

№Стом-21-ИН

**Федеральное государственное бюджетное образовательное учреждение
высшего образования
«Северо-Осетинская государственная медицинская академия »
Министерства здравоохранения Российской
Федерации
(ФГБОУ ВО СОГМА Минздрава России)**

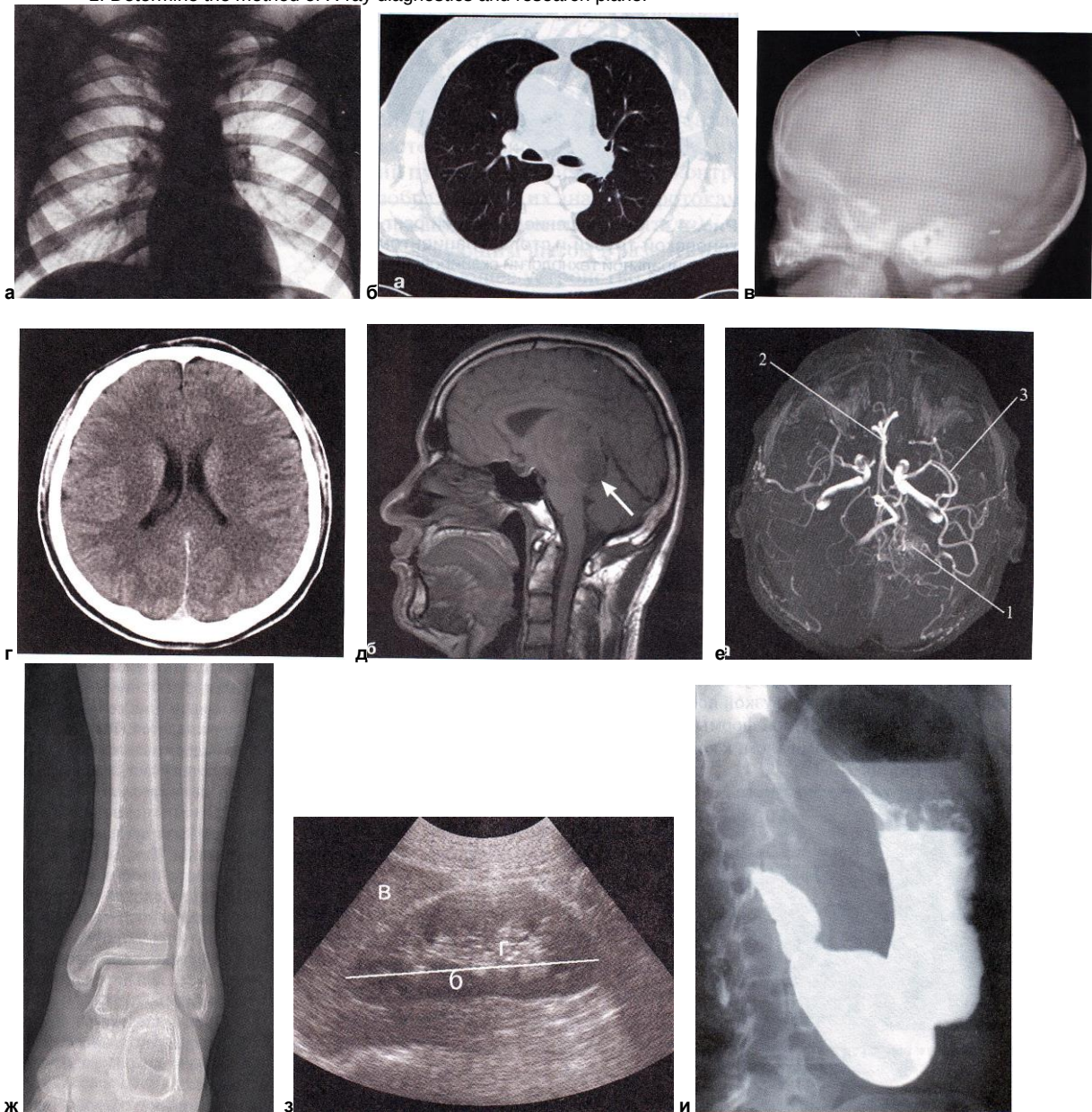
Кафедра лучевой диагностики с лучевой терапией и онкологией

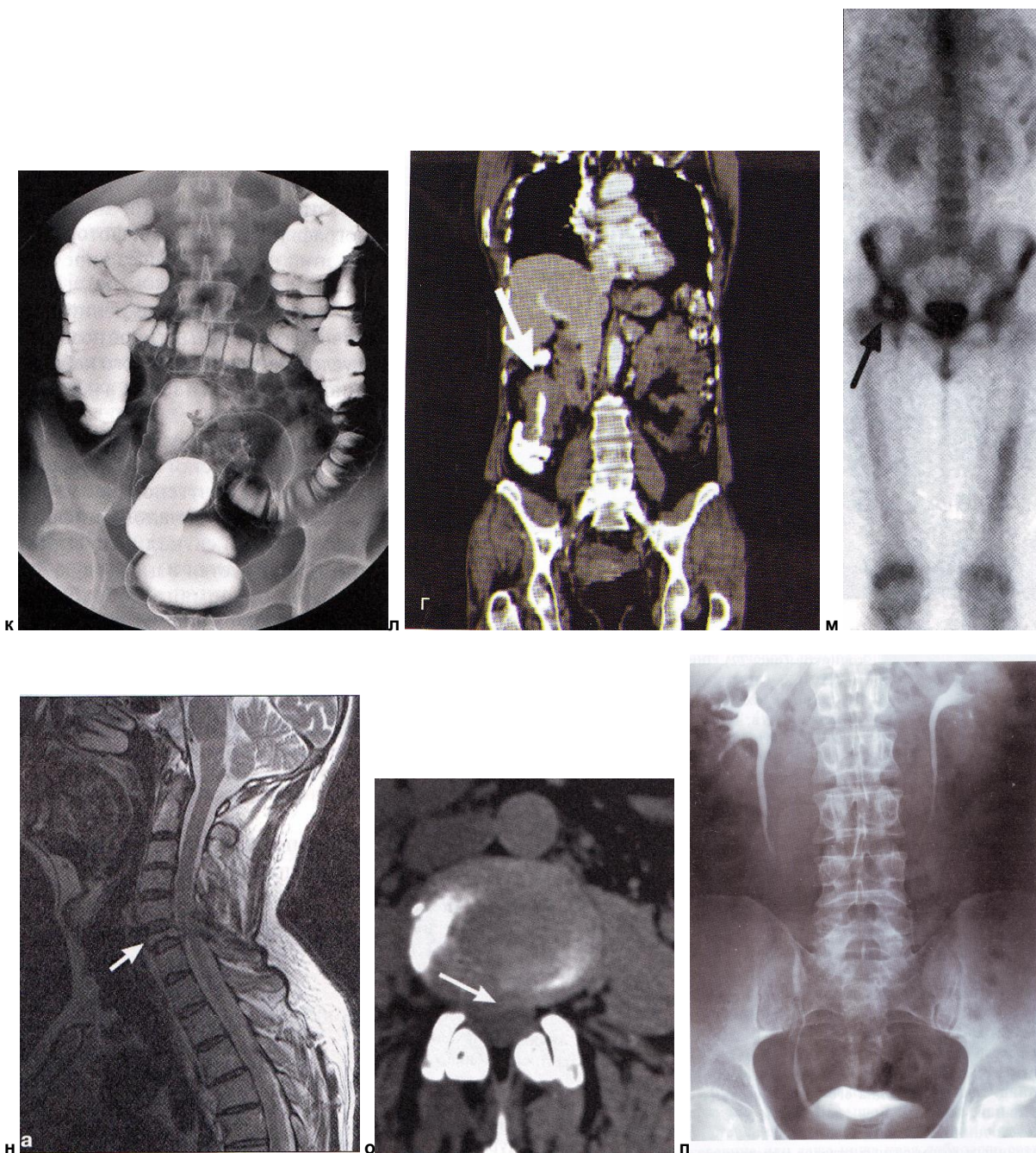
Tasks for extracurricular independent work on the topic under study.

Topic: Physical principles of radiation diagnosis and radiotherapy.

