GUIDELINES FOR PRACTICAL TRAINING

"Cardiorespiratory system in pathology"

Discipline code: KSP 3302

Title EP: 6B10115 «Medicine»

Amount of study hours/credits: 270 h. (9 credits)

Course and semester of study: 3rd year, V semester

The volume of practical (seminar) classes: 6

Shymkent, 2024

The guidelines for practical training are developed in accordance with the work program of the discipline (syllabus) "Cardiorespiratory system in pathology" and discussed at the meeting of the department.

Protocol from № 10 " 31 " 05. 2024y.

Head of the department, professor d.m.s. Bekmurzayeva E.K.

1. Topic № 1. Questioning, examination, palpation, percussion, auscultation of the lungs in patients with diseases of the respiratory system in normal and pathological conditions. Diagnostic value.

2. Purpose: To teach students the principles of examination of patients with respiratory diseases (questioning, examination and palpation, percussion, chest auscultation).

3. Learning objectives:

The student must know:

1. Morphofunctional characteristics of the respiratory system.
2. Breathing, its types. External breathing and types of breathing.
3. Airways: nasal cavity, larynx, trachea, bronchial tree.
4. The main anatomical lines of the chest.
5. Rules of percussion.
6. The difference between a clear percussion sound and a dull one.
7. The basic rules and procedure of lung auscultation.
8. Topographic anatomy of the lungs.
9. The mechanism of inhalation and exhalation.

The student must be able to:

1. Correctly formulate questions when collecting complaints and anamnesis.
2. Establish a trusting relationship with patients.
3. To determine the pathological and physiological forms of the chest.
4. Determine the nature of the percussion sound in symmetrical areas of the chest.
5. Give an interpretation of the results of comparative percussion.
6. Determine the mobility of the lower borders of the pulmonary edges.
7. Have the skills to work with a phonendoscope.
8. Evaluate the main respiratory noises.
9. Determine the place of listening to the lungs.4. The main issues of the topic:

1. What are the main complaints of patients with respiratory diseases?
2. What is sputum?
3. What causes the appearance of hemoptysis?
4. What pathological forms of the chest do you know?
5. What are the causes of a decrease in chest elasticity?
6. How is vocal tremor determined?
7. What types of chest percussion do you know?
8. What is the purpose of comparative chest percussion?
9. What is the sequence of topographic percussion?

The main issues of the topic:

1. How is the width of the Krenig fields determined?
2. What are the reasons for the physiological lowering of the boundaries of the lungs?
3. How is the height of the standing of the tops of the lungs determined?
4. What is auscultation?
5. What are the main breathing noises?
6. How to distinguish vesicular respiration from bronchial respiration?
7. How does laryngotracheal breathing occur?
8. What additional breathing noises do you know?
9. How does pleural friction noise occur?

5. The main forms/methods/technologies of training to achieve the final goals of the discipline:

• Discussion of the topic of the lesson, mastering practical skills.
• listening to audio discs

6. Types of control to assess the level of achievement of the RO discipline (testing, solving situational problems, filling out a medical history, etc.).

ACS/dumb formula, testing.

7. Literature (basic and additional): it is indicated on the last page of the syllabus

8. Control: (questions, tests)

Questions:

1. What is a cough?
2. What types of sputum do you know?
3. What is the difference between hemoptysis and pulmonary bleeding?
4. In what pathologies is there an asymmetry of the chest?
5. What functional parameters are used to evaluate the respiratory system?
6. What is percussion?
7. What information does the topographic percussion of the lungs give?
8. What is the difference between a box percussion sound and a tympanic one?
9. How does the vocal tremor change with a tympanic shade of percussion sound?
10. What are the physiological fluctuations in the mobility of the lower edge of the lungs?
11. At what points is bronchial respiration normally heard?
12. What is wheezing?
13. What distinctive features of crepitation do you know?
14. What is pleuropericardial noise?
15. How is bronchophonia determined?

1. The subjective method of examining patients:
a. questioning
b. examination
c. palpation
d. percussion
e. auscultation

2. The factor of least importance in collecting the patient's life history:
a. weather conditions, predisposition
b. previous illnesses
c. marital status and hereditary
d. bad habits
e. working and living conditions

3. Objective method of examination of patients:
a. examination, palpation, percussion, auscultation
b. questioning, palpation,percussion
c. questioning, auscultation
d. questioning, examination, palpation,
e. questioning, palpation

4. The rules of general examination do not apply:
a. the examination is carried out at a distance of 2-3 meters, the patient is completely undressed
b. lighting should be on the side and in front
c. no extraneous noise
d. the examination of the patient is carried out during the daytime
, if possible. e. the examination is carried out in a certain sequence

5. Deep, rare, noisy breathing is one of the forms of hyperventilation, often associated with severe metabolic acidosis, in particular, diabetic ketoacidosis, acetonemic syndrome (non-diabetic ketoacidosis) and end-stage renal failure. Deep noisy and rare breathing is called type breathing:

a. Kussmaul
b. Cheyne- Stokes
c. Grokko
d. Biotta
e. mixed

1. The patient has rare breathing with a gradual increase, then a decrease in the depth of breathing, alternating with periods of cessation of breathing, called breathing by type:
a. Cheyne - Stokes
b. Kussmaul
c. Grokko
d. Biotta
e. mixed

