knowledge basic questions of theory, weak skills in analyzing phenomena and processes. Serious mistakes are made in content of the answer	inability to give reasoned answers	absencelogic and response sequences

Criteria for assessing situational tasks:

Mark	**Descriptors**			
	understanding the problem	**analysis of the situation**	**situation solving skills**	**professional thinking**
Great	full understanding Problems. All requirements presentedto the task, completed	high ability to analyze a situation, draw conclusions	high ability choose a solution method problems, sure situation solving skills	high level of professional thinking

Fine	full understanding Problems. All requirements presentedto the task, completed	ability to analyze a situation, draw conclusions	ability choose a solution method problems sure situation solving skills	enough level professional thinking. One or two inaccuracies in the answer are allowed
Satisfactory	partial understanding of the problem. Most of the requirements presentedto the task, completed	satisfactory ability to analyze a situation, draw conclusions	satisfactorynew skills solutions to the situation ,difficulties with choosing a method for solving a problem	enough level professional thinking. More than two inaccuracies in the answer or an error in solution sequences
unsatisfactory	misunderstanding of the problem. Many requirements, presentedto the task, not completed. No answer. There was no attempt to solve task	low ability to analyze a situation	insufficien tsituation solving skills	absent