I. Tasks for extracurricular independent work on the topic under study.

1. Determine the method of X-ray diagnostics and research plane.



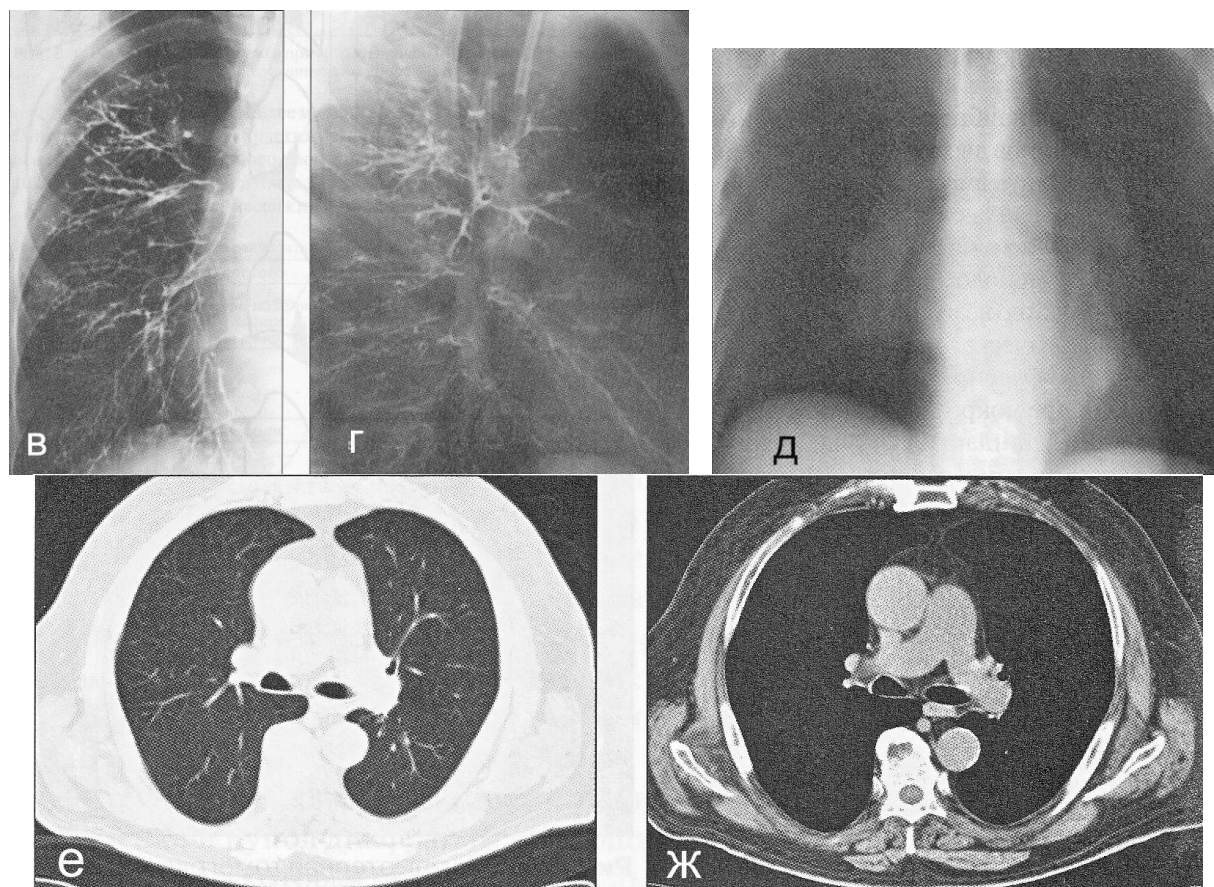
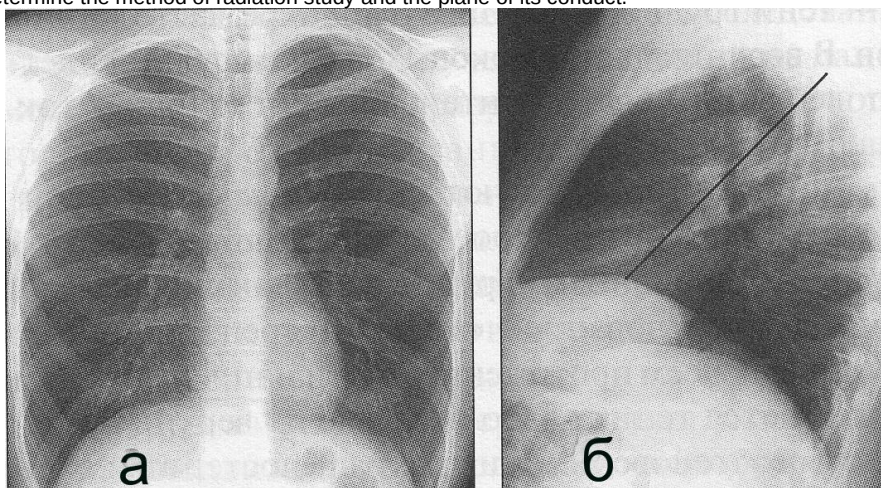


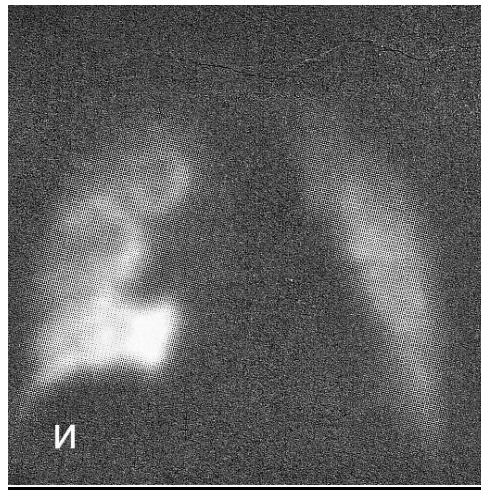
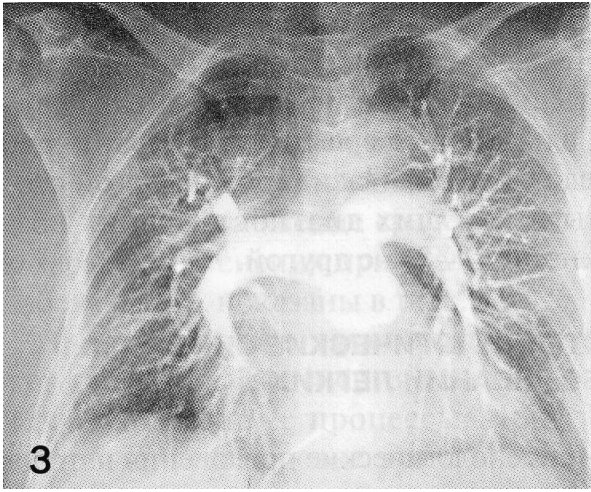
1. In the previous shots determine the anatomic area of application of the method of radiodiagnostics.
2. Make a diagram of the interaction of ionizing radiation with a substance.
3. What transformations occur with radioactive substances as a result of their decay?

Topic: Radiological diagnosis of lung and mediastinal diseases.

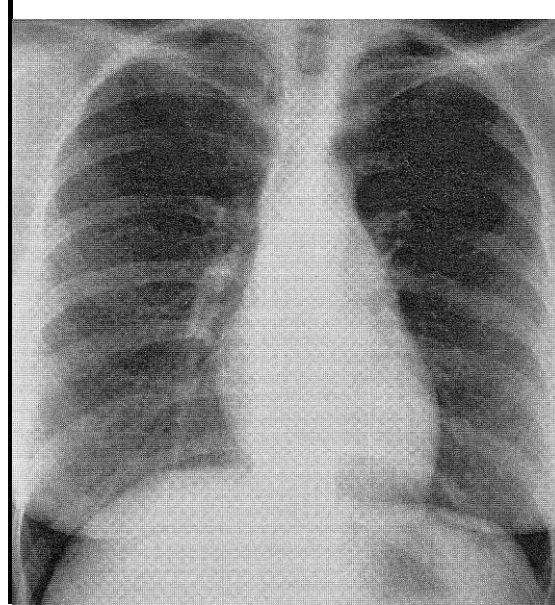
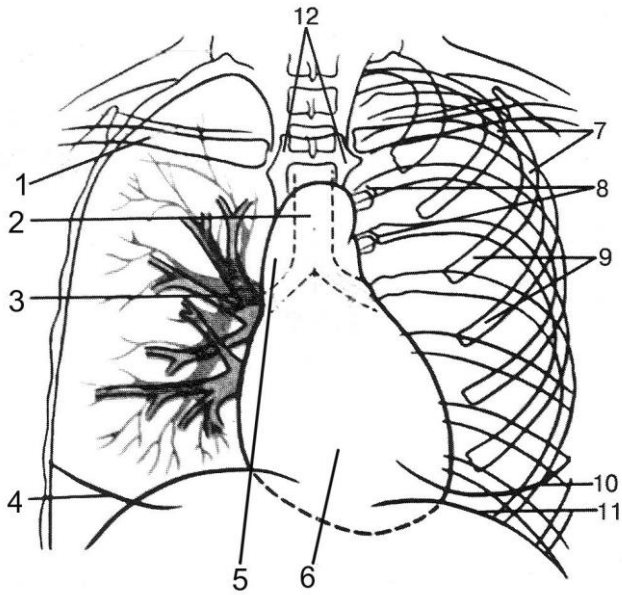
I. Tasks for extracurricular independent work on the topic under study.