2. The doctor of the medical center was called to the patient. Complaints of an increase in body temperature to 39.8 degrees, weakness, malaise, lack of appetite, sweating, sore throat when swallowing. Respiratory rate 35. The normal number of breaths per minute is:
a. 16 – 20
b. 24 – 28
c. 32 – 36
d. 10 – 14
e. 36 – 40

3. The doctor of the medical center came to the patient's home. The patient has an increase in body temperature to 38.2 degrees, a rough barking cough, rapid breathing, sneezing, mucous discharge from the nose.The respiratory rate of 36 per minute is called:
a. tachypnea
b. dyspnea
c. apnea
d. bradypnea
e. norm

4. Patient V., 45 years old, turned to the emergency department. I am worried about pronounced shortness of breath at the slightest movement, a rare dry cough. Objectively: the left half of the chest lags behind in the act of breathing, intercostal spaces are smoothed. Vocal tremor to the left of the IV rib is not carried out along all topographic lines. When percussion is played on the same section, the sound is absolutely dull. Above the Traube space, the sound is dulled–tympanic. The voice tremor depends on:
a. condition of the pleural cavity, density of lung tissue, patency of the bronchial tree, thickness of the chest wall
b. density of lung tissue, height of voice
c. patency of the bronchial tree, height of voice
d. thickness of the chest wall, height of voice
e. condition of the pleural cavity, height of voice

5. Patient I., 36 years old, was admitted to the hospital. The chest is of the correct shape. Both halves are symmetrical, lagging behind in the act of breathing. When percussion is performed on the right in the interscapular region at the level of 3-6 ribs, the sound is dulled–tympanic. The voice tremor is amplified. Below the 7th rib, the percussion sound is tympanic. Unilateral amplification of vocal tremor is observed in:
a. fibrothorax
b. hydrothorax
c. lobular inflammatory densification
d. obturation atelectasis

e. pneumothorax

Tests:

The scientist who proposed the percussion method:
a. L. Auenbrugger
b. R.Laennek
c. G.A. Zakharin
d. Kussmaul
e. Einthoven
1. The physical justification of percussion was given by the Czech physician Josef Skoda in 1839. Sounds can be divided into tones and noises. Pure tone is a conditional concept. This is an oscillation of the same amplitude and frequency. Pure tones are not found in nature. Percussion is based on:
a. Capturing sound from vibrational movements in tissues
b. the sense of touch and volume of the organ
c. detecting changes visible to the eye
d. detecting odor
e. detecting sound phenomena occurring in the body.
2. There is a distinction between direct and mediocre percussion. The direct one is performed by striking the chest wall, and the mediocre one consists in the percussion blow being applied to the plessimeter. The main parameters of percussion sound:
a. power
b. height
c. localization
d. irradiation
e. duration
3. Noise is the sum of sounds of different properties, where it is impossible to distinguish the main tone. In the practice of diagnostic research, the doctor often deals with noises, but in many cases it is customary to call sounds tones, especially if it is possible to distinguish the main four properties of sounds: 1st - strength; 2nd — height; 3rd - duration of sound and 4th — sound likeness. The volume of the percussion sound depends on:
a. the force of the impact
b. the duration of the sound
c. the amplitude of vibrations in the tissues
d. the depth of the location of the percutaneous organ
e. the thickness of the subcutaneous tissue
4. Patient Z. 52 years old complains of shortness of breath, a feeling of lack of air, pronounced general weakness.During percussion of the patient, the percussion sound is loud over:
a. organs containing air
b. dense organs
c. in the presence of inflammation in organs
d. hollow organs with liquid
e. hollow organs with air
5. Patient F, 20 years old, was admitted to the hospital with complaints of cough and shortness of breath. The percussion sound is quiet, blunted with:
a. small amplitude of sound waves
b. pronounced thickening of the chest
c. in the presence of inflammation in organs

d. percussion of organs containing air
e. percussion of dense organs
6. Percussion sound above the right apex:
a. pulmonary sound is somewhat quieter and shorter
b. clear pulmonary
c. tympanic
d. dull
e. boxy
7. Percussion sound over the upper fields of the lungs:
a. pulmonary sound is quieter and shorter
b. clear pulmonary
c. tympanic
d. dull
e. dull - tympanic
8. Percussion sound in the right axillary region:
a. clear pulmonary
b. tympanic
c. dull
d. pulmonary sound is somewhat quieter and shorter
e. boxy
9. Percussion sound in the left axillary region:
a. Pulmonary sound is loud, high-pitched with tympanic
b. blunt
c. clear with a pulmonary tinge
d. boxy
e. the pulmonary sound is somewhat quieter and shorter

Tests:

