ASSESSMENT TOOLS

FUNCTIONAL DIAGNOSTICS

Curriculum	31.05.01 General Medicine
Specialty	General Medicine
Form of education	Full-time
Designer Department	Cardiology
Graduate Department	Internal diseases

Control work

The control work is carried out in order to control students ' assimilation of the knowledge of the lecture course, assess the knowledge and skills acquired during practical classes, as well as to test the ability to solve various types of tasks that develop professional abilities in accordance with the requirements of the qualification characteristics of a specialist. Control work is carried out according to the schedule during the hours of training sessions in the amount provided for by the work program for the discipline and the teacher's workload. The time to prepare for the test work is included in the number of hours of independent work of students and should not exceed 4 hours. The control work is evaluated by a differentiated assessment. In case of unsatisfactory assessment received by the student, a new deadline is set for writing the test paper during extracurricular hours.

Students select their paper topic from the given options and expand on it independently in accordance with Appendix 1.

List of topics:

1. Bioelectric bases of ECG formation.
2. Basic functions of the heart. Conducting system.
3. The concept of the electrical axis of the heart. Determination of the electrical axis of the heart.
4. Basic deviations of the vector arrangement. Rotations of the electrical axis of the heart in different planes.
5. Electrophysiology of the myocardium.
6. Normal ECG. Main teeth and intervals
7. Principles of forming an ECG conclusion.
8. Electrocardiography technique. Principles of applying electrodes.
9. Electrocardiographic diagnosis of ischemic changes in the myocardium.
10. Topical diagnosis of ischemia.
11. ECG-markers of the degree of damage to the heart muscle (ischemia, damage, necrosis).
12. ECG criteria and stages of myocardial infarction.
13. Stress tests in cardiology.
14. Stress tests. Indications and contraindications. Interpretation of the received data.
15. ECG diagnosis of ischemic changes in the myocardium. Topical diagnostics.
16. ECG diagnostics of emergency conditions.
17. Topical diagnosis of myocardial infarction. A heart attack is a connected artery.
18. Diagnostic significance of non-standard ECG leads.
19. Differential diagnosis of ST-T segment depressions in various pathological conditions (MI, LVH, non-specific changes in the repolarization phase, impaired intraventricular conduction, BLNPG, BPNPG, etc.)
20. Cardiac arrhythmias. Single ectopic rhythms and complexes.
21. Abnormal heart rhythms. Atrial fibrillation. Criteria for atrial fibrillation and flutter.

22. Sinus node weakness syndrome.
23. Atrioventricular conduction disorders. Classification. ECG diagnostics. Clinical picture.
24. Disorders of intraventricular conduction. Types of intraventricular blockades. Diagnostics. Clinical significance.
25. ECG - diagnostics of emergency conditions in cardiology.
26. Pacemakers and implantable devices. Implantation options. Device application areas.
27. Proper ECG changes during pacing.
28. Medical changes in the ECG.
29. Syndromes of premature arousal.
30. Genetically determined myocardial diseases. ECG diagnostics.
31. Spirometry applications. Preparation and stage of the event.
32. Spirography. Indications and contraindications.
33. Spirometry. External respiration indicators "volume-time"
34. Spirometry. Indicators of external respiration "flow-volume".
35. Spirometry. Technique of performing breathing maneuvers, criteria for correct performance. Basic errors.
36. Evaluation of spirometry parameters. Gradations of severity. Forming a conclusion.
37. Types of various FVD violations.
38. Peak Fluometry.
39. Functional bronchodilation spirometric tests.
40. Functional bronchoconstrictor spirometric tests.
41. Additional methods for studying respiratory function. Bodypletismography.
42. Assessment of heart rate variability. Diagnostic methods and options. Practical significance of the method.
43. Holter ECG monitoring. Method of conducting. Requirements for the patient.
44. Holter ECG monitoring. ECG analysis. Interpretation of the received data.
45. Daily blood pressure monitoring. Indications and contraindications. Provdeniya's methodology.
46. Daily blood pressure monitoring. Analysis of the obtained data. Modern features of the method.
47. Ultrasonic Dopplerimaging. General idea of the methods. Scope of application. Advantages and disadvantages of this method.
48. Color Doppler mapping. Indications for the method. Method of conducting. Advantages.
49. Echocardiography. Purpose of the method. The principle of operation of the equipment. Sensor device. History of the method's development.
50. Stress ECHO-KG. Indications and contraindications. Features of the method.
51. Echocardiography. Basic positions and access points. Operating modes of the device. Measured parameters.
52. ECG in acute pulmonary heart disease.
53. ECG for pericarditis.
54. ECG for electrolyte (potassium, calcium) metabolism disorders.
55. ECG for overdose of cardiac glycosides.
56. Early ventricular repolarization syndrome.
57. Long and short QT interval syndrome.

Test questions:

1. Regulatory framework in functional diagnostics. Professional features of the direction.
2. Complete set of first aid kits for emergency care. Emergency care equipment in the department.
3. Anatomy of the cardiovascular system. Physiology of blood circulation.
4. Methods of electrocardiography. Principles of applying electrodes. ECG recording.
5. Main waves and intervals on the ECG.
6. Vector estimation of the heart's location in space. The Beili coordinate system. Basic deviations of the vector arrangement. Rotations of the electrical axis of the heart in different planes.
7. Myocardial hypertrophy. ECG features depending on the hypertrophied camera.
8. Electrocardiography in the diagnosis of coronary heart disease. Variants of pathological ECG changes in CHD (angina pectoris, infarction, ischemic cardiopathy).

9. Topical diagnostics of ischemia and myocardial damage. Diagnostic significance of non-standard ECG leads.
10. Cardiac arrhythmias. Clinical classification. Single ectopic complexes. Abnormal heart rhythms. Atrial fibrillation. Autonomous tachycardia.
11. Reciprocal tachycardia. The role of transesophageal stimulation in the diagnosis of reciprocal tachycardia.
12. Violations of automatism. Sinus node weakness syndrome. Atrioventricular conduction disorders. Classification. ECG diagnostics. Clinical picture.
13. Disorders of intraventricular conduction. Types of intraventricular blockades. Diagnostics. Clinical significance.
14. ECG - diagnostics of emergency conditions in cardiology.
15. Implantable devices. Implantation options. Device application areas.
16. Pacemakers. International indications for implantation of devices. Proper ECG changes during pacing.
17. Cardioverters-defibrillators and resynchronizing devices. Indications for implantation. Logic of the cardioverteroperation.
18. Diagnostics of disorders in the operation of implantable devices.
19. The main options for surgical interventions on the heart. The nature of ECG changes in the postoperative period.
20. Holter ECG monitoring. Method of conducting. Requirements for the patient. ECG analysis. Interpretation of the received data.
21. Daily blood pressure monitoring. Indications and contraindications. Provdeniya's methodology. Analysis of the received data. Modern features of the method.
22. Blind Doppler techniques. UZDG. TKDG. General idea of the methods. Scope of application. Advantages and disadvantages of this method.
23. Color Dopplerкое mapping. Indications for the method. Method of conducting. Advantages.
24. Echocardiography. Basic positions and access points. Operating modes of the device. Measured parameters. Norm in echocardiography.
25. Load tests. Variants. Indications and contraindications. Opportunities and limitations of these methods.
26. Study of the function of external respiration. Norm and pathology. Pharmacological tests.
27. Electroneuromyography. Research methodology. Indications. Contraindications