1. Determine the method of radiation study and the plane of its conduct.



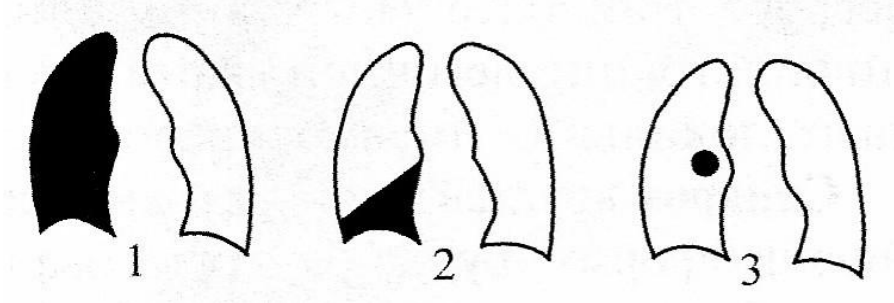


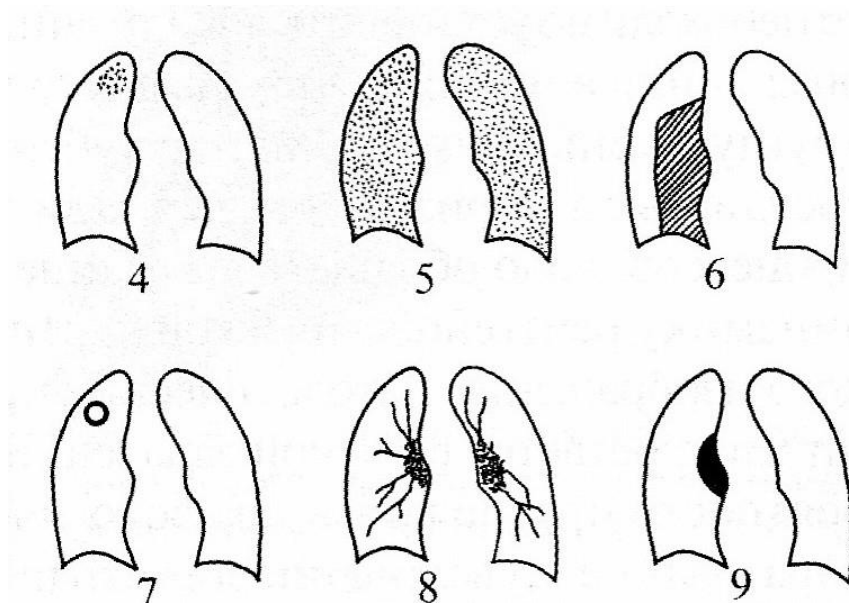
1. Name the indicated numbers of the structure in the diagram, and find them on a normal chest radiograph in front projection.



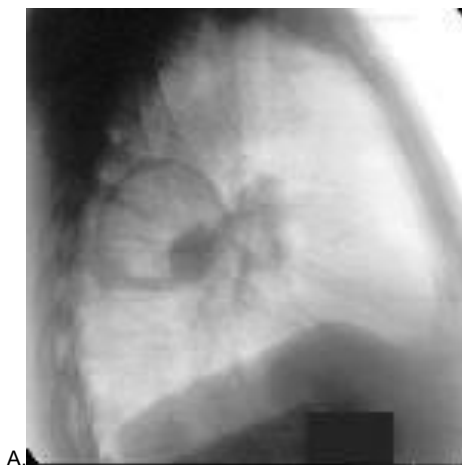
Identify under each digit the most important radiological syndromes of pathological conditions of the lungs:

- Write them in a notebook.
- For each of the syndromes, make a list of the pathological states (diseases) that cause this syndrome.

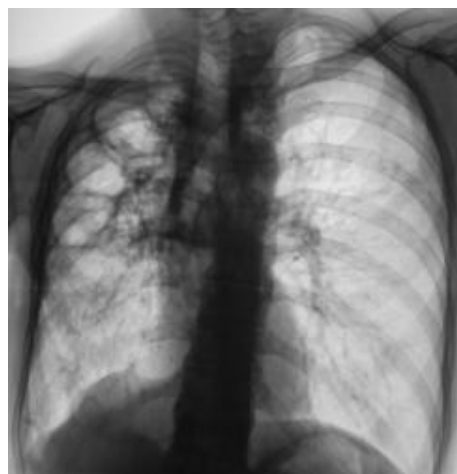




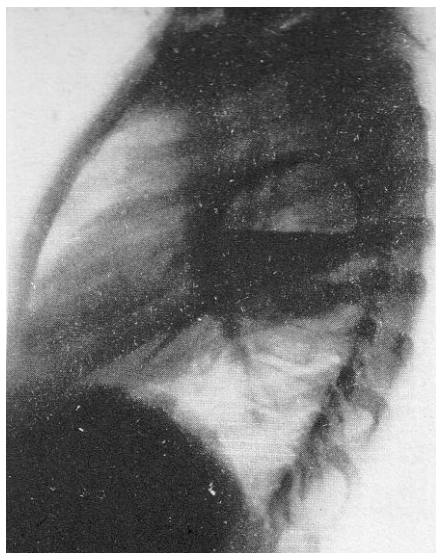
Examine carefully submitted radiographs.



A.



B.



B.



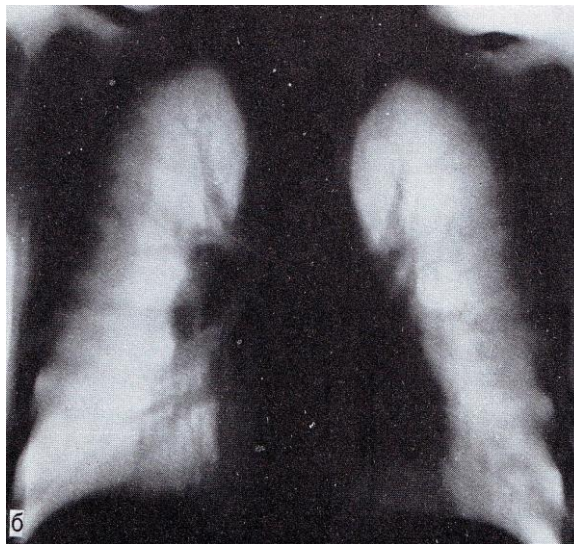
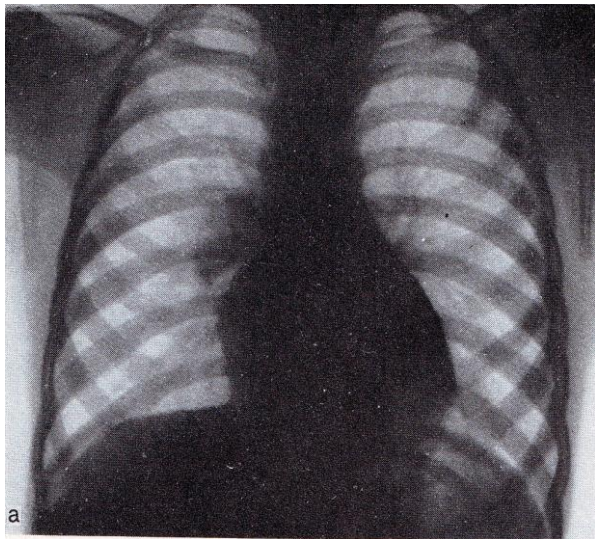
Г.

- a) determine the leading x-ray syndrome.
- b) conduct a written intra-syndromic differential diagnosis with the definition of a specific nosological form of the disease in each case.

1. Read the situational task and answer each item in writing.

Task: Child 5 years. In recent months, the mother notes increasing lethargy, loss of appetite, low-grade fever in the evenings, increased sweating at night.

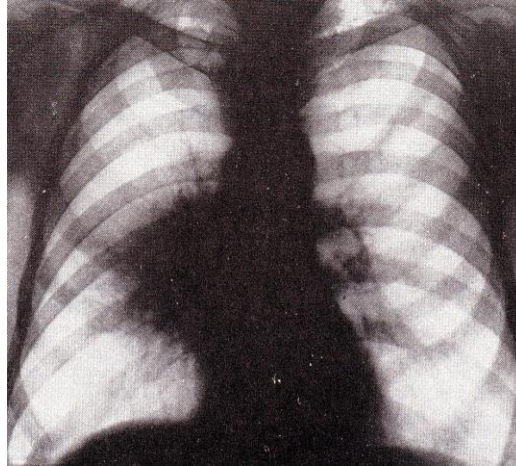
- a) What research methods were used, in which projection?
- b) Determine the leading X-ray syndrome
- c) Describe the pathological process presented in the pictures.
- d) Give your opinion



1. The pictures show various forms of lung cancer. Identify them and write radiographic signs characteristic of each form of lung cancer.



A.



Б.

2. Determine the method, area and plane of study. Describe the pathology to be detected and give your opinion. What X-ray-semiotic signs led to a correct diagnosis?



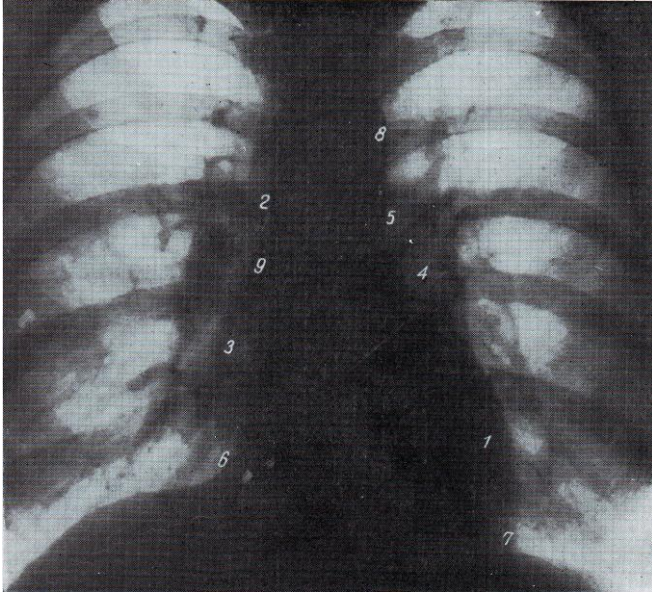
3. Составьте две ситуационные задачи по следующей схеме:

- жалобы больного
- анамнез больного
- подробное описание рентгеносемиотической картины проведенного исследования
- дифференциальная диагностика
- ваше заключение

Topic: Radiological diagnosis of diseases of the heart and large vessels.