1. The method of auscultation of patients was proposed by:
a. R.Laennek
b. L. Auenbrugger
c. Kussmaul
d. G.A. Zakharin
e. Einthoven
2. During auscultation of the lungs, a side respiratory noise is detected on the right under the scapula, listened to on inhalation and exhalation. Breathing heard above the apex of the right lung:
a. bronchial
b. vesicular
c. weakened vesicular
d. mixed
e. enhanced vesicular
3. A 42-year-old patient was admitted to the hospital. He had percussion, palpation and auscultation of the lungs. Respiratory noise heard above the lungs in healthy people:
a. vesicular
b. puerile
c. mixed
d. bronchial

e. amphoric

4. A patient with respiratory problems was taken to the hospital. He had shortness of breath and coughing. Temperature 39.9. Respiratory noise heard above the larynx, trachea:
a. bronchial
b. mixed
c. vesicular
d. rigid
e. weakened vesicular

5. A patient with thyrotoxicosis was admitted to the hospital. Thyrotoxicosis is a condition associated with an excess of thyroid hormones in the body. This condition is also called hyperthyroidism. This is not a diagnosis, but a consequence of certain thyroid diseases or the effects of external factors. Breathing heard during physical work in patients with thyrotoxicosis:
a. enhanced vesicular
b. rigid
c. weakened vesicular
d. saccaded
e. pathological bronchial

6. A patient with bronchitis was admitted to the hospital. The disease manifests itself by coughing, often fever, a feeling of soreness behind the sternum, and a deterioration in general well-being. At the same time, common symptoms of an infectious disease are possible. The disease is more severe in the elderly and weakened individuals. Breathing heard in case of inflammation of the bronchial mucosa:
a. harsh
b. pathological bronchial
c. weakened vesicular
d. bronial breathing with an amphoric tinge
e. vesicular

7. A 54-year-old patient was admitted. Complaints of chest pain, an increase in body temperature, and pronounced general weakness are characteristic. Chest pain is associated with irritation of the nerve endings of the pleura by fibrin. The pain is more often unilateral on the side of the lesion, quite intense, with a tendency to increase with deep inhalation, coughing, sneezing. Body temperature rises to 38 ° C, rarely higher. With the gradual onset of the disease, at first the body temperature may be normal. General weakness, sweating, headache, and intermittent muscle and joint pain are also a concern. Auscultative sign of pleural thickening syndrome:
a. weakened vesicular
b. amphoric
c. vesicular respiration
d. pathological bronchial
e. enhanced vesicular

8. The strength of vesicular respiration varies from person to person and depends on the strength of respiratory movements, on the power of the underlying areas of lung tissue, and the thickness of the chest tissue layer. Consequently, the strength of vesicular respiration will be different in people of different ages and fatness. Causes of weakening of vesicular respiration:
a. loss of elastic properties of the alveoli of the mucosa
b. bronchospasm
c. the presence of a liquid secretion in the bronchi
d. the presence of a viscous secretion in the bronchi
e. narrowing of the lumen of small bronchi due to inflammatory edema of their

9. A patient with impaired breathing was admitted to the hospital. Amphoric breathing is a very low, soft, soft bronchial breathing, which has a musical, metallic tint and is similar to the sound produced by the rapid passage of a narrow jet of air over an empty bottle (hence the name). Amphoric breathing is heard in:
a. lung abscess in the second stage
b. bronchial asthma
c. stage 2 of croup pneumonia
d. pleurisy
e. pneumothorax
10. Patient K., 38 years old, is on hospital treatment 10th. Auscultation: mixed wet and dry wheezes. Shallow breathing, tachypnea, BPD 28 per minute. Heart tones are muted, tachycardia heart rate is 100 per minute, blood pressure is 90/60 mmHg. Dry wheezing occurs due to:
a. narrowing of the bronchial lumen
b. swelling of the bronchial mucosa
c. accumulation of viscous secretions
in the bronchial lumen d. presence of fluid in the alveoli
e. spasm of smooth muscles of the bronchi

1. **Topic № 2.** Leading clinical syndromes (compaction of lung tissue, bronchial patency disorders, increased airiness in the lung, presence of fluid and cavities in the lung, respiratory failure) in patients with diseases of the respiratory system.
2. **Purpose:** To familiarize with the leading clinical syndromes of respiratory pathology, to assimilate clinical signs and learn the basics of diagnosis, to familiarize with laboratory examination of sputum, to familiarize with instrumental research methods, to give them a diagnostic interpretation.

3. Training objectives:

The student must know:

1. Mechanisms of development of pulmonary tissue compaction.
2. The main complaints of patients with bronchial obstruction syndromes.
3. The causes of the development of the syndrome of increased airiness in the lung.

The student must be able to:

1. To interview a patient with lung tissue compaction syndromes.
2. To examine the patient and identify changes in the general status characteristic of the bronchial patency syndrome.
3. Conduct a physical examination of patients with lung airiness enhancement syndromes.

4. The main issues of the topic:

1. What predisposing factors do you know that lead to the development of bronchial patency disorder syndrome?
2. What complaints do patients with pulmonary tissue compaction syndromes make?
3. What palpatory changes can be detected with pulmonary tissue compaction syndrome?
4. What percussion changes can be detected with lung airiness syndrome?
5. What auscultative changes can be
6. What instrumental research methods are used to diagnose bronchial patency disorder syndrome?

5. The main forms/methods/technologies of training to achieve the ultimate goals of the discipline:

• Discussion of the topic of the lesson, mastering practical skills.

6. **Types of control to assess the level of achievement of the RO discipline** (testing, solving situational problems, filling out a medical history, etc.).

ACS/dumb formula, testing.

7. Literature (basic and additional): it is indicated on the last page of the syllabus

8. Control: (questions, situational task)

Questions:

1. What objective features do you know that are characteristic of lung tissue compaction syndrome?
2. What auscultative changes can be detected in bronchoobstructive syndrome?
3. What auscultative changes can be detected in the syndrome of increased lung airiness?
4. What auscultative changes can be detected in the syndrome of pulmonary tissue compaction?
5. What predisposing factors do you know leading to the development of pulmonary tissue compaction syndrome?

Situational task:

1. Patient G., 20 years old, complained of general weakness, fever, cough with mucopurulent sputum, shortness of breath. I got sick 5 days ago: I had a runny nose, cough, headache, I was treated myself, I did not take a sick leave. It got worse yesterday, the temperature rose again to 39.40 C.From anamnesis: 15 days ago there was contact with a COVID – 19 patient. Objectively: temperature - 38.60 C. The general condition is of moderate severity. The skin is clean, facial hyperemia. The number of breaths is 30 per minute. There are no changes during chest examination and palpation. When percussion is performed on the right under the shoulder blade, the percussion sound is dulled. During auscultation in this area, breathing is more rigid, sonorous moist, fine-bubbled wheezes are heard. The heart tones are muted. Pulse - 98 per minute, rhythmic, satisfactory filling. Blood pressure 110/60 mmHg. The tongue is coated with a white coating. No abdominal pathology was detected.
2. Patient V., 43 years old, complained of daily attacks of suffocation, especially difficulty exhaling, general weakness, malaise. After the attack, a small amount of viscous vitreous sputum departs. She has been ill for 3 years, these complaints occur annually in June, in July all symptoms disappear. He associates his illness with the loss of a loved one. There are two children aged 7 and 13 who also have attacks of suffocation. The mother and grandmother also had attacks of suffocation. The patient is allergic to strawberries, penicillin. Objectively: the condition is of moderate severity. The patient is sitting with her hands resting on the edge of a chair. The skin is clean, with a cyanotic tinge. The chest is barrel-shaped, the supra- and subclavian regions are smoothed, the intercostal spaces are expanded, there is swelling of the cervical veins, the participation of auxiliary muscles, and intercostal retraction. Breathing is loud, with whistling and noise, 26 times per minute. During percussion, a box sound is noted, the lower border of the lungs along the mid-muscular line is determined at the level of the 9th rib, the lung excursion along this line is 2 cm. Against the background of weakened vesicular breathing with prolonged exhalation, dry whistling wheezes are heard. BDD - 26 per minute. Heart tones are rhythmic, clear, 92 per minute, blood pressure 110/70 mmHg. Abdominal pathology was not detected.

1. Topic № 3. Leading clinical syndromes (presence of fluid and cavities in the lung, respiratory failure) with diseases of the respiratory system. Diagnostic value.

2. Purpose: To familiarize with the leading clinical syndrome of the presence of fluid and cavity in the lung and respiratory failure, to assimilate clinical signs and learn the basics of diagnosis, to familiarize with instrumental research methods, to give them a diagnostic interpretation.

3. Learning objectives:

The learner must know:

1. Mechanisms of development of respiratory failure syndrome.
2. The main complaints of patients with syndromes of fluid in the lung.
3. The causes of the syndrome of the presence of a cavity in the lung.

The student must be able to:

1. To interview patients with respiratory failure syndromes.
2. To examine the patient and identify changes in the general status characteristic of
The syndrome of fluid in the lung.
3. Conduct a physical examination of patients with lung cavity syndromes.

4.The main issues of the topic:

1. What predisposing factors do you know that lead to the development of respiratory insufficiency syndrome?
2. What complaints do patients with lung cavity syndromes make?
3. What palpatory changes can be detected with lung fluid syndrome?
4. What types of respiratory insufficiency do you know?
5. What auscultative changes can be detected with respiratory insufficiency syndrome?
6. What laboratory and instrumental research methods are used for diagnosis?

5. The main forms/methods/technologies of teaching to achieve the final goals of the discipline:

• Discussion of the topic of the lesson, mastering practical skills.
• listening to audio discs

6. Types of control to assess the level of achievement of the RO discipline (testing, solving situational problems, filling out a medical history, etc.).

ACS/dumb formula, testing.

7. Literature (basic and additional): it is indicated on the last page of the syllabus

8. Control: (questions, situational task)

Questions:

1. What objective features do you know that are characteristic of respiratory failure syndrome?
2. What auscultative changes can be detected in the syndrome of fluid in the lung?
3. What auscultative changes can be detected in the syndrome of a cavity in the lung?
4. What percussion changes can be detected in the syndrome of fluid in the lung?
5. What predisposing factors Do you know what causes respiratory failure?

Situational task:

1. The patient suddenly had sharp pains in the chest on the left. In patient R., when examining the lungs, there is a slight increase in the left half of the chest, it lags sharply when breathing; percussion reveals a tympanic sound on the left, a clear pulmonary sound above the rest of the lung surface.

A. Your preliminary syndromic diagnosis?
B. What data should you receive during auscultation?
B. Technique of lung auscultation.
G. Name the causes and types pneumothorax.