I. Tasks for extracurricular independent work on the topic under study.

1. List the main methods of studying the cardiovascular system.
2. Determine the method and projection of the study of the heart.



A.



Б.



В.

In the previous images, identify the structures indicated on the radiographs by numbers.

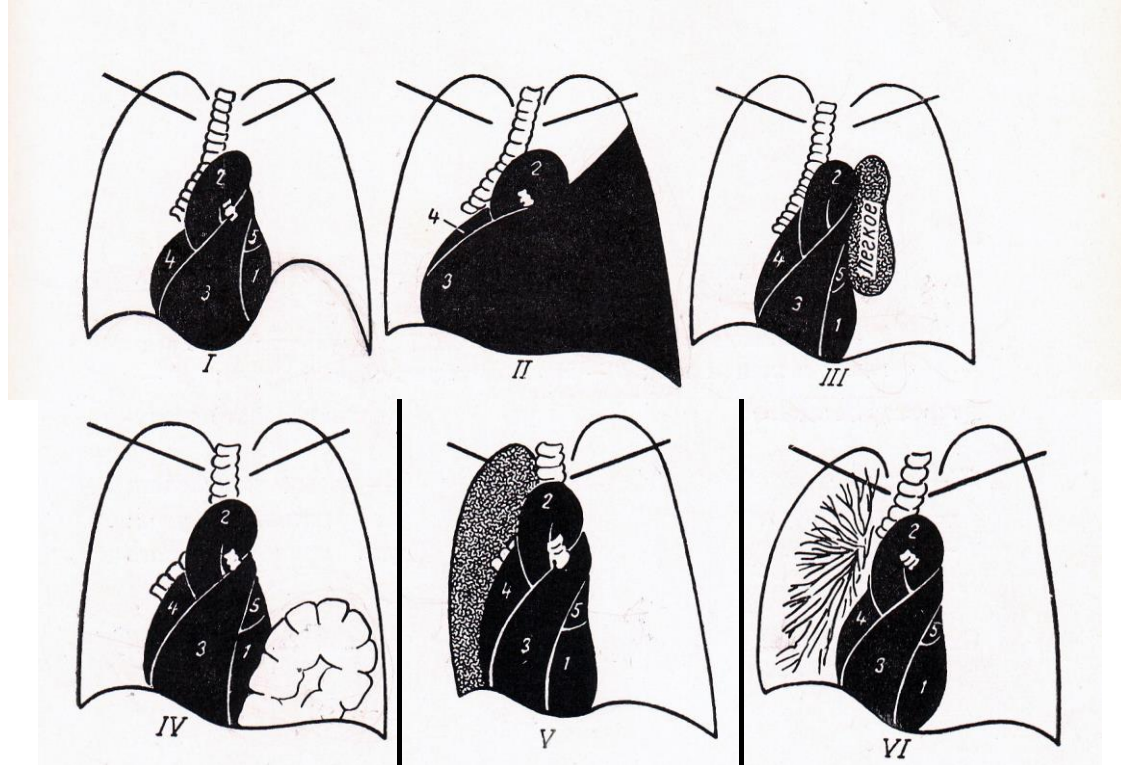
2. Add the missing information in the following paragraphs:

- The right contour of the heart on a radiograph in a direct projection consists of arcs (list them)
- The left contour of the heart on a radiograph in a direct projection consists of arcs (list them)

3. Create three test tasks for the diagnosis of diseases of the heart and blood vessels according to the following sample:
Hemodynamic impairment in the pulmonary circulation in the event of obstructed outflow from it is characterized by:

- Venous congestion
- Hypervolemia
- Normal blood flow

4. The figure shows schematically the pathological conditions in which the heart is moving to the right. Determine these states.

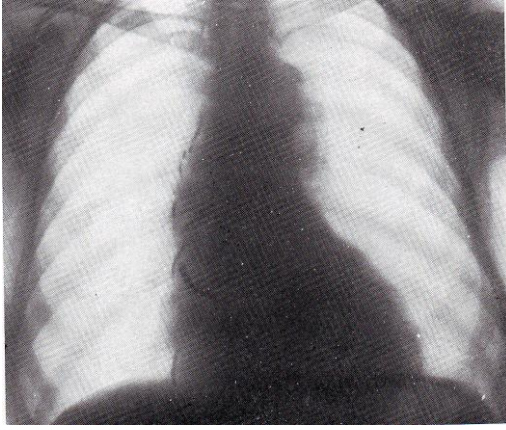


Define the research method. Make a diagnosis. List the radiological signs characteristic of this pathological condition.



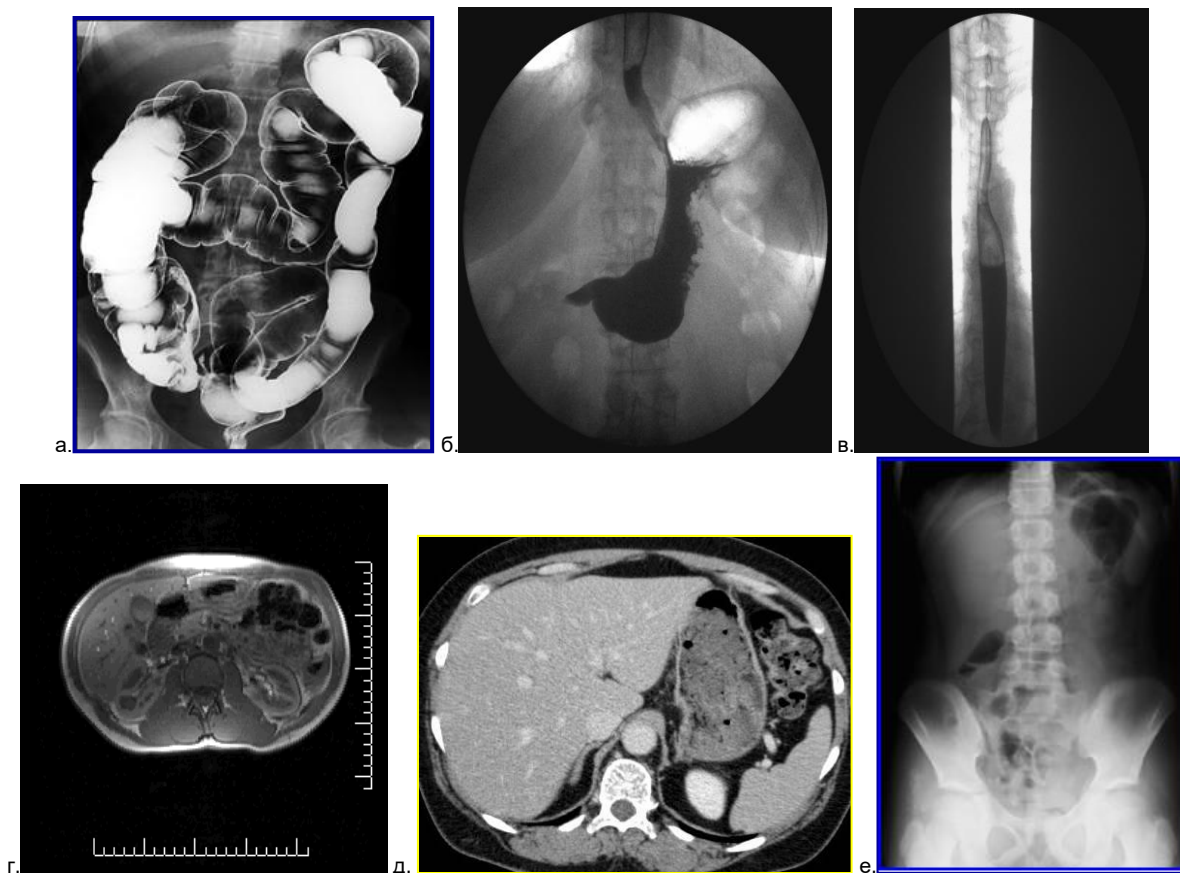
1. Look carefully at the radiograph and add the missing information to the sentence:

- On the roentgenogram of a patient with the walls of the aorta department of atherosclerotic etiology is determined

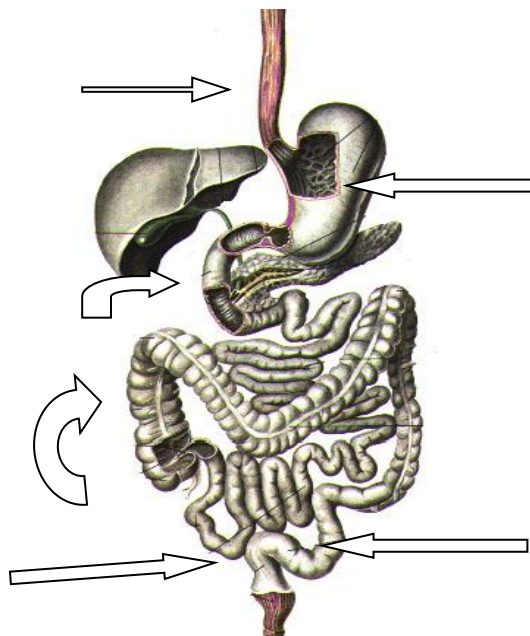


Topic: Radiological diagnosis of diseases of the esophagus, stomach, intestines.
I. Tasks for extracurricular independent work on the topic under study.

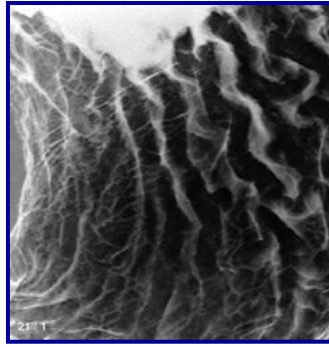
1. Determine the method of radiation study.



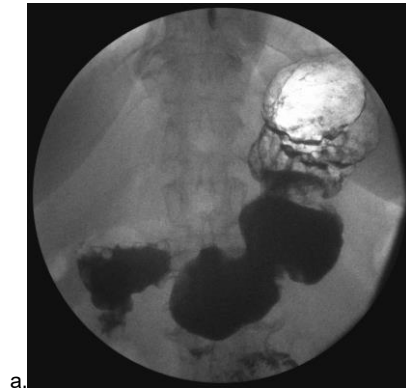
Name the arrows indicated by the gastrointestinal tract.



Determine what is shown on the radiograph?



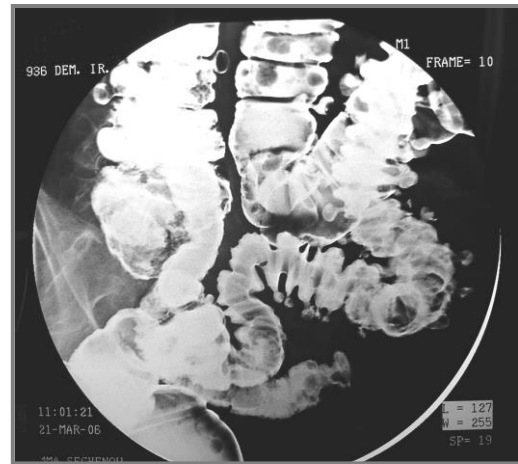
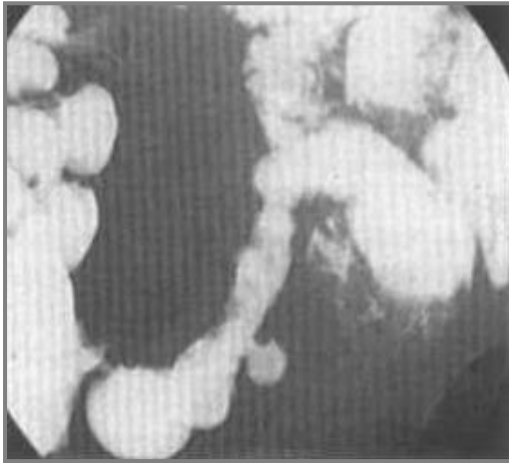
4. What is the phase of contrasting, which section of the digestive tube and in which image are shown on radiographs?



5 What is the name of this study and what do the arrows indicate?



6. What are single or multiple rounded limited protrusions of the wall of the digestive tube called?



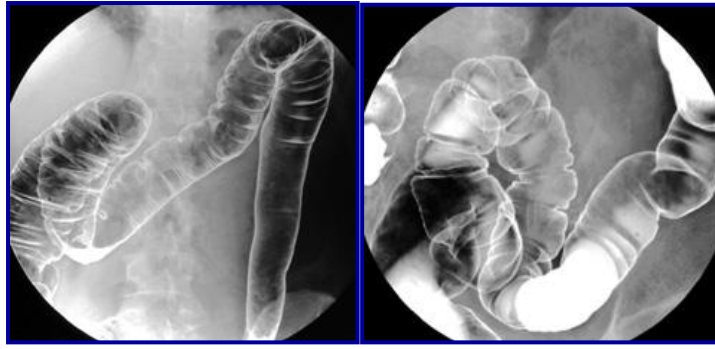
7. What is the method of radiation research and its plane



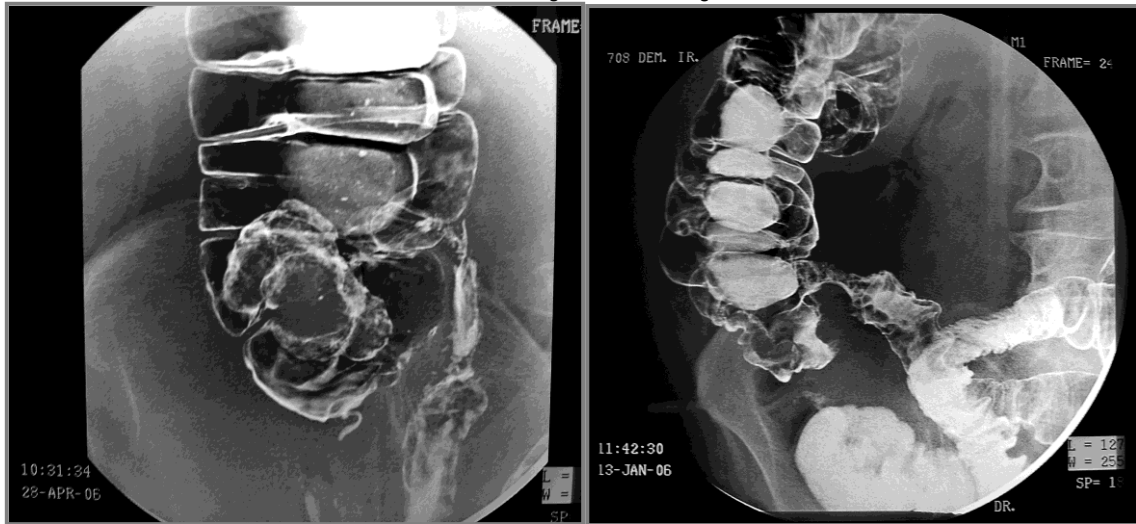
8. What do the arrows indicate, and what x-ray-semiotic signs characterize this pathology? Name it.



9. What disease is indicated by the absence of haustration, the extension of the wall in a certain part of the large intestine?



10. What is the nature of the growth of a malignant tumor of the cecum.



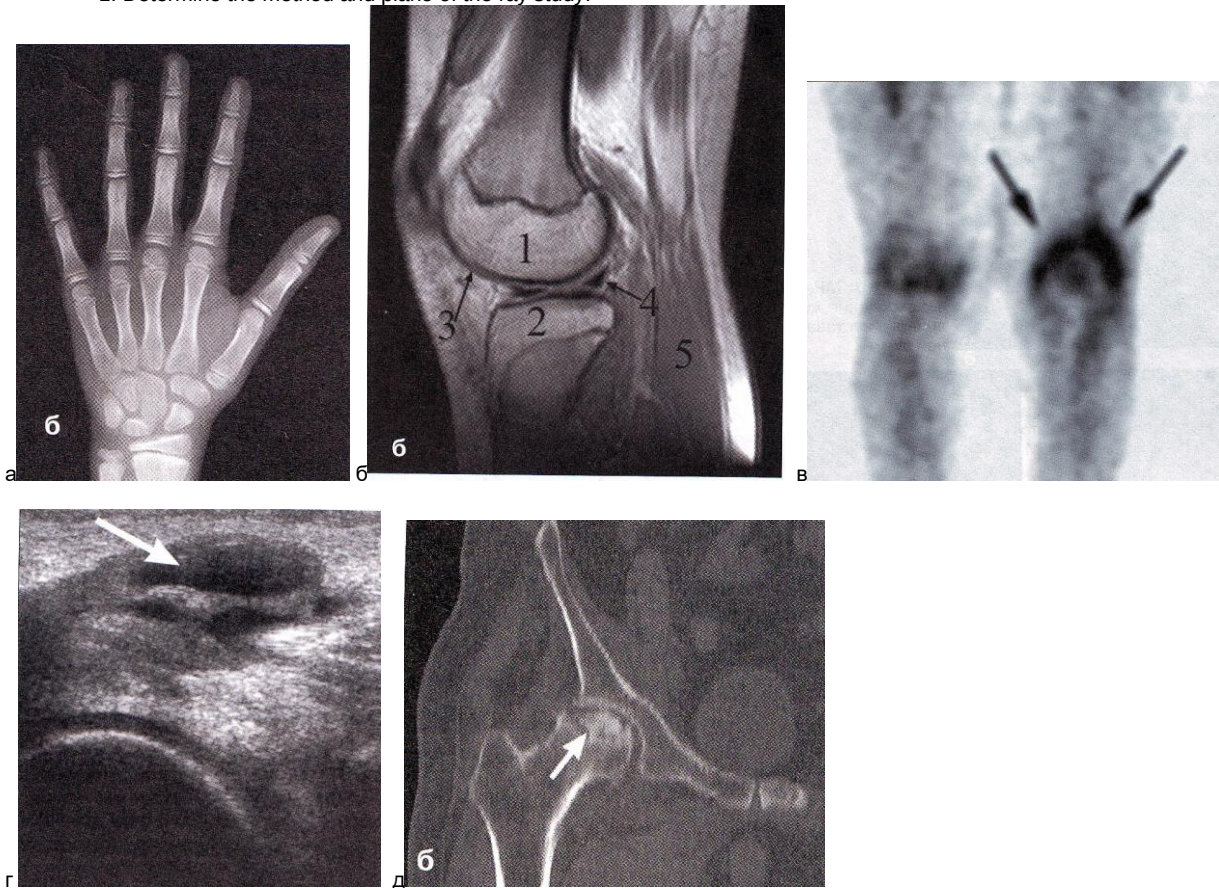
a.

b.