2. Patient S. was admitted complaining of severe shortness of breath. He occupies a forced position on his left side. X-ray examination revealed fluid in the left pleural cavity up to the level of the 3rd rib.

A. Your preliminary syndromic diagnosis?
B. What data do you expect to receive during a physical examination of the chest (examination, palpation, percussion, auscultation)?
B. Technique of chest palpation.
G. Causes accumulation of fluid in the pleura?

1. Topic № 4. Questioning, complaints and examination of the chest of patients with pathology of the cardiovascular system. Palpation, percussion of the heart. Auscultation of the heart and blood vessels is normal and pathological. Diagnostic value.

2. Purpose: To teach students the principles of examination of patients with respiratory diseases (questioning, examination and palpation, percussion, auscultation of patients with CVD pathology).

3. Learning objectives:

The student should know:

1. Morphofunctional characteristics of the cardiovascular system.
2. Age-related features of the heart.
3. Large and small circulatory system.
4. The structure of the heart.
5. The rules of percussion.

6. The difference between a blunted percussion sound and a dull one.
7. Blood vessels.
8. Physiological properties of the heart muscle

The student must be able to:

1.Correctly formulate questions when collecting complaints and anamnesis.
2. Establish a trusting relationship with patients.
3. To assess the features of the general condition of a patient with CVD pathology.
4. Determine the lower border of the right lung along the mid–clavicular line.
5. Determine the relative and absolute cardiac dullness of the heart.
6. Determine the configuration of the heart.
7. Rules and procedure of auscultation.
8. Establish a trusting relationship with patients.
9. Distinguish the sound phenomena that occur at the points of listening to the heart.

The main issues of the topic:

1. What are the main complaints of patients with diseases of the organs of the USSR?
1. What is dyspnea?
2. What causes heart failure?
3. What do you know about the features of pain syndrome in patients with CVD pathology?
4. What is acrocyanosis?
5. How is the apical shock determined?
6. How to determine the relative cardiac Stupidity?
7. Where is the width of the vascular bundle determined?
8. What determines the configuration of the heart?
9. In what pathologies does the trapezoidal configuration of the heart occur?
10. What pathological changes do you know the boundaries of the vascular bundle?
11. How is the waist of the heart determined?
12. In what position is the patient undergoing auscultation of the heart?
13. What is the sequence of auscultation of the heart valves?
14. How does the 1st and 2nd tone of the heart occur?
15. What are the reasons for the strengthening of the 2nd tone over the pulmonary artery?
16. What other additional tones are heard in asthenics?
17. When does the physiological bifurcation of the 1st tone occur?

5. The main forms/methods/technologies of learning to achieve the ultimate goals of the discipline:

• Discussion of the topic of the lesson, mastering practical skills.
• Training in practical skills in the simulation room of the CPN.
• Listening to audio discs

6. Forms of control for assessing the level of achievement of the final goals of the discipline.

• AKS/mute formula, testing.

7. Literature (basic and additional): it is indicated on the last page of the syllabus

8. Control: (questions, tests)

1. What types of shortness of breath do you know?
2. What distinctive features of peripheral edema do you know?
3. What parameters should be paid attention to during the general examination of patients?
4. Where is the apical shock localized normally?
5. What is orthopnea?
6. How is absolute cardiac dullness determined?
7. What information does changes in the width of the vascular bundle give?

8. In what pathological conditions does the heart acquire a mitral configuration?
9. How is the left border of relative cardiac dullness determined?
10. What is a "bull's heart"?
11. What are the distinguishing features of the 1st and 2nd heart tones do you know?
12. What reasons do you know for the weakening of heart tones?
13. In what pathologies does pathological bifurcation of 2 tones occur?
14. What determines the sonority of heart tones?
15. When does the tone of opening of the mitral valve occur?

Tests:

1. A scientist-therapist who proposed a scheme for questioning patients, bringing this method "to the height of art".
a. G.A. Zakharin
b. L. Auenbrugger
c. R.Laennek.
d. Kussmaul.
e. Einthoven.
2. In case of aortic insufficiency, the apical thrust...
a. domed
b. spilled, reinforced.
c. the apical thrust is shifted to the left and down, spilled
d. resistant
e. uplifting
3. The examination allows you to get a comprehensive picture of a person: his physical and mental condition, the size of the body, its structure, the size and shapes of its individual parts, the size of some organs,.their functions, the condition of the skin, mucous membranes, fat layer, lymph nodes, surface vessels, etc. During the general examination, the patient does not determine:
a. changes in the heart
area b. position in bed
c. physique
d. consciousness
e. skin and visible mucous membranes
4. Palpation is a physical method of medical diagnosis performed by feeling the patient's body. As a way to study the properties of the pulse, palpation is mentioned in the writings of Hippocrates. Palpation is based on:
a. sense of touch and volume of the organ
b. detecting changes visible to the eye
c. detecting sound from oscillatory movements in tissues
d. detecting odor
e. detecting sound phenomena occurring in the body
5. Palpation is based on a tactile sensation arising from the movement and pressure of the fingers or palm of the groping hand. With the help of palpation, the properties of tissues and organs are determined: their position, size, shape, consistency, mobility, topographic ratios, as well as the soreness of the organ under study. The palpation method has been significantly improved:
a. V.P.Obraztsov – N.D.Strazhesko
b. S.P.Botkin
c. Kussmaul
d. M.Ya.Mudrov