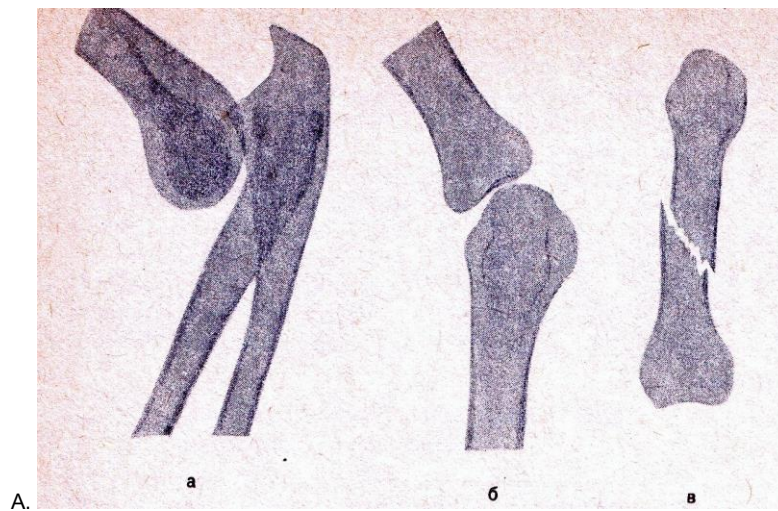
Topic: Radiological diagnosis of diseases of the musculoskeletal system.

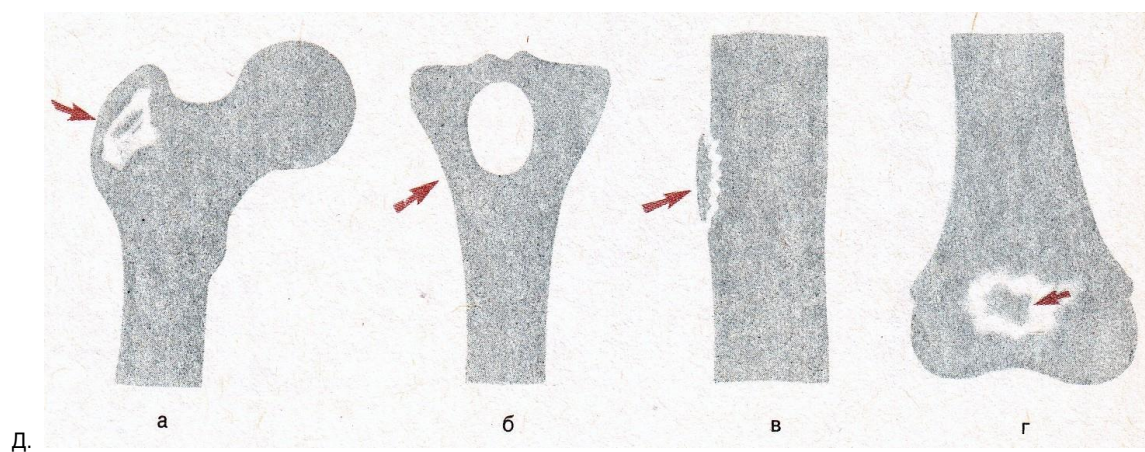
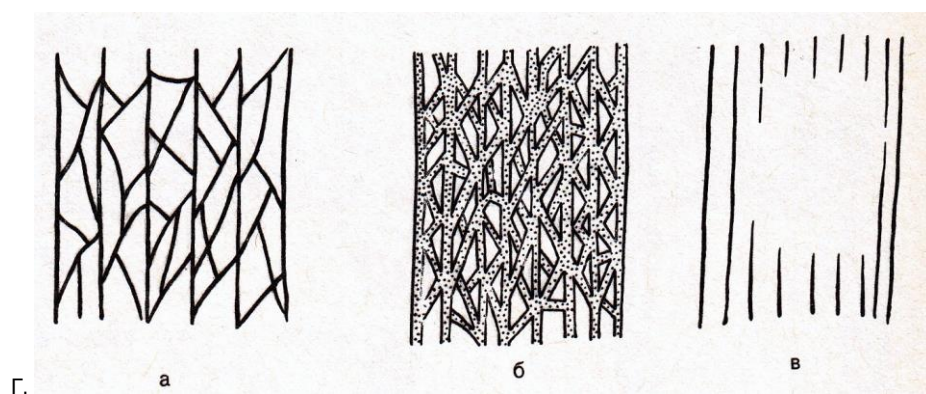
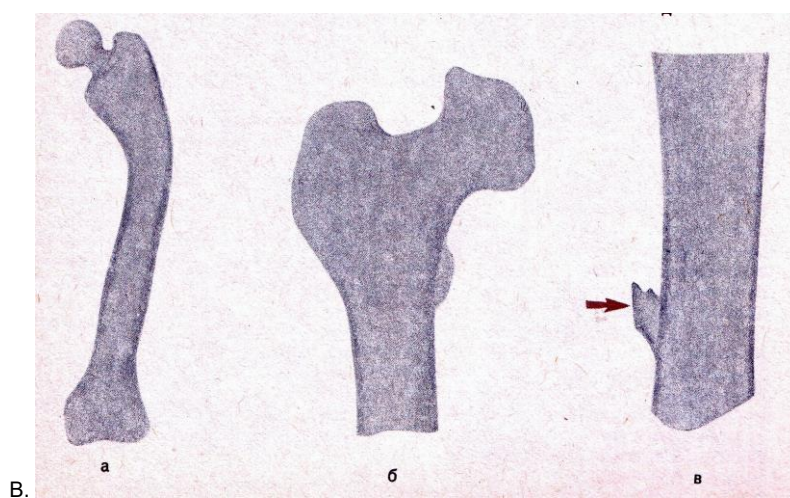
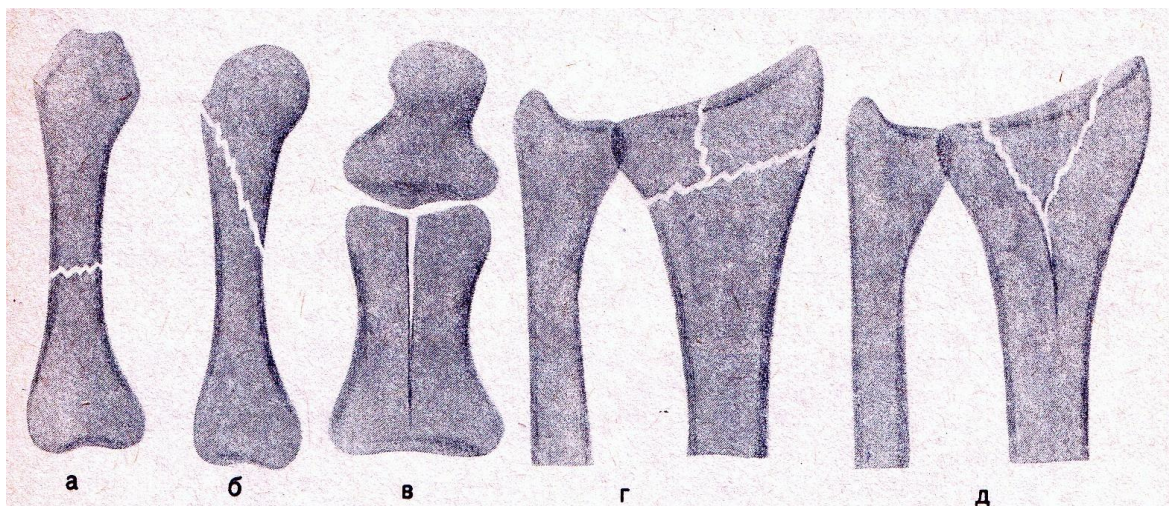
I. Tasks for extracurricular independent work on the topic under study.