e. G.A.Zakharin
6. Anasarca is a diffuse swelling of soft tissues with a predominant localization in the lower half of the trunk, which occurs as a result of other diseases and has a progressive course. The concept of an anasarca does not include:
a. Stokes collar
b. ascites
c. hydropericardium
d. massive, widespread edema
e. hydrothorax
7. Severe shortness of breath, suffocation, cough, hemoptysis are:
a. signs of acute left ventricular failure
b. thromboembolism of the branches of the pulmonary artery
c. manifestations of respiratory failure associated with bronchial asthma
d. manifestations of symptomatic arterial hypertension in pheochromocytoma
e. signs of renal eclampsia
8. After physical exertion, the patient had an attack of shortness of breath, accompanied by suffocation, cough with the release of foamy pink sputum. On examination: moist wheezing of various sizes on both sides in the lungs, atrial fibrillation, enlarged liver, swelling in the lower extremities. Pathology with the indicated symptoms:
a. Acute left ventricular failure
b. Bronchial asthma
attack c. Pulmonary embolism
d. Spontaneous pneumothorax
e. Infarct pneumonia
9. A 40-year-old woman applied for a preventive examination. Periodically, he notes rare short-term stabbing pains in the heart area. Weight 90 kg and height 170 cm, smokes 1 pack a day for 5 years, does not exercise. The last examination was 6 years ago. The mother suffered a myocardial infarction at the age of 45. Physical examination revealed no pathology. Diagnostic examination that must be performed first:
a. Serum cholesterol
b. Chest X-ray
c. Exercise test
d. ECG
e. Coronary angiography
10. Patient V., 50 years old, turned to a family doctor complaining of intense chest pain. Upon examination by a doctor, no visible changes were found on the part of the heart and lungs. Blood pressure is 120/85 mmHg, heart rate is 88 beats per 1 minute. The doctor calmed the patient and sent him home, with recommendations to stay at home and come back tomorrow. Is the doctor's tactics correct?
a. No, it is necessary to prescribe an urgent ECG examination
b. Yes, the pain does not portend danger to the patient
's condition c. Yes, if any complications occur, it is possible to provide assistance the next day
d. No, analgesic treatment should be prescribed
e. No, the patient should be referred for routine treatment

Tests:

1. There are three main percussion sounds: loud or clear pulmonary, normally obtained by tapping the chest over the lungs, quiet or dull, listened to by percussion of soft, airless inelastic organs, and tympanic, resembling the sound of hitting a drum, which is obtained by tapping smooth-walled cavities containing air and hollow organs containing air. A dull percussion sound means the presence of a sound.
a. quiet
b. high
c. prolonged
d. short
e. loud
2. Examining the patient, the doctor noted a slight increase in the chest in the heart area, the apical thrust was not visually and palpationally determined. The quietest percussion is used to determine:
a. the boundaries of absolute cardiac dullness
b. the boundaries of the liver
c. the boundaries of the lungs
d. the boundaries of relative cardiac dullness
e. the focus of inflammation
3. Examining the patient, the doctor noted a slight increase in the chest in the heart area, the apical thrust was not visually and palpationally determined. Silent percussion is used to determine:
a. the limits of relative cardiac dullness
b. comparison
c. identification of a deeply located cavity
d. boundaries of the organ
e. the focus of inflammation
4. Quiet, weak percussion causes vibrations of the percutaneous tissue to a depth of:
a. 2 -4cm
b. up to 10 cm
c. 3-5 cm
d. 10-12 cm
e. more than 12 cm
5. The department forming the right border of relative dullness of the heart:
a. right atrium
b. right ventricle
c. left atrium
d. left ventricle
e. right atrium and ventricle
6. The department forming the left border of relative dullness of the heart:
a. left ventricle
b. right ventricle
c. left atrium
d. right atrium
e. left atrium and ventricle
7. The department forming the upper border of the heart:
a. left atrium
b. right ventricle
c. right atrium
d. left ventricle

e. left atrium and ventricle
8. The department forming the absolute dullness of the heart:
a. left ventricle
b. left atrium and ventricle
c. right ventricle
d. right atrium
e. right atrium and ventricle
9. The true size of the heart reflects:
a. relative dullness of the heart
b. relative dullness of the heart with a mandatory definition of absolute dullness
c. boundaries of the vascular bundle
d. absolute dullness of the heart
e. heart configuration
10. The normal border of relative cardiac dullness is located on the right:
a. 1-2 cm outward from the right edge of the sternum in the 4th intercostal space b. 2.5 cm outward from the right edge of the sternum in the 4th intercostal space c. on the right edge of the sternum
d. along the left edge of the sternum in the 4th intercostal space e. 3.5 cm outward from the right edge of the sternum in the 4th intercostal space

Tests:

1. Duration of the first tone:
a. 0.09 – 0.12 sec
b. 0.08 – 0.01 sec
c. 0.11 – 0.14 sec
d. 0.14 – 0.16 sec
e. 0.17 – 0.20 sec
2. Duration of the second tone:
a. 0.05 – 0.07 sec
b. 0.08 – 0.01 sec
c. up to 0.05 sec
d. 0.11 – 0.14 sec
e. 0.16 – 0.20 sec
3. Duration of systolic pause:
a. 0.2 – 0.25 sec
b. 0.14 – 0.18 sec
c. 0.05 – 0.07 sec
d. up to 0.42 sec
e. more than 0.11 sec
4. Duration of the diastolic pause:
a. 0.42 – 0.46 sec
b. 0.14 – 0.18 sec
c. 0.07 – 0.11 sec
d. 0.18 – 0.2 sec
e. 0.05 – 0.07 sec

5. The third tone is formed:
a. in the diastole in the phase of rapid passive filling of the ventricles and fluctuations of their walls
b. in the atrial systole
c. in the ventricular diastole during a hemodynamic impact in the closed semilunar valves
d. into the ventricular diastole due to increased sound vibrations of the opening mitral valve
e. into the ventricular systole
6. IV tone is formed:
a. in the ventricular diastole due to fluctuations of the semilunar valves
b. in the ventricular systole
c. in the ventricular diastole due to fluctuations of the muscle walls in the phase of rapid passive filling
d. in the ventricular diastole in the phase of rapid active filling (atrial systole
e. due to bifurcation 1 tone to the systole
7. Projection of the mitral valve on the anterior chest wall:
a. the apex of the heart
b. in the second intercostal space on the left near the sternum
c. in the middle of the sternum at the level of 3 ribs
d. the place of attachment to the sternum of cartilage 3 ribs
e. 2 intercostal space on the right
8. Projection of the aortic valve onto the anterior chest wall:
a. 2 intercostal space on the right
b. the place of attachment of cartilage to the sternum is 3 ribs
c. on the sternum in the middle of the places of attachment of cartilage are 3 ribs on the left and 5 ribs on the right
d. in the second intercostal space on the left near the sternum
e. in the middle of the sternum at the level of 3 ribs
9. Projection of the pulmonary artery valve on the anterior chest wall:
a. in the second intercostal space on the left near the sternum
b. in the middle of the sternum at the level of 3 ribs
c. on the sternum in the middle of the cartilage attachment points there are 3 ribs on the left and 5 ribs on the right
d. 2 intercostal space on the right
e. place of attachment to the sternum of cartilage 3 ribs
10. auscultation site of the 3-fold valve:
a. at the base of the xiphoid process on the right
b. at the apex of the heart
c. in the middle of the sternum at the level of 3 ribs
d. in the 2nd intercostal space on the right at the edge of the sternum
e. in the 2nd intercostal space on the left at the edge of the sternum

1. **Topic № 5.** Leading clinical syndromes (high blood pressure and coronary artery disease, acute and chronic coronary insufficiency) in patients with diseases of the cardiovascular system. Dyslipidemia. Hypotension. Diseases of the myocardium and pericardium. Diagnostic value.
2. **Purpose:** To familiarize with the leading clinical syndrome of essential arterial hypertension, to assimilate the clinical signs and learn the basics of diagnosis, to familiarize with instrumental research methods, to give them a diagnostic interpretation.
3. **Learning objectives:**

The student should know:

1. Mechanisms of development of essential arterial hypertension syndrome.
2. The main complaints of patients with essential hypertension syndrome.
3. The causes of the development of essential arterial hypertension syndrome.
4. Mechanisms of development of heart failure syndrome.
5. The main complaints of patients with heart failure syndrome.
6. The causes of the development of heart failure syndrome.

The student must be able to:

1. To conduct a survey of patients with essential arterial hypertension syndrome.
2. To examine the patient and identify changes in the general status characteristic of this syndrome.
3. To conduct a physical examination of patients with coronary artery disease syndrome.
4. Conduct a survey of patients with chronic heart failure syndrome.
5. To examine the patient and identify changes in the general status characteristic of this syndrome.
6. To conduct a physical examination of patients with heart and vascular insufficiency syndrome.

4.The main issues of the topic:

1. What predisposing factors do you know that lead to the development of essential hypertension syndrome?
2. What complaints do patients with essential hypertension syndromes have?
3. What palpatory changes can be detected in essential arterial hypertension syndrome?
4. What method determines the blood pressure level?
5. What auscultative changes can be detected in ischemic heart disease syndrome?
6. What instrumental research methods are used for diagnosis?
7. What predisposing factors do you know that lead to the development of heart failure syndrome?
8. What complaints do patients with heart failure syndromes make?
9. What palpatory changes can be detected in chronic heart failure syndrome?
10. What types of coronary insufficiency do you know?
11. What auscultative changes can be detected in heart failure syndrome?

5.The main forms/methods/technologies of learning to achieve the ultimate goals of the discipline: Discussion of the topic of the lesson, mastering practical skills.

6. Types of control to assess the level of achievement of the RO discipline (testing, solving situational problems, filling out a medical history, etc.). AKS/dumb formula, testing.

7. Literature (basic and additional): the syllabus indicates

8. Control: (questions, situational task)

Questions:

1. What objective features do you know that are characteristic of essential hypertension syndrome?
2. What auscultative changes can be detected in left ventricular hypertrophy?
3. What laboratory research methods are used to diagnose coronary heart disease?