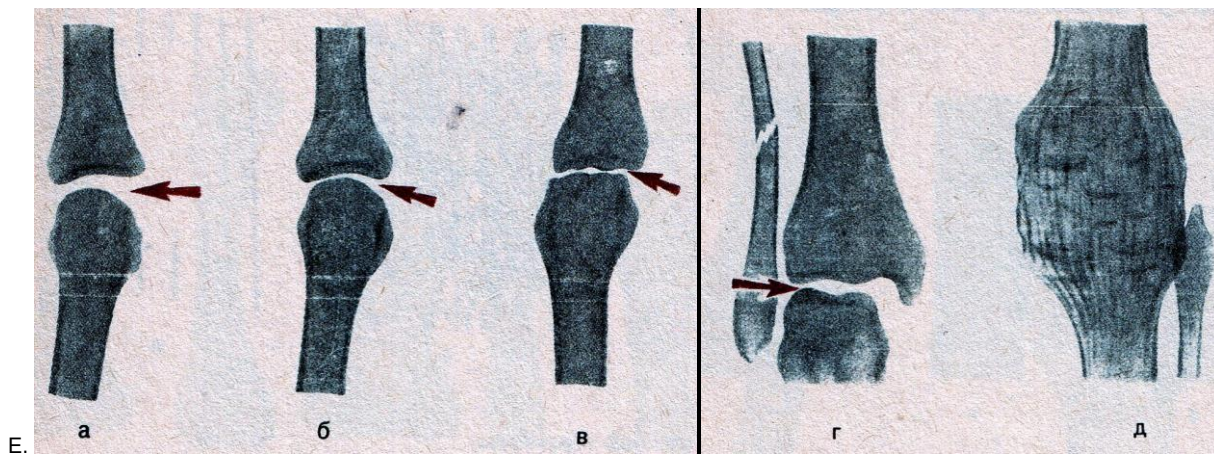
1. Determine the method and plane of the ray study.



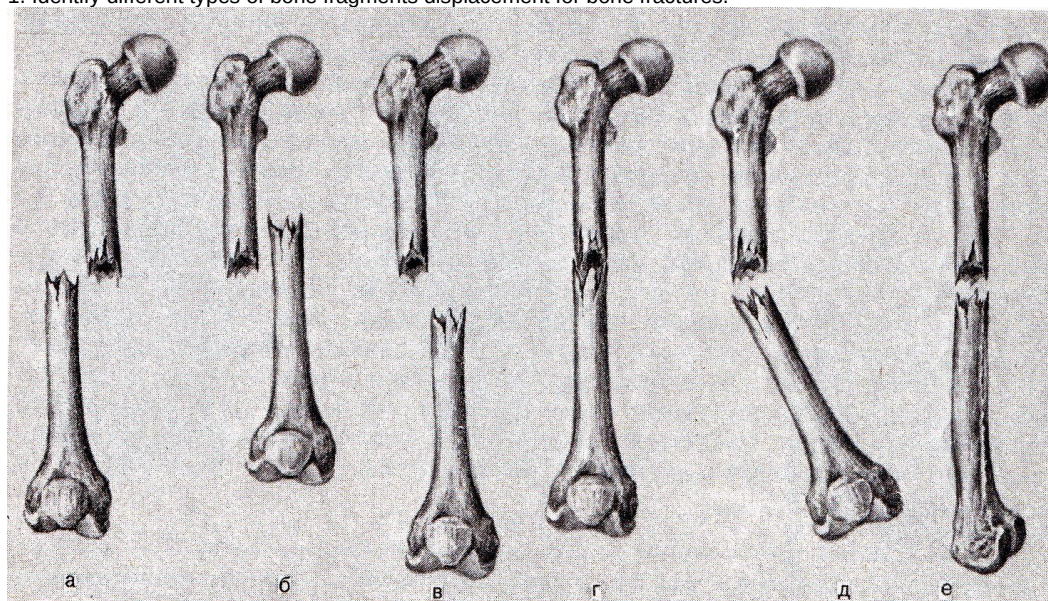
1. Determine the radiological syndromes of the lesions of bones and joints and their varieties.



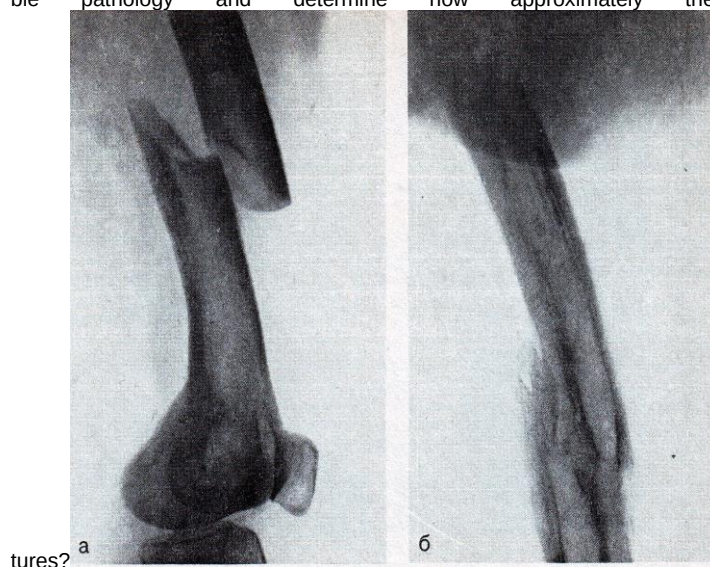




1. Identify different types of bone fragments displacement for bone fractures.

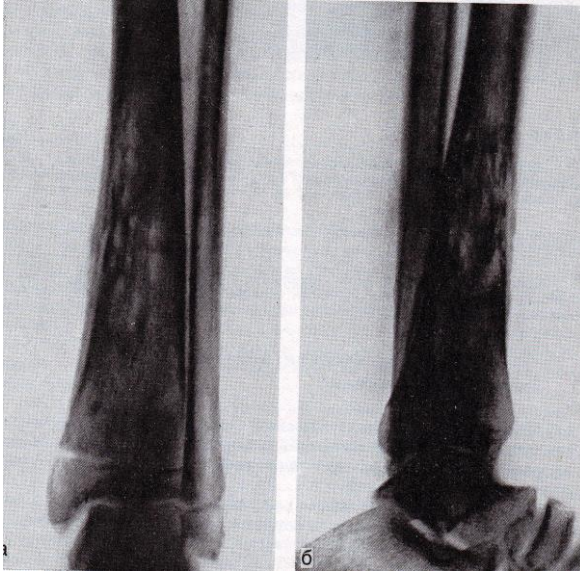


1. Examine radiographs. Determine which bone is depicted on them? In which projection made radiographs? Describe the visible pathology and determine how approximately the period after the injury took place.



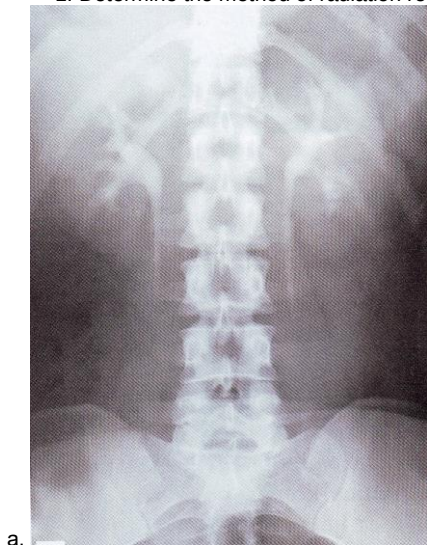
tures?

1. Solve situational tasks: Male 23 years. The disease began acutely 3 weeks ago; the temperature rose sharply, severe pains appeared in the left leg. Determine what symptoms of bone damage are present in these images and describe them. Give a conclusion.



Topic: Radiation diagnosis of diseases of the urinary system.
I. Tasks for extracurricular independent work on the topic under study.

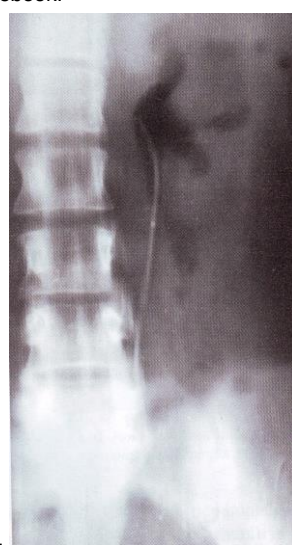
1. Determine the method of radiation research in each drawing and write it in a notebook.



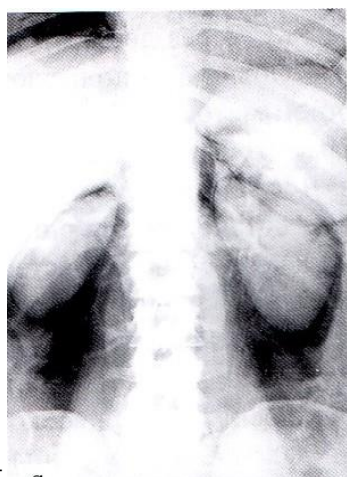
а.



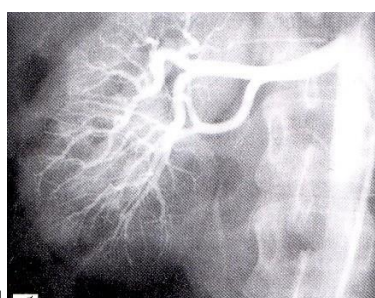
б.



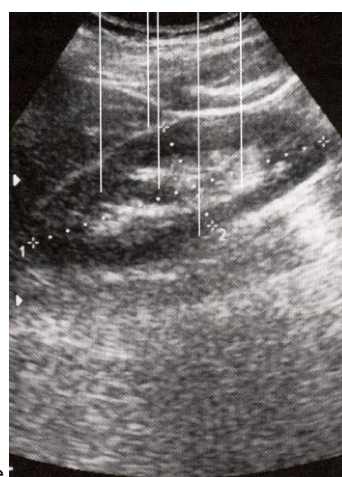
в.



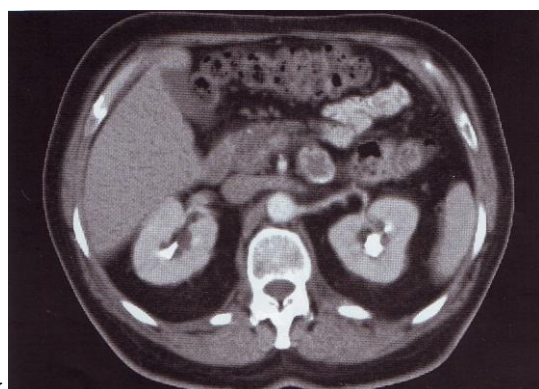
г.



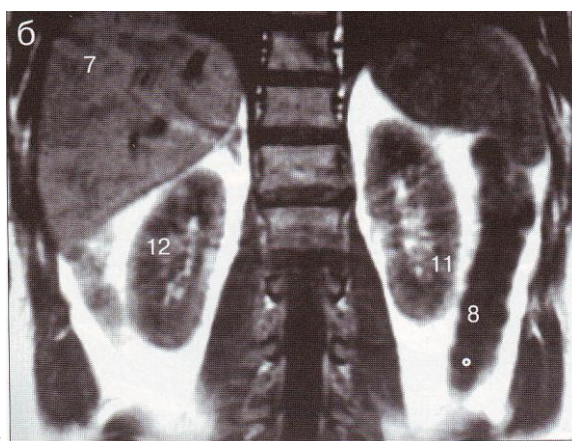
д.



е.

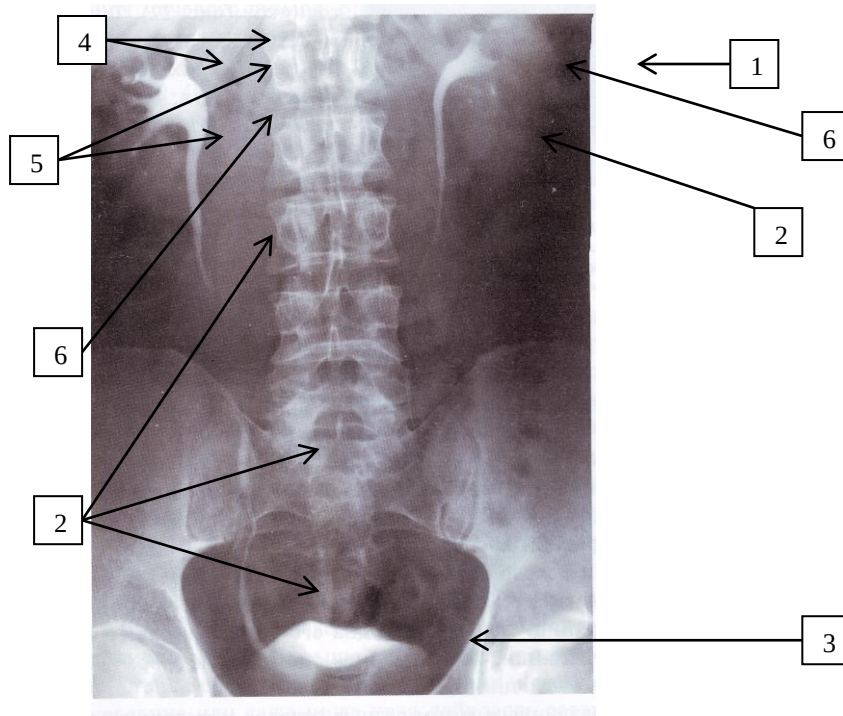


ж.



з.

1. Determine on the normal structure program indicated by arrows with numbers: Write them out in a notebook..



1. List the kidney examination methods that provide information.

- On the functional state of the kidneys:
- On the structure, morphology of the urinary system:

2. List the methods of radiological diagnosis of the urinary system, for which the following contrast agents are used:

- Iodine-containing solutions of organic compounds (urogratin, omnipack, visipack, ultravist ...)
- Gases (nitrous oxide, normal air)

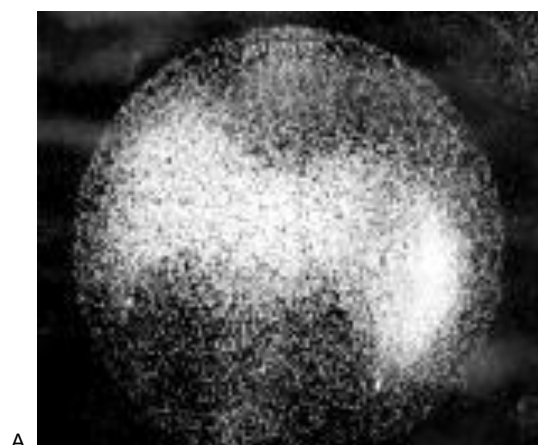
3. Find and emphasize errors in the conclusion of ultrasound, not relevant diagnosis: kidney cyst. Make the correct conclusion of the ultrasound. Conclusion: Ultrasound examination shows a round, echo-negative formation (up to 6 mm in diameter) in the parenchyma of the kidney, giving an acoustic shadow. This formation is sharply delineated, has lumpy outlines. Formation deforms Calices Pelvis System.

4. Add the missing information in the following paragraphs:

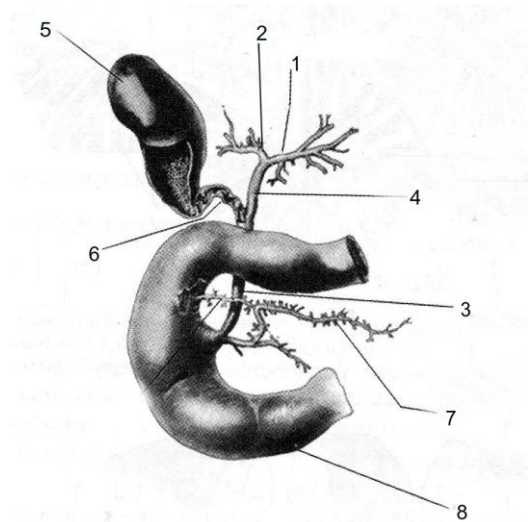
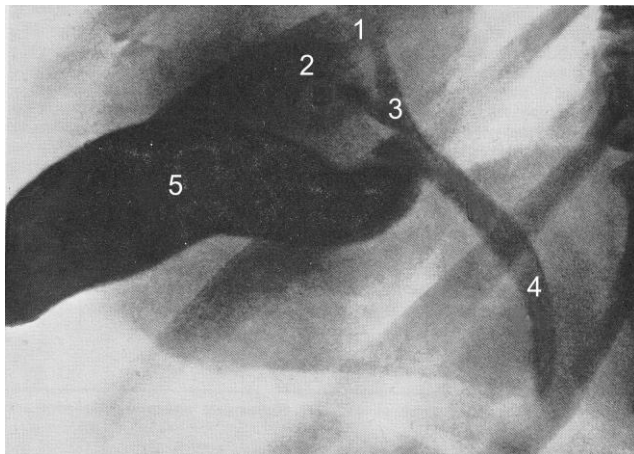
- In aplasia of the kidney, direct evidence of a congenital absence of a kidney is the absence of on the side of the anomaly
- In hypoplasia, the kidney has reduced size, form, CLS. Hypoplastic kidney function
- Complete kidney doubling - doubling of CLS and ureters. Ureters enter the bladder In case of incomplete doubling, the ureters
- In lumbar dystopia, the kidney is at the level of, at the ileal dystopia - at the level of, at pelvic dystopia - at the level of, with cross-dystopia - at the level

Topic: Radiological diagnosis of diseases of the liver and biliary tract.
I. Tasks for extracurricular independent work on the topic under study.

1. Identify each figure a method of radiation research



1. Different parts of the biliary tract are marked with numbers in the figure and in the diagram. Identify these departments and write the notation in a notebook.



1. Develop tactics of radiation research (choice of radiation methods and the sequence of their use) of a patient with suspected obstructive jaundice.

2. Continue the characterization of ultrasound signs of acute calculous cholecystitis:

- Increased gallbladder size
-
-

3. Which body normally corresponds to the following description of the ultrasound?

On the ultrasound study is determined echo-negative formation of an oval shape with clear even contours with dimensions from 6 to 12 cm in length and from 2.5 to 4 cm in diameter. Its wall thickness is from 2 mm in the area of the bottom and body to 3 mm at the funnel and neck.

4. On the following series of computer tomograms of consecutive phases of contrast enhancement, a CT scan of focal liver damage is determined. Give the conclusion what the described changes correspond to?



X-ray computed tomography

In a native study, a hypodense focus is determined in the dome of the liver.



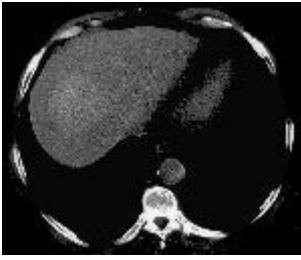
X-ray computed tomography

With a contrast enhancement in the arterial phase, a peripheral spherical type of contrast accumulation is noted.



X-ray computed tomography

In the phase of the portal vein increases the accumulation of contrast material.



X-ray computed tomography
In the delayed phase, the entire formation accumulated a contrast agent.