4. What target organs do you know in essential arterial hypertension?
5. What predisposing factors do you know leading to the development of essential arterial hypertension syndrome and coronary heart disease?
6. What objective features do you know characteristic of acute heart failure syndrome?
7. What auscultative changes can be detected in acute heart failure?
8. What auscultative changes can be detected in chronic heart failure?
9. What percussion changes can be detected in chronic heart failure?
10. What predisposing factors do you know that lead to the development of vascular insufficiency?

Situational task:

1. A 53-year-old woman with complaints of headaches in the temples, noise in the head; nausea; dry mouth in the morning; pronounced general weakness. Anamnesis: AG is 10 years old, suffered an ischemic stroke. On examination: increased nutrition, BMI -35. Heart tones are deaf, atrial fibrillation, heart rate 112 beats/min. Blood pressure 170/100 mmHg In the assays: glucose – 6.7 mmol/l, glycosylated hemoglobin 9.6%. Indicate the risk of hypertension in this patient.
2. A 72-year-old woman with complaints of shortness of breath at rest, palpitations; cough with pink sputum; feeling of anxiety; pronounced weakness. From anamnesis: AG is 25 years old, suffered a myocardial infarction. On examination: the position of orthopnea; heart tones are deaf, the rhythm is correct, interrupted by frequent ventricular extrasystoles. Blood pressure 260/140 mmHg. Examination of fundus vessels: edema of optic nerve discs. Urine analysis: trace proteinuria. The most likely complication has developed in the patient.
3. A 70-year-old patient developed shortness of breath with little physical exertion, nighttime attacks of suffocation, palpitations. A history of myocardial infarction. Objectively: orthopnea, lip cyanosis. B lungs - moist, small-bubbly wheezing in the lower parts of both lungs. The heart tones are muted. Heart rate is 100 in 1 minute. Blood pressure is 130/70 mmHg. The liver is enlarged. Massive swelling on the legs. Reduction of diuresis. The most likely stage of heart failure .
4. A 19-year-old girl complains of shortness of breath with little physical exertion, sometimes attacks of suffocation; heaviness in the right hypochondrium, swelling. Echocardiography revealed a defect in the interventricular septum and a narrowing of the outflow tract of the right ventricle. Radiologically: the shadow of the heart in the area of the pulmonary trunk in the form of a wooden shoe. Specify the complication.

1. Topic № 6. Leading clinical syndromes (lesions of the valvular apparatus) in patients with diseases of the cardiovascular system. Arrhythmias. Diagnostic value.

2. Purpose: To familiarize with the leading clinical syndromes of valvular apparatus damage, to assimilate clinical signs and learn the basics of diagnosis, to familiarize with instrumental research methods, to give them a diagnostic interpretation.

3. Learning objectives:

The student must know:

1. Mechanisms of development of the leading clinical syndromes in case of damage to the valvular apparatus.
2. The main complaints of patients with mitral valve insufficiency syndrome.
3. The causes of aortic valve stenosis syndrome.

The student must be able to:

1. To conduct a survey of patients with valvular apparatus lesion syndrome.
2. To examine the patient and identify changes in the general status characteristic of this syndrome.

4.The main issues of the topic:

1. What predisposing factors do you know that lead to the development of mitral valve stenosis syndrome?
2. What complaints do patients with mitral valve insufficiency syndrome make?
3. What palpatory changes can be detected in aortic valve insufficiency syndrome?
4. What percussion changes can be detected in aortic valve stenosis syndrome?
5. What auscultative changes can be detected in tricuspid valve insufficiency syndrome?
6. What instrumental research methods are used for diagnosis?

5. The main forms/methods/technologies of training to achieve the ultimate goals of the discipline:

• Discussion of the topic of the lesson, mastering practical skills.

6. Types of control to assess the level of achievement of the RO discipline (testing, solving situational problems, filling out a medical history, etc.).

ACS/dumb formula, testing.

7. Literature (basic and additional): it is indicated on the last page of the syllabus

8. Control: (questions, situational task)

Questions:

1. What objective features do you know that are characteristic of mitral valve stenosis syndrome?
2. What auscultative changes can be detected in aortic valve insufficiency?
3. What auscultative changes can be detected in mitral valve insufficiency syndrome?
4. What auscultative changes can be detected in pulmonary artery insufficiency syndrome?
5. What predisposing factors do you know that lead to the development of aortic valve insufficiency syndrome?

Situational task:

1. A 32-year-old patient complains of short-term episodes of dizziness and pressing pains in the heart area that occur with significant physical exertion. On examination: heart tones are clear, the rhythm is correct, systolic murmur at the apex. Blood pressure 110/70 mmHg Heart rate- 72 beats/min. ECHOCARDIOGRAPHY: deflection of the anterior flap of the mitral valve, regurgitation of 1-2 degrees. The systolic function of the left ventricle is satisfactory. The most likely syndrome:
2. A 21-year-old man complains of palpitations, interruptions, dizziness. About: the tones are loud, at the top there is a mid-systolic click and systolic noise, which increases in an upright position and decreases in a lying position with raised legs. Echocardiography: deflection of the anterior flap of the mitral valve. Auscultative picture: